
Event Agenda

IEEE EMBC 2025

Monday, July 14, 2025

9:00 AM - 10:30 AM	Opening Ceremony & Technical Community Forum Location: D3
10:30 AM - 11:15 AM	Mechanism-based implants to restore neurological functions Location: D3 Plenary Speaker: Grégoire Courtine
11:15 AM - 12:00 PM	The unique history of Danish life science - from the Nobel laureates Niels Bohr, August Krogh and George de Hevesy, Carlsberg & Novo Nordisk Location: D3 Plenary Speaker: Liselotte Højgaard
11:30 AM - 12:00 PM	Committee on Man and Radiation (COMAR) Committee Meeting Location: Room 6
12:00 PM - 1:00 PM	Lunch
12:00 PM - 1:00 PM	NER - Mentorship Hour with Philip Hempel Location: Room 18
12:00 PM - 1:00 PM	Lunch and Insights for Students and Young Professionals Location: Treehouse
1:00 PM - 1:30 PM	Advances in Foundation AI for Biomedical Signal Processing Location: Aud 15 Keynote Speaker: David Clifton
1:00 PM - 1:30 PM	Fast Super Resolution Ultrasound Imaging without Contrast agents Location: B3 M5-6 Keynote Speaker: Jorgen Jensen
1:00 PM - 1:30 PM	AI and Computational Imaging: Opportunities in Precision Medicine Location: B4 M1-2 Keynote Speaker: Pallavi Tiwari
1:00 PM - 1:30 PM	Micro and Nano Engineering of sensors and actuators for the body Location: B4 M4 Keynote Speaker: Massimo De Vittorio
1:00 PM - 1:30 PM	Human Meabologenomics: Multi-omics data for characterization of health and diseases Location: B3 M1-2 Keynote Speaker: Adil Mardinoglu
1:00 PM - 1:30 PM	Artificial Intelligence (AI) in sleep medicine, status and future advantages Location: B3 M3-4 Keynote Speaker: Poul Jennum
1:00 PM - 1:30 PM	Translating Research from Basic Muscle Properties to Treating Muscle Contractures in Children with Cerebral Palsy Location: D5 Keynote Speaker: Richard Lieber
1:00 PM - 1:30 PM	Smart Home in a Box: Lessons Learned in Designing Assistive and Intelligent Living Environments for Graceful Aging Location: Aud 10 Keynote Speaker: Abdelsalam (Sumi) Helal

1:00 PM - 1:30 PM	Clinical and Commercial Translation of AI-Based Bionic Limb Controllers Location: Aud 12 Keynote Speaker: Levi Hargrove
1:00 PM - 1:30 PM	From Basic Mechanisms to Digital Twins: Advancing Personalized Transcranial Brain Stimulation Location: B3 M7-8 Keynote Speaker: Axel Thielscher
1:00 PM - 1:30 PM	Digital Phenotyping – Technologies for Collection and Identification of Digital Biomarkers "in the Wild" Location: D2 Keynote Speaker: Jakob E. Bardram
1:00 PM - 1:30 PM	Quantum sensors for next generation human brain imaging Location: Room 6 Keynote Speaker: Matt Brookes
1:30 PM - 3:30 PM	Signal processing for Clinical Applications Location: D3 - Silent1 <div> Kalman Filter-Based Microwave Blood Glucose Monitoring Using a Priori Physiological Model 1:30 PM - 1:45 PM Location: D3 - Silent1 PPEA: Post-Position Encoding Attention for Imbalanced Lung Sound Classification 1:45 PM - 2:00 PM Location: D3 - Silent1 A Symbolic Approach for Task-Related Gaze Classification 2:00 PM - 2:15 PM Location: D3 - Silent1 Improving Machine Learning Models of Late-Onset Sepsis Prediction Using Optimized Control Group Selection: A Comparative Study 2:15 PM - 2:30 PM Location: D3 - Silent1 Boosting CCA Pulse Accuracy: How ICA Enhances Reliability in Wearable Accelerometer Devices 2:30 PM - 2:45 PM Location: D3 - Silent1 Can Oximetry-Derived Parameters Predict 3-Year Cardiovascular Mortality? 2:45 PM - 3:00 PM Location: D3 - Silent1 Estimation of Vascular Stenosis and Blood Flow Rate Using Machine Learning Classification of Blood Sounds 3:00 PM - 3:15 PM Location: D3 - Silent1 Identifying Hypothyroidism As Complication of Type 1 Diabetes from Continuous Glucose Monitoring Data 3:15 PM - 3:30 PM Location: D3 - Silent1 </div>

1:30 PM - 3:30 PM

Signal Processing and Classification for Contactless Systems

Location: D3 - Silent2

Recover from Horcrux: A Spectrogram Augmentation Method for Cardiac Feature Monitoring from Radar Signal Components

1:30 PM - 1:45 PM

Location: D3 - Silent2

Classification of Mental Disorders Based on the Fusion of Millimeter-Wave Radar and Photoplethysmography Signals

1:45 PM - 2:00 PM

Location: D3 - Silent2

Multi-Objective Undercomplete Independent Component Analysis for Radar Signals Based Heart Rate and Interbeat Interval Estimations

2:00 PM - 2:15 PM

Location: D3 - Silent2

Cuff-Less Continuous Blood Pressure Measurement Based on Millimeter Wave Radar

2:15 PM - 2:30 PM

Location: D3 - Silent2

Respiration Rate Monitoring During Sleep Using an Ambient PIR Sensor Array

2:30 PM - 2:45 PM

Location: D3 - Silent2

Evaluation of Radar-Based Cardiorespiratory Monitoring under Different Physiological Conditions

2:45 PM - 3:00 PM

Location: D3 - Silent2

AI-Based Remote Photoplethysmography: Benchmarking on Realistic Datasets

3:00 PM - 3:15 PM

Location: D3 - Silent2

Pain-Related Autonomic Dysregulation During Sleep in Multiple Sclerosis: Insights from Wearable Sensor Data

3:15 PM - 3:30 PM

Location: D3 - Silent2

1:30 PM - 3:30 PM

Deep Learning methods for ECG analysis and Arrhythmia Detection

Location: D3 - Silent3

Robust ECG Classification Using Mamba and Self-Supervised Representation Learning

1:30 PM - 1:45 PM

Location: D3 - Silent3

Cardiac Arrhythmia Detection Leveraging Deep Learning Convolutional Neural Network

2:00 PM - 2:15 PM

Location: D3 - Silent3

Classifier-Guided Diffusion Model for Generating Disease-Specific ECG Data: A Case Pilot Study on Inferior Myocardial Infarction

2:15 PM - 2:30 PM

Location: D3 - Silent3

Text-To-ECG: A Framework to Generate 12-Lead ECG from Text Reports

2:30 PM - 2:45 PM

Location: D3 - Silent3

Invertible Conditional Generative Adversarial Networks to Effectively Generate Myocardial Infarction from Normal ECG

2:45 PM - 3:00 PM

Location: D3 - Silent3

Inverse Filtering for ECG Signal Reconstruction - a Deep Learning Approach

3:00 PM - 3:15 PM

Location: D3 - Silent3

ECG Signal Generation Using Variable β -Conditional Variational Autoencoder

3:15 PM - 3:30 PM

Location: D3 - Silent3

1:30 PM - 3:30 PM

MRI and CT biomarkers

Location: D2

Age-Stratified Differences in Morphological Connectivity Patterns in ASD: An sMRI and Machine Learning Approach

1:30 PM - 1:45 PM

Location: D2

3D Texture Analysis in Knee MRI for an Early Diagnosis of Osteoarthritis: Identifying Biomarkers of Cartilage Degeneration

1:45 PM - 2:00 PM

Location: D2

Soft Annotations versus Pixel-Based Segmentation Masks of Prostate Anatomies: The Effect of Annotation Type on Radiomics

2:00 PM - 2:15 PM

Location: D2

EAMF: An Entropy-Enhanced Attention-Based Ensemble Metric Few-Shot Learning for MRI Image Classification

2:15 PM - 2:30 PM

Location: D2

Standardizing CT Data with BIDS: Applications in Lung and Brain Imaging

2:30 PM - 2:45 PM

Location: D2

PVITA: Proposal of an Attention-Enhanced Vision Transformer Approach for Analyzing Pupil Dynamics in Asthenopia

2:45 PM - 3:00 PM

Location: D2

Automatic Identification of Anatomical Locations for Bone Abnormalities in CT Imaging: A Multiplanar YOLOv5 Detection Approach

3:00 PM - 3:15 PM

Location: D2

MRI-Based Biomarkers for a Liver Fibrosis and Steatosis Detection and Stratification in Patients with Non-Alcoholic Fatty Liver Disease

3:15 PM - 3:30 PM

Location: D2

1:30 PM - 3:30 PM

Image segmentation techniques, Multimodal image fusion

Location: Aud 15

Lightweight Deep Learning-Based Aortic Valve Segmentation on RGB Images

1:30 PM - 1:45 PM

Location: Aud 15

VeinCluster: Unsupervised Segmentation of Retinal Vessels of Glaucoma

1:45 PM - 2:00 PM

Location: Aud 15

Joint Brain Structure-Function Analysis with Correlation Consistent Learning for Alzheimer's Disease Diagnosis

2:00 PM - 2:15 PM

Location: Aud 15

Detection of Metastatic Tissues in Histopathologic Images Using DenseNet-121 with Data Augmentation

2:15 PM - 2:30 PM

Location: Aud 15

A Non Deep Learning Based Method for Detection of Alopecia Areta and Segmentation of Scalp and Hair Regions

2:30 PM - 2:45 PM

Location: Aud 15

Alignment-Guided Forward-Distortion Model for Deep Unsupervised Correction of Susceptibility Artifacts in EPI

2:45 PM - 3:00 PM

Location: Aud 15

Deep Learning Assessment of Epicardial Adipose Tissue: New Perspectives on Major Adverse Cardiac Events Prediction

3:00 PM - 3:15 PM

Location: Aud 15

Liver Cirrhosis Stage Estimation from MRI with Deep Learning

3:15 PM - 3:30 PM

Location: Aud 15

1:30 PM - 3:30 PM

BCI processing

Location: Aud 10

A Novel Levant's Differentiator-Based Descriptor for EEG-Based Motor Intent Decoding

1:30 PM - 1:45 PM

Location: Aud 10

Modification of Cortical Activation Pattern after Long-Term BCI Training and Its Impact on Decoding Model Performances

1:45 PM - 2:00 PM

Location: Aud 10

ChatBCI-4-ALS: A High-Performance, LLM-Driven, Intent-Based BCI Communication System for Individuals with ALS

2:00 PM - 2:15 PM

Location: Aud 10

Resting-State Heartbeat-Evoked Potentials in Children with ADHD and Its Comorbidity with ASD: A Pilot Study

2:15 PM - 2:30 PM

Location: Aud 10

Dual-Layer Hand Gestures Decoding with Wireless Epidural Brain-Computer Interface in a Tetraplegia

2:30 PM - 2:45 PM

Location: Aud 10

From Questions to Neural Insights: Towards Query-Based fMRI Decoding

2:45 PM - 3:00 PM

Location: Aud 10

Medial Wall's Potential in Enhancing Finger Movement Decoding from Electrocorticography (ECoG): A Single-Subject Pilot Study

3:00 PM - 3:15 PM

Location: Aud 10

Aerobic Exercise Modulates EEG Microstates under Distinct Mental Workload

3:15 PM - 3:30 PM

Location: Aud 10

1:30 PM - 3:30 PM

Brain functional imaging 1

Location: Aud 11

Predicting Gait Speed Using Brain Functional Connectivity Maps During Walking

1:30 PM - 1:45 PM

Location: Aud 11

Influence of Systemic Low-Frequency Oscillations on fMRI Identifiability - Implications for Denoising and Fingerprinting

1:45 PM - 2:00 PM

Location: Aud 11

Brain Network State Transformer: Leveraging State Functional Connectivity for Enhanced Brain Network Analysis

2:00 PM - 2:15 PM

Location: Aud 11

Altered Functional Network Energy across Multiscale Brain Networks in Preterm vs. Full-Term Subjects: Insights from the Adolescent Brain Cognitive Development (ABCD) Study

2:30 PM - 2:45 PM

Location: Aud 11

Exploring EEG Connectivity in Higher-Order Cognitive Tasks with Explainable Graph Neural Networks

2:45 PM - 3:00 PM

Location: Aud 11

Enhancing Depression Detection from Emotion EEG with Temporal-Spatial-Spectral Representation Learning

3:00 PM - 3:15 PM

Location: Aud 11

When Losing Hurt Together: Investigating the Role of Empathy During a Card Game by EEG Hyperscanning

3:15 PM - 3:30 PM

Location: Aud 11

1:30 PM - 3:30 PM

Cardiovascular Modeling

Location: B3 M3-4

Investigation of the Left Atrium Hemodynamics Using Finite Elements and a Novel Post-Processing Approach for Wall Shear Stress Calculation

1:30 PM - 1:45 PM

Location: B3 M3-4

Enhanced Resolution Real-Time Electrical Heart Models

1:45 PM - 2:00 PM

Location: B3 M3-4

A New Cardiovascular Model Integrating Coronary Circulation in Obstructive and Non-Obstructive Hypertrophic Cardiomyopathy

2:00 PM - 2:15 PM

Location: B3 M3-4

Systemic Analysis of Blood Pressure Waveform Features Using a Cardiovascular Simulator: Implications for Non-Invasive Vascular Health Monitoring

2:15 PM - 2:30 PM

Location: B3 M3-4

In Silico Deployment Modeling of an Everolimus Coated Balloon

2:30 PM - 2:45 PM

Location: B3 M3-4

Towards the Integration of In-Silico Electro-Chemo-Mechanical Smooth Muscle Cell and Cardiovascular System Models

2:45 PM - 3:00 PM

Location: B3 M3-4

A Synthetic Dataset for in Silico Studies of Parameters Influencing Changes in Mean Arterial Blood Pressure During Hemodialysis

3:00 PM - 3:15 PM

Location: B3 M3-4

Surrogate Estimation of Left Ventricular Ejection Fraction from Carotid Artery Wall Dynamics

3:15 PM - 3:30 PM

Location: B3 M3-4

1:30 PM - 3:30 PM

MRI: Imaging Methodology

Location: B3 M5-6

Self-Supervised Learning for Three-Dimensional Magnetic Resonance Imaging Reconstruction with Spatial Depth Attention

1:30 PM - 1:45 PM

Location: B3 M5-6

Learning a B0 Shimming Model Using Deep Neural Networks

1:45 PM - 2:00 PM

Location: B3 M5-6

Development of a Biliary Biofluid Dynamics Measurement Platform Utilizing Particle Image Velocimetry (PIV)

2:00 PM - 2:15 PM

Location: B3 M5-6

Reproducible and Individualized Striatal Parcellation Based on Multi-Level Contrastive Learning

2:15 PM - 2:30 PM

Location: B3 M5-6

RF Heating of Vagus Nerve Stimulation Devices in Low-Field (0.55 T) vs. High-Field (1.5 T) MRI

2:30 PM - 2:45 PM

Location: B3 M5-6

A Modified Propeller Sequence for MR Image Metal Artifact Reduction

2:45 PM - 3:00 PM

Location: B3 M5-6

Evaluating Signal-To-Noise Ratio (SNR) Improvement from Cryogenic Cooling MRI Receive Coil Arrays Using Full-Wave Electromagnetic Simulation

3:00 PM - 3:15 PM

Location: B3 M5-6

Enhanced Quantitative Susceptibility Mapping of Brain at 0.53T through Locally Low-Rank Denoising

3:15 PM - 3:30 PM

Location: B3 M5-6

1:30 PM - 3:30 PM

Advanced Sensing Technologies

Location: B3 M7-8

Retinal Pulse Wave Estimation Through Near-Infrared Fundus Video Analysis

1:30 PM - 1:45 PM

Location: B3 M7-8

Feasibility of Electrical Impedance Spectroscopy for Tissue Differentiation in Peripheral Solitary Pulmonary Nodules and Masses

1:45 PM - 2:00 PM

Location: B3 M7-8

Experimental Demonstration of Microwave Bladder Fullness Detection with 3-D Pelvic Model

2:00 PM - 2:15 PM

Location: B3 M7-8

Development of a Bioimpedance Probe for Enhanced Tissue Identification in the Upper Aerodigestive Tract

2:15 PM - 2:30 PM

Location: B3 M7-8

Microwave Imaging for Bone Regeneration Monitoring Using Magnetic Scaffolds: Preliminary Results

2:30 PM - 2:45 PM

Location: B3 M7-8

Spectral Analysis for Detecting Infections in Diabetic Foot Wounds: A Non-Invasive Diagnostic Approach

2:45 PM - 3:00 PM

Location: B3 M7-8

PressureDot® Capsule: A Wireless Ingestible Device for Continuous Intra-Abdominal Pressure Monitoring—Design, Validation, and in Vivo Feasibility

3:00 PM - 3:15 PM

Location: B3 M7-8

In Silico Investigation of Light Intensity and Temperature Distribution in Tissue for Vaccine Adjuvant Using NIR Laser

3:15 PM - 3:30 PM

Location: B3 M7-8

1:30 PM - 3:30 PM

Data driven modeling, organ physiology and medical devices

Location: B3 M1-2

Using the Soft Actor-Critic Algorithm to Generate Rapid Eye Movements with an Unconstrained 6DOF Biomimetic Robotic Eye

1:30 PM - 1:45 PM

Location: B3 M1-2

SL-MERK: Synthetic Lethality Mechanism Explainer Based on GraphRAG and Knowledge Graph

1:45 PM - 2:00 PM

Location: B3 M1-2

A Transformer-Based Framework with Dynamic Multiscale Attention Mechanisms for 12-Lead ECG Synthesis

2:00 PM - 2:15 PM

Location: B3 M1-2

ESM4SL: Protein Language Models for Cancer Cell Line-specific Synthetic Lethality Prediction

2:15 PM - 2:30 PM

Location: B3 M1-2

CSFsim: A Simulation Framework for Cerebrospinal Fluid Dynamics and Hydrocephalus Shunt Systems

2:30 PM - 2:45 PM

Location: B3 M1-2

Framework to Simulate Perceived Images Affected by Human Visual System Disorders

2:45 PM - 3:00 PM

Location: B3 M1-2

Computational Framework for Parametric Tissue Modeling

3:00 PM - 3:15 PM

Location: B3 M1-2

A Novel Pelvic Hand-Sewn Bowel Anastomosis Simulator for Surgical Training

3:15 PM - 3:30 PM

Location: B3 M1-2

1:30 PM - 3:30 PM

Gait Analysis and Lower Limb Assistance

Location: B4 M1-2

Modeling the effects of non-ideal ankle exoskeleton controllers on assisted standing balance in older adults with impaired muscle strength

1:30 PM - 1:45 PM

Location: B4 M1-2

Exploring Familiarization Phases to Establish Baseline Sessions in Lower Limb Exoskeleton Therapy for Neurological Patients

1:45 PM - 2:00 PM

Location: B4 M1-2

On Predicting Transitions to Compliant Surfaces in Adults with Transtibial Amputation: A Real-Time Classification Approach

2:00 PM - 2:15 PM

Location: B4 M1-2

Cadence-Specific Gait Evaluation Using Synthetic Signals: A New Approach to Pathological Assessment

2:15 PM - 2:30 PM

Location: B4 M1-2

Enhanced Gait Phase Estimation for Lower Limb Exoskeletons by Integrating Contralateral Leg Information

2:30 PM - 2:45 PM

Location: B4 M1-2

Unified Gait Event Detection Using Temporal Convolutional Network and Bayesian Optimization

2:45 PM - 3:00 PM

Location: B4 M1-2

Analyzing Gait Adaptation with Hemiplegia Simulation Suits and Digital Twins

3:00 PM - 3:15 PM

Location: B4 M1-2

A Novel Methodological Approach for Inducing Slips, Trips and Pelvic Pulls During Treadmill Walking

3:15 PM - 3:30 PM

Location: B4 M1-2

1:30 PM - 3:30 PM

Biomaterials and Tissue engineering

Location: B4 M4

Investigation of Thermal-Induced Crystallization Limit in Melt-Extruded Poly(L-Lactic Acid) Monofilaments for Biodegradable Implanted Medical Devices

1:30 PM - 1:45 PM

Location: B4 M4

Ultrastructural Features of Gold Nanoparticle Interactions with T47D Spheroids

1:45 PM - 2:00 PM

Location: B4 M4

Nozzle-Free Hypersonic Bio-Printing: Enabling Precise 3D Tissues Construction with Enhanced Cell Survival

2:00 PM - 2:15 PM

Location: B4 M4

Automated In-Situ Analysis of Tumor-Associated Macrophage Attachment on Antifouling Polymer Brushes

2:15 PM - 2:30 PM

Location: B4 M4

Cell-Encapsulating Hollow Collagen Microgel Beads for the Construction of Hollow Organ Tissue Model in Vitro

2:30 PM - 2:45 PM

Location: B4 M4

Towards Sustainable Protein Recovery from Biological Waste: Assessing Polyethersulfone-Based Microfiltration

2:45 PM - 3:00 PM

Location: B4 M4

Employing a GelMA/Decellularized ECM Biomaterial to Enhance in Vitro Modeling Approaches in Reproductive Biosciences

3:00 PM - 3:15 PM

Location: B4 M4

Observation of Collective Migration of Vascular Endothelial Cells Exposed to Lipopolysaccharide and Hypoxia

3:15 PM - 3:30 PM

Location: B4 M4

1:30 PM - 3:30 PM

Respiratory Health and Sleep

Location: Aud 12

A Breathing Phantom Station for Assessing Filter Clogging in Industrial Respirators
1:30 PM - 1:45 PM
Location: Aud 12

Comparison of Optoelectronic Plethysmography, Torsiometers, and Chest Band for Respiratory Monitoring
1:45 PM - 2:00 PM
Location: Aud 12

Pioneering Contactless Sleep Apnea Detection: Harnessing the Power of Smartphones
2:00 PM - 2:15 PM
Location: Aud 12

Improved Cough Classification with Symmetric Projection Attractor Reconstruction
2:15 PM - 2:30 PM
Location: Aud 12

Electrodermal Activity and Sleep Storms in Elderly Epileptic Patients
2:30 PM - 2:45 PM
Location: Aud 12

Pulmonary Function Deterioration Screening Using a Patch-Type Multimodal Sensor: A Pilot Study
2:45 PM - 3:00 PM
Location: Aud 12

A Comprehensive Evaluation of 24 GHz CW Radar for Accurate Breathing and Heart Rate Monitoring
3:00 PM - 3:15 PM
Location: Aud 12

Integrated Respiratory Rate Detection for Vehicle Drivers using Multi-Modal Signal Fusion
3:15 PM - 3:30 PM
Location: Aud 12

1:30 PM - 3:30 PM

Explainable AI for CDSS 1

Location: D5

Development of an Explainable-AI Enabled Decision Support System for Improved Risk Assessment of Atrial Fibrillation in Cardiac Patients During Hospital Stay
1:30 PM - 1:45 PM
Location: D5

Explaining Multimodal Features for Screening of Cognitive Impairment Using Shapley Values
1:45 PM - 2:00 PM
Location: D5

Towards Explainable Infant Cry Reasoning Model
2:00 PM - 2:15 PM
Location: D5

Bridging Ensemble Performance and Transparency: Knowledge Distillation for Obesity Classification on KNHANES Dataset
2:15 PM - 2:30 PM
Location: D5

I-BEAT: Interpretable Transformer Model for Intra-Beat Wave Detection on Ambulatory ECG
2:30 PM - 2:45 PM
Location: D5

Enhancing Metabolic Syndrome Prediction with Hybrid Data Balancing and Counterfactuals
2:45 PM - 3:00 PM
Location: D5

LEAD: Localized Explanations with Adversarial Decision Boundary Characterization for Interpretable Disease Prediction
3:00 PM - 3:15 PM
Location: D5

Multivariable Serum Creatinine Forecasting for Acute Kidney Injury Detection Using an Explainable Transformer-Based Model
3:15 PM - 3:30 PM
Location: D5

1:30 PM - 3:00 PM

Student Panel 1

Location: Room 18

1:30 PM - 2:00 PM

Quantum biosensing enabled by diamond spin qubits

Location: Room 6
Keynote Speaker: Fedor Jelezko

2:00 PM - 3:30 PM

Quantum Sensing for Life Sciences and Medicine HyperQ and CBQS Presentations

Location: Room 6

3:30 PM - 4:00 PM

Break

3:30 PM - 4:30 PM

NER - Mentorship Hour with Philip Hempel

Location: Room 18

4:00 PM - 6:00 PM

Signal Processing Methods for Arrhythmia Detection and Classification

Location: D3 - Silent1

PDMS-Silver Ink Dry Electrodes for Fingertip Electrocardiogram Signal Acquisition: Development and Evaluation

4:00 PM - 4:15 PM

Location: D3 - Silent1

Multi-Disease Cardiovascular Detection from ECG Signals Using an Attention-Driven Deep Network

4:15 PM - 4:30 PM

Location: D3 - Silent1

Patient-Level Modeling and Classification of ST-Segment in 12-Lead Electrocardiogram for Automated Myocardial Ischemia Detection

4:30 PM - 4:45 PM

Location: D3 - Silent1

Transforming Electrocardiogram to Participant-Level Diagnosis in Atrial Fibrillation Screening

4:45 PM - 5:00 PM

Location: D3 - Silent1

Linkage Attacks Expose Identity Risks in Public ECG Data Sharing

5:00 PM - 5:15 PM

Location: D3 - Silent1

Quantifying Cardiovascular Wellbeing through ECG Age: Acquisition Constraints and the Case for Handcrafted Features

5:15 PM - 5:30 PM

Location: D3 - Silent1

Uncertainty-Aware Domain Adaptation for ECG Classification

5:30 PM - 5:45 PM

Location: D3 - Silent1

Extraction of Risk Markers from ECG in Patients with Hypertrophic Cardiomyopathy

5:45 PM - 6:00 PM

Location: D3 - Silent1

4:00 PM - 6:00 PM

Signal Processing and Classification methods

Location: D3 - Silent2

Comparison of Context-Based Imputation for Missing Intracranial Pressure Signal

4:00 PM - 4:15 PM

Location: D3 - Silent2

A Statistical Evaluation of Fetal Heart Rate Derived Parameters between Healthy and IUGR Fetuses in Active and Quiet States

4:15 PM - 4:30 PM

Location: D3 - Silent2

A Machine Learning Approach for Pulse Detection Using Cerebral Oximetry Signals During Out-Of-Hospital Cardiac Arrest

4:30 PM - 4:45 PM

Location: D3 - Silent2

Machine Learning based Estimation of Aortic Pressure Curves by Electrical Impedance Tomography

4:45 PM - 5:00 PM

Location: D3 - Silent2

Ballistocardiography Signal Quality Assessment Using Machine Learning

5:00 PM - 5:15 PM

Location: D3 - Silent2

Deep Learning-Based Cardiac Output Estimation Using Multimodal Physiological Signals

5:15 PM - 5:30 PM

Location: D3 - Silent2

Heartbeat Detection from Ballistocardiogram Signals Using a Transformer Network

5:30 PM - 5:45 PM

Location: D3 - Silent2

An Integrated Computer Vision and Force Sensing Framework for Automated Fugl-Meyer Hand-Related Assessment Using Artificial Neural Networks

5:45 PM - 6:00 PM

Location: D3 - Silent2

4:00 PM - 6:00 PM

Signal Processing and Classification of Photoplethysmographic Signals

Location: D3 - Silent3

Parametric Study of Cardiovascular Parameter Influence on PPG-to-CBP Signal Conversion

4:00 PM - 4:15 PM
Location: D3 - Silent3

Enhanced Resolution Analysis of Photoplethysmography Signals for Stress Monitoring Using Taylor-Fourier Method

4:15 PM - 4:30 PM
Location: D3 - Silent3

Evaluation of Two Asynchronous Envelope Detection Techniques for Photoplethysmography

4:30 PM - 4:45 PM
Location: D3 - Silent3

Pipeline to analyse Photoplethysmogram (PPG) Signal Quality

4:45 PM - 5:00 PM
Location: D3 - Silent3

Hybrid CNN-LSTM Model for Evaluating Heart Rate Variability from Pulse-To-Pulse Intervals

5:00 PM - 5:15 PM
Location: D3 - Silent3

An Investigation into the Causal Relationship between Photoplethysmogram and Blood Pressure

5:15 PM - 5:30 PM
Location: D3 - Silent3

Multi-Wavelength Photoplethysmography with Combined Entropy, Time, and Frequency Domain Analysis for Noninvasive Blood Glucose Monitoring

5:30 PM - 5:45 PM
Location: D3 - Silent3

VAM: A Parallel Cross-Modal Hybrid Network for Accurate and Interpretable Vascular Age Estimation from PPG

5:45 PM - 6:00 PM
Location: D3 - Silent3

4:00 PM - 6:00 PM

Advanced methods in imaging informatics

Location: D2

ECP-KD: Efficient Computational Pathology Heterogeneous Model Fusion Using Knowledge Distillation

4:00 PM - 4:15 PM
Location: D2

Multimodal Pulmonary Embolism Diagnosis Tool with Electrical Impedance Tomography and Electronic Health Records under Different Data Availability

4:15 PM - 4:30 PM
Location: D2

Impact of Experimental Design in Age Prediction from Retinal Fundus Images

4:30 PM - 4:45 PM
Location: D2

A Fundus-Based Color Mapping Method to Optimize RNFL Clock Hours for Glaucoma Screening

4:45 PM - 5:00 PM
Location: D2

Block-Level Genetic Algorithm Optimization for ResNet Endoscopic Image Classification

5:00 PM - 5:15 PM
Location: D2

Dynamic Contextual Attention Network: Transforming Spatial Representations into Adaptive Insights for Endoscopic Polyp Diagnosis

5:15 PM - 5:30 PM
Location: D2

Gaze-Guided Medical Image Segmentation: A Training-Free Approach Using SAM Foundation Model

5:30 PM - 5:45 PM
Location: D2

Quantitative Outcome-Oriented Assessment of Microsurgical Anastomosis

5:45 PM - 6:00 PM
Location: D2

4:00 PM - 6:00 PM

Explainable AI for CDSS 2

Location: D5

Enhancing Depression Detection with Chain-Of-Thought Prompting: From Emotion to Reasoning Using Large Language Models

4:00 PM - 4:15 PM

Location: D5

Mondrian Embeddings for Visualization of Decision Tree Ensembles

4:15 PM - 4:30 PM

Location: D5

Automatic Cough Analysis for Non-Small Cell Lung Cancer Detection

4:30 PM - 4:45 PM

Location: D5

Exacerbation Risk and Quality of Life Prediction for Chronic Obstructive Pulmonary Disease Patients with Complex Chronic Conditions

4:45 PM - 5:00 PM

Location: D5

Edge-Enabled Pre-Ictal Activity Prediction Framework Using Geometric Deep Learning

5:00 PM - 5:15 PM

Location: D5

Towards Causal Explainable AI in Cancer Diagnosis: Advances, Challenges, and Future Directions

5:15 PM - 5:30 PM

Location: D5

SCM-4-OSA: An End-To-End Explainable Deep Learning Model for Interpretable Obstructive Sleep Apnea Detection Based on Cyclic Variation of Heart Rate in ECG

5:30 PM - 5:45 PM

Location: D5

Early Pancreatic Cancer Detection Using Extracellular Vesicles and Adaptive Learning Techniques

5:45 PM - 6:00 PM

Location: D5

4:00 PM - 6:00 PM

Image classification models, Super resolution

Location: Aud 15

Glioblastoma Overall Survival Prediction with Vision Transformers

4:00 PM - 4:15 PM

Location: Aud 15

Study about Deep Bifurcation Learning Model for Separation of Ultrasound Echo Signals and Tissue Acoustic Properties

4:15 PM - 4:30 PM

Location: Aud 15

Explainable Contrastive Learning for KL Grading Classification in Knee Osteoarthritis

4:30 PM - 4:45 PM

Location: Aud 15

Balancing Accuracy and Interpretability in Automated 3D Lung Segmentation for Lung Disease: The Role of Classical Techniques

4:45 PM - 5:00 PM

Location: Aud 15

Segmentation Variability in Bayesian U-Net versus Manual Annotations: Impact on Radiomic Reproducibility in Lung Tumor CT Images

5:00 PM - 5:15 PM

Location: Aud 15

SGAMARN: A GAN Framework for Metal Artifact Reduction in CT Imaging

5:15 PM - 5:30 PM

Location: Aud 15

CT Heterogeneity and Dose Distribution Patterns in Block and Ring Regions Improved the Prediction of Radiation Pneumonitis

5:30 PM - 5:45 PM

Location: Aud 15

Medically Explainable Deep Learning-Based Glaucoma Diagnosis

5:45 PM - 6:00 PM

Location: Aud 15

4:00 PM - 6:00 PM

Cognition

Location: Aud 10

Effectiveness of Extracorporeal Shock Wave Therapy for Rapid Relief of Exercise-Induced Muscle Fatigue

4:00 PM - 4:15 PM

Location: Aud 10

Graph Representations for Reading Comprehension Analysis Using Large Language Model and Eye-Tracking Biomarker

4:15 PM - 4:30 PM

Location: Aud 10

EEG-Based Engagement Index for Cognitive Load Assessment in Multimedia and Paper-Based Learning

4:30 PM - 4:45 PM

Location: Aud 10

Quantifying the Cognitive Demand of Controlling a Prosthesis with a Secondary Detection Response Task

4:45 PM - 5:00 PM

Location: Aud 10

Quantitative Biomarkers of Prosthetic Embodiment Based on Rubber Limb Illusion Paradigms

5:00 PM - 5:15 PM

Location: Aud 10

Electroencephalogram-Based Sustained Attention Assessment Using Sparse Model for Feature Selection

5:15 PM - 5:30 PM

Location: Aud 10

Reward-Based Evaluation of Odor Stimuli Impacts Functional Connectivity in Frontal and Temporal Areas: A Longitudinal EEG Study

5:30 PM - 5:45 PM

Location: Aud 10

Conductive Hydrogel-Based Grip Pressure Measuring Device for Hand Rehabilitation

5:45 PM - 6:00 PM

Location: Aud 10

4:00 PM - 6:00 PM

Brain functional imaging 2

Location: Aud 11

Optimal Transport and Contrastive Learning for Brain Decoding of Musical Perception

4:00 PM - 4:15 PM

Location: Aud 11

Enhanced Functional Connectivity for EEG Classification with a Modified Maximum Entropy Model: A Case Study of Alzheimer's Disease

4:15 PM - 4:30 PM

Location: Aud 11

Social Cognition in Cervical Dystonia: Integrating EEG and Eye-Tracking for Insights on Emotional Face Recognition

4:30 PM - 4:45 PM

Location: Aud 11

Electrophysiological Characterisation of Commercial Ear-EEG Devices

4:45 PM - 5:00 PM

Location: Aud 11

A Reliability Study in Resting-State EEG Network Characteristics: Frequency of Interest, Number of Oscillatory Cycles and Thresholding

5:00 PM - 5:15 PM

Location: Aud 11

Trait Anxiety Modulates Event-Related Potential Responses to Emotional Faces

5:15 PM - 5:30 PM

Location: Aud 11

How to Integrate Simultaneously Recorded Kinematic into an Individual fMRI Motor Task Analysis?

5:30 PM - 5:45 PM

Location: Aud 11

Modeling the Spread of Misfolded Proteins in Alzheimer's Disease Using Higher-Order Simplicial Complex Contagion

5:45 PM - 6:00 PM

Location: Aud 11

4:00 PM - 6:00 PM

Neural Engineering

Location: Aud 12

Seasickness Alleviation Based on a Mindfulness Brain–Computer Interface

4:00 PM - 4:15 PM

Location: Aud 12

Advancing Possibilities in Noninvasive Nerve Function Testing with Miniature Sensory and Motor Nerve Conduction Instrumentation

4:15 PM - 4:30 PM

Location: Aud 12

A Wearable 128-Channel Wireless Device for High-Density Surface Electromyography Recording

4:30 PM - 4:45 PM

Location: Aud 12

Feasibility of Extracting Skin Nerve Activity from Electrocardiogram Recorded at a Low Sampling Frequency

4:45 PM - 5:00 PM

Location: Aud 12

Hybrid CNN-Transformer Model for Accurate Classification of Human Attention Levels Using Workplace EEG Data

5:00 PM - 5:15 PM

Location: Aud 12

Investigation of Cyclic Olefin Copolymer-Based Planar Neural Electrodes for Epiretinal Applications

5:15 PM - 5:30 PM

Location: Aud 12

Multifunctional Polymer Optical Fibers for Neuroscience

5:30 PM - 5:45 PM

Location: Aud 12

Context Informed Incremental Learning Improves Myoelectric Control Performance in Virtual Reality Object Manipulation Tasks

5:45 PM - 6:00 PM

Location: Aud 12

4:00 PM - 6:00 PM

Modeling, Machine Learning, Omics in Biology, Physiology and Medicine

Location: B3 M1-2

PMDSynergy: Pre-training-based multi-dimensional fusion model for cancer drug synergy prediction

4:00 PM - 4:15 PM

Location: B3 M1-2

Linear structure unfolding : application to mouse brain in spatial transcriptomics

4:15 PM - 4:30 PM

Location: B3 M1-2

Classifying the Stoichiometry of Virus-Like Particles with Interpretable Machine Learning

4:30 PM - 4:45 PM

Location: B3 M1-2

hERG-LTN: A New Paradigm for hERG Cardiotoxicity Prediction Using Neuro-Symbolic and Generative AI

4:45 PM - 5:00 PM

Location: B3 M1-2

Modeling Arterial Blood Flow Using Physics-Informed Neural Networks

5:00 PM - 5:15 PM

Location: B3 M1-2

Deep Learning-Based Generation of 4D Reference Lung Volumes for Personalized Respiratory Function Assessment

5:15 PM - 5:30 PM

Location: B3 M1-2

Bridging VAE-Derived Latent Gene Representations and Graph Neural Networks for Improved Drug Response Prediction

5:30 PM - 5:45 PM

Location: B3 M1-2

Pesti-Gen: Unleashing a Generative Molecule Approach for Toxicity Aware Pesticide Design

5:45 PM - 6:00 PM

Location: B3 M1-2

4:00 PM - 6:00 PM

Image classification models, Deep/machine learning for feature extraction

Location: B4 M3

Robust Visual Transformers for Medical Image Classification

4:00 PM - 4:15 PM

Location: B4 M3

LocNeXt: Fast Automatic ConvNeXt-based Coronary Ostia Landmarks Detection in 3D CCTA Images

4:15 PM - 4:30 PM

Location: B4 M3

Depth-Regularized 3D Gaussian Splatting for Robust Endoscopic Reconstruction in Feature-Scarce Environments

4:30 PM - 4:45 PM

Location: B4 M3

Robust Automatic 3D Brain Extraction on T1 Weighted Magnetic Resonance Images for Dogs and Cats

4:45 PM - 5:00 PM

Location: B4 M3

Structural Distillation Based Three-Dimensional Resolution Enhancement with Contrast Learning for Magnetic Particle Imaging

5:00 PM - 5:15 PM

Location: B4 M3

Color-Quality Invariance for Robust Medical Image Segmentation

5:15 PM - 5:30 PM

Location: B4 M3

3D Reconstruction of the Kidney and Lesions from 2D Ultrasound Images Using Robotic Ultrasound Diagnostic System

5:30 PM - 5:45 PM

Location: B4 M3

Anatomy-Aware Disease Severity Detection in Chest X-Ray Images

5:45 PM - 6:00 PM

Location: B4 M3

4:00 PM - 6:00 PM

Hemodynamics

Location: B3 M3-4

PID Controlled Epidural Electrical Stimulation for Managing Orthostatic Hypotension in Individuals with Spinal Cord Injury

4:00 PM - 4:15 PM

Location: B3 M3-4

A Bidirectional Long Short-Term Memory Deep Learning Model for Classification of Pulse Waveform

4:15 PM - 4:30 PM

Location: B3 M3-4

Camera-SpO2 Measurement Using Time-Division Multiplexed Near-Infrared Imaging: A Feasibility Study on DC-Based Calibration

4:30 PM - 4:45 PM

Location: B3 M3-4

Non-Contact Blood Pressure Estimation by Imaging Photoplethysmography

4:45 PM - 5:00 PM

Location: B3 M3-4

From Pulse to Insight: An End-To-End Explainable Deep Spatio-Temporal Fusion Network for Cuffless Blood Pressure Monitoring

5:00 PM - 5:15 PM

Location: B3 M3-4

Hemodynamic Regulation with Minimization of Myocardial Oxygen Consumption Via Drugs and Left Ventricular Assist Device

5:15 PM - 5:30 PM

Location: B3 M3-4

Non-Invasive Camera-Based Cardiac Output Monitoring Via Facial Photoplethysmography: Advancing Hemodynamic Assessment in Critical Care

5:30 PM - 5:45 PM

Location: B3 M3-4

Personalized Cuffless Blood Pressure Measurement Based on Arterial 0D-1D Model with Carotid Flow and Radial Pulse

5:45 PM - 6:00 PM

Location: B3 M3-4

4:00 PM - 6:00 PM

MRI: RF and Low-Field Imaging Systems

Location: B3 M5-6

A flared birdcage coil design for breast MRI at 0.35T

4:00 PM - 4:15 PM

Location: B3 M5-6

Design and Optimization of Gradient Coils for Low-Field Halbach Array Scanners Using the Discrete Wire Method

4:15 PM - 4:30 PM

Location: B3 M5-6

An Improved Passive Shimming Method for Low-Field Superconducting MRI

4:30 PM - 4:45 PM

Location: B3 M5-6

Effect of Different Oversampling Ratios for Switch Mode Amplifiers in Low-Field Magnetic Resonance Imaging

4:45 PM - 5:00 PM

Location: B3 M5-6

Improvements to an Accessible and Flexible Spectrometer for Teaching and Research in MRI Based on the Analog Discovery

5:00 PM - 5:15 PM

Location: B3 M5-6

Combined RF and Gradient Effects on Unintended Vagus Nerve Stimulation from Cuff Electrodes under MRI

5:15 PM - 5:30 PM

Location: B3 M5-6

Control of Radiated Emissions During MRI Using Parallel Transmit: A Path to Eliminating the Faraday Shielded Room for 0.5T Imaging

5:30 PM - 5:45 PM

Location: B3 M5-6

A High Power Vector Network Analyzer for Testing MRI Transmit Hardware

5:45 PM - 6:00 PM

Location: B3 M5-6

4:00 PM - 6:00 PM

AI-enhanced Point-of-Care & Diagnostic Technologies

Location: B3 M7-8

Pitfalls in Using Pallor of the Eye to Detect Anaemia with Digital Cameras

4:00 PM - 4:15 PM

Location: B3 M7-8

Clinical Validation of an Afocal Optical System in Visual Acuity Testing

4:15 PM - 4:30 PM

Location: B3 M7-8

DentalCLIP: Semi-Supervised Contrastive Learning for TMJ Osteoarthritis Diagnosis

4:30 PM - 4:45 PM

Location: B3 M7-8

Stress Detection Using Eye Activity Via Recurrent Neural Networks

4:45 PM - 5:00 PM

Location: B3 M7-8

Design and Assessment of an Electronic Bladder Diary for Collecting Patient Reported Symptoms Regarding Overactive Bladder

5:00 PM - 5:15 PM

Location: B3 M7-8

Hybrid Architectures Based on Quantum Wavelet Neural Network for Emotion Recognition As a Tool to Support Personalized Therapies

5:15 PM - 5:30 PM

Location: B3 M7-8

Phase-Sensitive Signal Processing

5:30 PM - 5:45 PM

Location: B3 M7-8

A Multimodal Data-Driven Assessment System for Autism Spectrum Disorder in Children: Development and Pilot Validation of a Multimodal Acquisition Platform

5:45 PM - 6:00 PM

Location: B3 M7-8

4:00 PM - 6:00 PM

Prosthetics and Exoskeletons design

Location: B4 M1-2

Design of a Low-Cost Solenoid Actuated Stance Control Knee Orthosis

4:00 PM - 4:15 PM

Location: B4 M1-2

Shape Memory Alloy-Based Stepper Drive for a Hand Exoskeleton

4:15 PM - 4:30 PM

Location: B4 M1-2

Shadow Control of a Fully Modular Prosthetic Arm with 3-DoF Shoulder

4:30 PM - 4:45 PM

Location: B4 M1-2

5G-Enabled Smart Prosthetic Hand: Connectivity Analysis and Assessment

4:45 PM - 5:00 PM

Location: B4 M1-2

Design, Analysis and Evaluation of the Hip-Driven Clutch-Type Elastic Actuator for Assisted Gait

5:00 PM - 5:15 PM

Location: B4 M1-2

GaitSense: A Wearable Device to Quantify Gait Health and Offer Markers on Freezing of Gait Episodes of Individuals with Parkinson's Disease

5:15 PM - 5:30 PM

Location: B4 M1-2

Exploring the Design of the DeCyborg; a Mechanized Version of E-NABLE's Cyborg Beast Powered by Artificial Muscles

5:30 PM - 5:45 PM

Location: B4 M1-2

Design and Sensor Based Evaluation of Custom-Fit Coupling Interfaces for Lower Limb Exoskeletons: A Pilot Study

5:45 PM - 6:00 PM

Location: B4 M1-2

4:00 PM - 6:00 PM

Translational medicine and TE scaffolds

Location: B4 M4

Computational Fluid Dynamic Analysis of Customized 3D Printed Bone Scaffold Based on a Discrete Phase Method

4:00 PM - 4:15 PM

Location: B4 M4

Sustainable Approaches to Treat Syneresis Using Bioengineered Ocular Models

4:15 PM - 4:30 PM

Location: B4 M4

Scalable Exosome Isolation Platform for Clinical-Scale Therapeutics: Bridging Gaps in Drug Delivery and Regenerative Medicine

4:45 PM - 5:00 PM

Location: B4 M4

Inverse Design of Scaffolds for Bone Tissue Engineering using Artificial Neural Networks and Generative Additive Models

5:15 PM - 5:30 PM

Location: B4 M4

Design of a Flexible Silicon-Based Speculum for Cervical Imaging

5:30 PM - 5:45 PM

Location: B4 M4

Camera-Based In-Process Evaluation and Parameter Study of Core-Shell-Capsule Dimensions

5:45 PM - 6:00 PM

Location: B4 M4

5:00 PM - 7:00 PM

Poster viewing & exhibition

Location: Hall E

Sensing with Near Infrared Laser Trapped Fluorescent Nanodiamonds

5:00 PM - 7:00 PM

Location: Hall E

Optimization of Critical Process Parameters in Development of Robust Pharmaceutical Nanosuspension

5:00 PM - 7:00 PM

Location: Hall E

Emotion Recognition with Portable EEG in Immersive 360-Degree Environment

5:00 PM - 7:00 PM

Location: Hall E

Even/Odd-Mode Analysis of Cochlear Acoustics: Coupling of Odd-Mode Sound Waves with Traveling Waves

5:00 PM - 7:00 PM

Location: Hall E

Enhancing Colon Cancer Risk Prediction in Machine Learning Models Using Polygenic Risk Scores

5:00 PM - 7:00 PM

Location: Hall E

HISRON: AI-Driven GPU-Accelerated Framework for Scalable High-Resolution Neuroimaging Analysis

5:00 PM - 7:00 PM

Location: Hall E

MR-FusionMamba: A Visual Mamba Network with Range-Null Decomposition for Multi-Modal MRI Reconstruction

5:00 PM - 7:00 PM

Location: Hall E

Deep-Learning Based Segmentation of In-Ear Cardiac Sounds

5:00 PM - 7:00 PM

Location: Hall E

Segmenting the Non-Enhancing Compartment of Brain Tumor MRIs

5:00 PM - 7:00 PM

Location: Hall E

Validation of a Wearable Low-Cost EMG Prototype Device to Support Knee Extension Exercises

5:00 PM - 7:00 PM

Location: Hall E

Phenotypic Characterization of Sleep Apnea Using Clusters Derived from Subject-Based SpO2 Weighted Correlation Networks

5:00 PM - 7:00 PM

Location: Hall E

Development of an in Vitro 3D Cerebral Organoid-Based Unidirectional Neural Circuit Connectivity Analysis Platform

5:00 PM - 7:00 PM

Location: Hall E

Diffusion Model-Based Displacement Field Generation for 4D-CT Chest Image Generation

5:00 PM - 7:00 PM

Location: Hall E

Cross-Language Depression Detection Based on Multi-Domain Feature Alignment

5:00 PM - 7:00 PM

Location: Hall E

Estimating the Effect of the Specific Structure of Snow Leopard Cry2

5:00 PM - 7:00 PM

Location: Hall E

Wearable EEG-IMU Based Framework for Investigating Neural Correlates of Motor-Cognitive Interaction in Multiple Sclerosis

5:00 PM - 7:00 PM

Location: Hall E

A Deep Learning Method for Autism Spectrum Disorder Classification Based on Multimodal Neuroimaging Data

5:00 PM - 7:00 PM

Location: Hall E

Finger Joint Angle and Gesture Estimation under Dynamic Hand Position Using a Soft Printed Electrode Array

5:00 PM - 7:00 PM

Location: Hall E

Hyperglycemic Neurovasculature-On-A-Chip for the SIRT1-Targeted Therapy of Alzheimers Disease

5:00 PM - 7:00 PM

Location: Hall E

Metabolism of Macrophages under Chemical and Mechanical Stimulation

5:00 PM - 7:00 PM

Location: Hall E

A System Function Swapping Stitching Imaging Method Based on Cartesian Trajectory in Magnetic Particle Imaging

5:00 PM - 7:00 PM

Location: Hall E

Emotion Decoding and Consciousness Evaluation in DOC Patients through EEG Microstate Analysis

5:00 PM - 7:00 PM

Location: Hall E

Improving Electrolaryngeal Speech Enhancement Via a Representation Learning Method Based on Integrated Text and Speech Representations

5:00 PM - 7:00 PM

Location: Hall E

A Novel Tool for Celiac Disease Classification Based on Clinical, Immunological and Genetic Markers

5:00 PM - 7:00 PM

Location: Hall E

How Do Body Mass Index (BMI) and Gender Affect Time-Up-And-Go Measurements

5:00 PM - 7:00 PM

Location: Hall E

Beyond Frequency: Leveraging Spatial Features in SSVEP-Based Brain-Computer Interfaces with Visual Animations

5:00 PM - 7:00 PM

Location: Hall E

Cross-Attention Progressive Registration Network for Large-Deformation Brain Slices

5:00 PM - 7:00 PM

Location: Hall E

Dynamic Microbead Array System using Electro-conjugate Fluid

5:00 PM - 7:00 PM

Location: Hall E

Anomaly-Driven Approach for Enhanced Prostate Cancer Segmentation

5:00 PM - 7:00 PM

Location: Hall E

CA-NeuroSpex: Context-Informed Autoregressive Neuro-Guided Speaker Extraction

5:00 PM - 7:00 PM

Location: Hall E

OPSensing: Embracing Real-Time PPG Monitoring with Intraoral Wearables

5:00 PM - 7:00 PM

Location: Hall E

A Study of Brain-Computer Interface Recognition Performance Crossing Action Observation Paradigms

5:00 PM - 7:00 PM

Location: Hall E

Sound Source Localization for Autistic Childrens Session Recordings

5:00 PM - 7:00 PM

Location: Hall E

Pallidal Volume Modulates the Relationship between Beta Power and Symptom Severity in Parkinsons Disease

5:00 PM - 7:00 PM

Location: Hall E

Chronic Flexible Probe Reveals Epileptic Spatial Coding Deficits

5:00 PM - 7:00 PM

Location: Hall E

Ex Vivo Porcine Liver Validation of Dixon Fat Fraction-Based Electrical Properties Models at 3T

5:00 PM - 7:00 PM

Location: Hall E

CoordConv-ControlDDPM: A Text-Guided Approach to Medical Image Augmentation for Improved Segmentation

5:00 PM - 7:00 PM

Location: Hall E

Addressing Multi-Day Generalizability for EMG-Based Gesture Recognition

5:00 PM - 7:00 PM

Location: Hall E

Multi-Metric Subgroup Analysis for Glucose Forecasting in Type 1 Diabetes

5:00 PM - 7:00 PM

Location: Hall E

Word-Specific Properties Affect Classification Performance in Brain Computer Interfaces for Decoding Imagined Speech from EEG

5:00 PM - 7:00 PM

Location: Hall E

On-Bead Detection of EcoRI Activity in a Food Matrix

5:00 PM - 7:00 PM

Location: Hall E

Design and Performance Evaluation of a Real-Time Single-Channel Ear-EEG Acquisition System for Wearable Applications

5:00 PM - 7:00 PM

Location: Hall E

Hierarchical Classification of Cough Sound Using Fine and Coarse-Grain Acoustic Feature Representations: A Doctor's Perspective on Diagnostic Classification

5:00 PM - 7:00 PM

Location: Hall E

Identifying Markers of Cardiac Arrhythmias in Patients with Diabetes Mellitus Type 2

5:00 PM - 7:00 PM

Location: Hall E

Nasal Fluid Dynamics Visualization Using Particle Image Velocimetry in a 3D-Printed Nasal Replica Model

5:00 PM - 7:00 PM

Location: Hall E

CMOS: Confidence-Guided Multi-Scale Semi-Supervised Segmentation for Retinal Layers in OCT Images

5:00 PM - 7:00 PM

Location: Hall E

Benefits of Different Strategies to Adapt Sleep Scoring Models from Scalp to Ear-EEG

5:00 PM - 7:00 PM

Location: Hall E

Creating Healthy Age-Sex-Matched Left Ventricular Velocity Atlases and Extracting Energy-Based Hemodynamics Using 4D-Flow MRI

5:00 PM - 7:00 PM

Location: Hall E

Domain Adversarial Training for Mitigating Gender Bias in Speech-Based Mental Health Detection

5:00 PM - 7:00 PM

Location: Hall E

Utilizing Machine Learning for the Identification of Pre-Treatment Prognostic Non-Imaging Biomarkers of Cancer Therapy-Related Cardiac Dysfunction in Female Patients with Breast Cancer

5:00 PM - 7:00 PM

Location: Hall E

On-Demand Control of Picoliter Drug Delivery into Living Cells

5:00 PM - 7:00 PM

Location: Hall E

Performance and Reliability Evaluation of 3D Printer-Based Orthopedic Implants

5:00 PM - 7:00 PM

Location: Hall E

Novel Multimodal Breast Phantoms vs. Real: Even Experts Cant Tell the Difference

5:00 PM - 7:00 PM

Location: Hall E

Toward Inclusive Large-Scale Alzheimers Disease Detection Via Speech and Language Modeling

5:00 PM - 7:00 PM

Location: Hall E

Comparing Numerical Optimization Algorithms for On-Device Luminescence Lifetime Analysis

5:00 PM - 7:00 PM

Location: Hall E

MPM-DCE: Multi-Stage Progressive Mechanism for Early and Late DCE Prostate MRI Synthesis

5:00 PM - 7:00 PM

Location: Hall E

Predictive Analysis of Cardiometabolic Risks in Liver Transplantation A Case Study in Uruguay

5:00 PM - 7:00 PM

Location: Hall E

Evaluation Methodology for Biofilm Inhibition of Femtosecond Laser-Treated Orthopedic Bone Plates

5:00 PM - 7:00 PM

Location: Hall E

MI-CES: An Explainable Weak Labelling Approach to Example Selection for Motor Imagery BCI Classification

5:00 PM - 7:00 PM

Location: Hall E

Spectrum Analysis of Non-Uniformly Sampled Signals

5:00 PM - 7:00 PM

Location: Hall E

A New Approach for Predicting Brain Functional Connectivity: A Cross-Modality DTI-fMRI Study

5:00 PM - 7:00 PM

Location: Hall E

Improved Region-Optimized Virtual Coils Using Relationships between Subspaces

5:00 PM - 7:00 PM

Location: Hall E

GlaLSTM: A Concurrent LSTM Stream Framework for Glaucoma Detection Via Biomarker Relationship Mining

5:00 PM - 7:00 PM

Location: Hall E

Periodicity-Driven Millimeter Wave Radar Framework for Robust Non-Contact Heart Rate Monitoring

5:00 PM - 7:00 PM

Location: Hall E

Boosting Skin Lesion Classification with a Class Expert DCGAN Framework for Skin Disease Detection

5:00 PM - 7:00 PM

Location: Hall E

Assessing the Utility of Audio Foundation Models for Heart and Respiratory Sound Analysis

5:00 PM - 7:00 PM

Location: Hall E

Cell-Adhesive Double-Network Self-Healing Hydrogel for Biomedical Applications

5:00 PM - 7:00 PM

Location: Hall E

Robust Papanicolaou Stain Quantification Insensitive to Imaging System Variations by

Sparsity-Based Stain Unmixing

5:00 PM - 7:00 PM

Location: Hall E

Experimental Analysis of Strain Gauge Sensor in Detecting Arterial Blood Flow Stenosis

5:00 PM - 7:00 PM

Location: Hall E

Quantitative Analysis of Heart Age Metrics: A Multi-Standard Assessment in the UK Biobank Cohort

5:00 PM - 7:00 PM

Location: Hall E

MI-LTN: A Neurosymbolic Framework for Enhanced EEG Feature Extraction and Model Interpretability in MI-BCI

5:00 PM - 7:00 PM

Location: Hall E

Poly(β -Amino Ester) Polymer Library with Monomer Variation for mRNA Delivery

5:00 PM - 7:00 PM

Location: Hall E

Heart Rate Estimation through Autocorrelation from Single Axis Accelerometer of Smartphone

5:00 PM - 7:00 PM

Location: Hall E

Learning Patient Health Conditions from Physiological Responses to Vasoactive Agents

5:00 PM - 7:00 PM

Location: Hall E

Validation and Verification of a Haptic Interface for Body-Powered Partial Hand Prostheses

5:00 PM - 7:00 PM

Location: Hall E

Auditory Steady-State Responses and the Effects of Interaural Decoherence and Presence of Vision

5:00 PM - 7:00 PM

Location: Hall E

Conditional Score-Based Diffusion Models for Lung CT Scans Generation

5:00 PM - 7:00 PM

Location: Hall E

Processing and Analysis of Cardiac Signals for Magnetic Resonance Triggering

5:00 PM - 7:00 PM

Location: Hall E

Denoising of Heart Sound Recordings - Standard vs. Supervised Techniques: Is Cleaner Better for Classification?

5:00 PM - 7:00 PM

Location: Hall E

Development of Neuroimaging-Based Biomarkers for Early Detection of Alzheimer's Disease

5:00 PM - 7:00 PM

Location: Hall E

The Antioxidant and Repair Effects of Silk Fibroin with Different Molecular Weights on Osteoarthritis in Mice

5:00 PM - 7:00 PM

Location: Hall E

FNIRS Based Comparative Study of Classifiers and Feature Selection Techniques for Finger Tapping

5:00 PM - 7:00 PM

Location: Hall E

Evaluation of Transversely Isotropic Muscle Phantoms Using Ultrasonic Rotational and Rocking Shear Wave Elastography Imaging

5:00 PM - 7:00 PM

Location: Hall E

Enhancing Medical Image Segmentation with Adaptive Prompting with Foundation Model in Semi-Supervised Learning

5:00 PM - 7:00 PM

Location: Hall E

Non-Invasive Photoacoustic Temperature Measurement and Processing with Correlation Coefficient (R²) Linearity of 0.99

5:00 PM - 7:00 PM

Location: Hall E

Is Pain a Physiological Reality or Perceptual Phenomenon? Insights from SCG and ECG Signal Analysis

5:00 PM - 7:00 PM

Location: Hall E

Contactless Heart Rate and Heart Rate Variability Estimation from Neck Videos

5:00 PM - 7:00 PM

Location: Hall E

Segmentation of Renal Tubules and Automatic Biomarker Quantification in Ciliopathy Preclinical Models

5:00 PM - 7:00 PM

Location: Hall E

Single-Cell Multi-Omic Dissection of the Skin Regenerative Microenvironment Driven by Silk Protein

5:00 PM - 7:00 PM

Location: Hall E

Contextual Corpus Callosum Analysis for Differentiating Early and Late Mild Cognitive Impairment

5:00 PM - 7:00 PM

Location: Hall E

Identifying the Nature of Grip Force Signals in EEG & fNIRS with Multi-Modal Graph Fusion Network

5:00 PM - 7:00 PM

Location: Hall E

Development of an AI-Based Mobile App for Automatic Depression Screening Using Speech in English and Chinese

5:00 PM - 7:00 PM

Location: Hall E

Comparative Evaluation of Denoising Algorithms for Enhanced SCG Signal Processing During Dynamic Conditions

5:00 PM - 7:00 PM

Location: Hall E

Learning-Based Pulmonary Disease Detection Using Weak Labels for Volume Sweep Lung Ultrasound Imaging

5:00 PM - 7:00 PM

Location: Hall E

Enhancing Bone Fracture Detection with Large Kernel Attention Modules

5:00 PM - 7:00 PM

Location: Hall E

Efficient Spheroid Formation in a Culture Dish by Ultrasound Trapping

5:00 PM - 7:00 PM

Location: Hall E

Wearable Optical Fiber Sensors for Joint Motion and Muscle Activity Monitoring: An Optimization Study

5:00 PM - 7:00 PM

Location: Hall E

Designing Real-Time EEG and ECG Integration for VR-Based Exposure Therapy: A User Study

5:00 PM - 7:00 PM

Location: Hall E

Transfer Learning in EEG-Based Reinforcement Learning Brain Machine Interfaces Via Q-Learning Kernel Temporal Differences

5:00 PM - 7:00 PM

Location: Hall E

Presentation Attacks on the PCA-Based Biometric System Using cGAN-Generated ECGs

5:00 PM - 7:00 PM

Location: Hall E

Adaptive Online Variational Bayesian Method Based on Normal-Generalized Inverse Gaussian Prior for Bioluminescence Tomography

5:00 PM - 7:00 PM

Location: Hall E

Injury Modelling Explosive Devices with Bioengineered Skeletal Muscle

5:00 PM - 7:00 PM

Location: Hall E

3D Organ Motion Estimation for Radiotherapy through Material Point Method-Driven Extrapolation of Multiple Orthogonal Slices

5:00 PM - 7:00 PM

Location: Hall E

OpenSpectro: An Open-Source Spectroscopic Profile Platform

5:00 PM - 7:00 PM

Location: Hall E

Behavioral and Psycho-Emotional mHealth Interventions for Elderly Breast Cancer Patients with Cardiac Toxicity

5:00 PM - 7:00 PM

Location: Hall E

Fine-Tuning of Wav2Vec 2.0 for Multimodal Classification of Abnormal Heart Sounds

5:00 PM - 7:00 PM

Location: Hall E

Automatic Blink-Based Bad EEG Channels Detection for BCI Applications

5:00 PM - 7:00 PM

Location: Hall E

Gold Nanoparticle Interactions with T47D Spheroids

5:00 PM - 7:00 PM

Location: Hall E

A Dual-Feature Extractor Framework for Accurate Back Depth and Spine Morphology Estimation from Monocular RGB Images

5:00 PM - 7:00 PM

Location: Hall E

A Multimodal Lifestyle Intervention Management System for People at Risk of Cognitive Decline*

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AI-Powered Virtual Patient for Chiropractic Training an MR and NLP Based Approach

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ActiveSSF: An Active-Learning-Guided Self-Supervised Framework for Long-Tailed Megakaryocyte Classification

5:00 PM - 7:00 PM

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Neckband-Type Self-Powered Pulsewave Sensor for Continuous Blood Pressure Monitoring

5:00 PM - 7:00 PM

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Cross-Stimulus Transfer Learning: Enhancing Emotion Recognition from Visual-Auditory to Olfactory Perception

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Fronto-Thalamo-Cerebellar Circuitry in Predicting Cognition and Behavior of ABCD Adolescents

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Comparative Analysis of CNN and Transformer Architectures with Heart Cycle Normalization for Automated Phonocardiogram Classification

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Analyzing Habitual Patterns and Behavioral Discrepancies in Ambient Assisted Living: An LSTM-Based Predictive Model

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Towards Affordable Smartphone Eye Tracking for Nystagmus Analysis and Monitoring

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Deep Learning Method for Classifying Spatial Patterning of Early Differentiated Human Induced Pluripotent Stem Cells Using Micropattern Images

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Phenotype Matching: RF Sensor-Based Indoor Subject Identification with Wearable Sensor Assistance

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An All-Silk-Based Functional System Promotes Tendon Regeneration by Regulating TSPCs Fate in an Inflammatory Microenvironment

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End-To-End Classification of Cognitive Impairment Using Daily-Life Gait Data

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OptiGuard: Generalized, Attention-Driven & Explainable Glaucoma Classification

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A Photoplethysmogram-Based 1D-CNN Algorithm for Automated Atrial Fibrillation Detection

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Performance Evaluation of Tattoo Skin Electrodes for Measuring Respiratory Muscle Activity in Healthy Subjects

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Immunohistochemistry Prediction Using H-Score in Cancer Diagnosis

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Injectable Macroporous Baghdadite-Based Bone Cements: Optimizing Structure and Performance for Bone Regeneration

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Localization of Arrhythmogenic Sites in Post-Ischemic Ventricular Tachycardia Using Network Granger Causality

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An in-silico lung phantom to assess the performance of pulmonary artery segmentation using angiogram

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AFLoc8-Net: End-To-End Atrial Fibrillation Localization with a Dual Head Transformer

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Efficacy and Usability of Facial Dry-Printed Electrodes for Transocular Stimulation

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VMSIS: A Pre-Trained Vision Transformer with Mamba Decoder for Surgical Instrument Segmentation

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Towards 6G-Connected Healthcare: Perspectives, Risks and Real-World Applications for Smart Hospitals

5:00 PM - 7:00 PM

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Improvement of Cell Proliferation Rate in Cell Culture Using Ultrasonic Atomization

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Contrastive Coronary Artery Calcification Image Retrieval in Computed Tomography

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Leveraging Large Language Models for Automated Feature Extraction and Model Training in EMG-Based Motion Decoding

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A Pilot Study on Simultaneous Estimation of Cerebral Capillary Permeability to Glucose Using the Extended Patlak Method

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Capacitive Silicone-Textile Strain Sensor for Soft Biomedical Applications

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Self-Supervised Transformer-Based Foundation Model for Functional Magnetic Resonance Imaging

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Lightweight Data-Driven ECG Classification Approach with Explainable CAM Output

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Leveraging Self-Supervised Learning Methods for Remote Screening of Subjects with Paroxysmal Atrial Fibrillation

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The Influence of Footwear Sole Edges on Slip Resistance Prediction

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A Deep Learning Model Based on the Bi-LSTM Neural Networks with Self-Attention Mechanism to Enhance the Blood Flow Sensor's Ability to Track Fluctuating Flow Rate

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Correlation Analysis between EIT-Derived Parameters and Ultrasound-Measured Muscle Thickness and CAS Characteristics

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Assessing Coronary Artery Disease Risk Using Seismocardiography in Patients with Chest Pain

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Deep Learning Based Generation of 3D-Maximum Intensity Projection (MIP) of MRA from T1-Weighted MRI Scans for Cerebrovascular Abnormalities Characterization

5:00 PM - 7:00 PM

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Towards Standardized Documentation and Monitoring for Reproducible Electrostimulation Experiments

5:00 PM - 7:00 PM

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Burnout Risk Prediction through Wearable Devices: An Initial Assessment

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Effects of Body Temperature Changes on the Cerebral Metabolites and Functional Connectivity in Mice under Normothermia

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Initial Study of Viscoelasticity Estimation for Magnetic Resonance Elastography Using Generative Adversarial Network

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Do Larger Resections Cut It? Relating Temporal Lobe Epilepsy Surgery and Seizure Outcome

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ESTIMATION OF CONTACT FORCES OF ENDOVASCULAR DEVICES USING PHYSICIANS' BIO-SIGNALS

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Wearable Technology for Early Parkinsons Disease Biomarker Identification a Cross-Sectional Controlled Trial Protocol

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Crack Detection in MEMS Structures Using SEM Images

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Spatiotemporal Mapping of Epileptiform Dynamics in the Hippocampal Circuit Via High-Density Biosensors

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The Effect of Tibetan Singing Bowls on Stress Reduction: A Heart Rate Variability Study

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Quantitative Evaluation of Clinical 2D and Research 3D Magnetic Resonance Elastography Using an Embedded Phantom

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Predicting Six-Minute-Walking-Distance in COPD Patients from Wearable Devices in Real-World Setting

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Omnipolar Technology in Intracardiac Signals: Are We Fulfilling the Assumptions?

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Exploring Attention-Driven Deep Learning for Accurate Lung Nodule Segmentation

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How to Evaluate Signal Quality of Ear-ECG?

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Network-Level Characterization of Hippocampal Disruptions in Alzheimers Disease Using Large-Scale Electrophysiology

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Anti-Inflammatory Gold Implant Surface Coating for Improved Constant Glucose Monitoring - an Animal Pilot Trial

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Effect of Heart Rate on Arterial Pressure Wave Propagation: Analysis Using Cardiovascular Hardware Simulator

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EgoFall: A First-Person View Fall Detection System

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A Unified Learning and Evaluation Framework for Infant Cry-Based Verification

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MRI Gradient Induced Heating of Transvenous Cardiac Pacemakers

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Tracking Dynamic Functional Connectivity Using Time-Varying Multivariate Autoregressive Models: An EEG Study of Sensorimotor Processes

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GenAU-Net: Genomic Attention U-Net for Lower-Grade Glioma MRI Segmentation

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AI-Based Classifier for Attention Deficit Hyperactivity Disorder in Children

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Impact of B0 Field on ISO 10974 MRI Radiated Gradient Induced Device Malfunction Test

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A Wearable System for Evaluation of PSSE Compliance for AIS Patient

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Intended and Non-Volitional Knee Joint Movements Elicit Distinct Functional Brain Networks

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An AI-Enabled mHealth Integrated Care Solution for the Management of Metabolic-Associated Steatotic Liver Disease

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Development of a Cell Proliferation Assay Reagent for Hydrogel-Based Bioink

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Simulation-Based Optimization of Dynamic PET Imaging Using 4D-XCAT Phantoms and Clinical Time-Activity Curves

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Facial Multi-Region rPPG Extraction from Smartphone Videos with Comparative Analysis of Finger Videos for SpO₂ Measurement

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Phantom Design to Enable Multisite Studies with Hyperpolarized Metabolic Magnetic Resonance Imaging

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HealthReflect: Design of a Bathroom Smart Mirror to Capture Comprehensive Consumer Health Data Trends

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Evaluation of an Alternative Triangular Clique for Omnipolar Electrogram Estimation

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Hydrogel Microfiber Encapsulating Lipiodol Emulsion with in Vitro Position Observation by X-Ray

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A Novel Ergodic Sequential Logic Olfactory Bulb Model towards Hardware-Efficient Electronic Nose

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Diabetes Prevention Chatbots to Help Dietary Self-Management for the Chinese Population

5:00 PM - 7:00 PM

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Thermal Imaging-Based Nasal Respiration Flow Tracking Analysis

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An Innovative Approach to MR-Based Electrical Properties Tomography

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Sequential Probability Assignment for Outlier Detection in Heartbeat Timings

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A Novel Piece-Wise Constant Pancreatic Beta-Cell Cluster Model: Reproductions of Various Spiking Phenomena of Pancreatic Beta-Cell Cluster and Efficient FPGA Implementation

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Perfusion Co-Culture of Bacteria in Tubular in Vitro Intestinal Epithelial Tissue Model with a 3D Cryptic Structure and Mucin Layer

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Analyzing the Resonant Behavior of a Single Neuron at the Subthreshold Level

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Lightweight ResNet-Based Deep Learning for Photoplethysmography Signal Quality Assessment

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Evaluating Hand Acupuncture Point Detection: A Comparative Analysis of Real and Synthetic Datasets Using MMpose

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Numerical Simulation Method Including Phase Information for Generating Motion Artifacts in Head MRI Images

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Machine Learning for VO2max Predictions: A Comparison of Methods Using Wearable Sensor Data

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Exploring the Use of Wearable Data in the Congenital Heart Disease Population Using the All of Us Research Program

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Investigating Key Factors Influencing Behavioral Adaptation in Parkinsonian Subjects through Neurocomputational Model of the Basal Ganglia

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FAST SCANNING FLUORESCENCE IMAGING OF THE POROSITY NETWORK IN DENTIN USING DEEP-LEARNING SUPER-RESOLUTION

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Quantitative Evaluation of Cerebral Blood Flow with Pseudo-Continuous Arterial Spin Labeling on a 5T Clinical Scanner

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ECG-EmotionNet: Nested Mixture of Expert (NMoe) Adaptation of ECG-Foundation Model for Driver Emotion Recognition

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HemoGraph: A Machine Learning Method for Type II Diabetes Pre-Screening Using Social and Behavioral Determinants of Health

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Changes in Signal Morphology of 3D Printed Dry Electrodes for Enhanced ECG Signal Quality in Dynamic Conditions

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Evaluation of the Effects of the Proteus Effect Utilizing Virtual Reality on Somatic Pain and Autonomic Nerve Activity

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Time Series Glucose Level Detection in Fuel-Cell Based Sensors Using Machine Learning: A Comparative Study of K-NN with Dynamic Time Warping and XGBoost

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Self-Supervised Deep Learning for Denoising 23Na MRI

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Electromagnetic Design of a 1.5 T Ultra-Short Cavity Large Aperture MRI Magnet Based on Hybrid Superconducting Wire

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Functional Ultrasound Imaging in Simulated Brain State Analysis

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Ordinal Pattern-Based Mode Decomposition for Phonocardiogram Signal Analysis

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Educational Effectiveness of Virtual Reality Training in Improving Skills in Operating the Cardiopulmonary Bypass

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Automatic Generation of Pulmonary Nodule Patterns in Chest CT Images from Image Findings Using a Diffusion Model

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Quinidine-Induced Microvolt Electrocardiographic Alternans

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Smart Socks for Gait Analysis: A Comparative Study of Algorithms

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A Mathematical Model of Dorsal Horn Circuits Contribution to Neuropathic Pain

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Development and Validation of Eguide: A WeChat Mini Program for Evidence-Based Medical Education

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Feasibility of Implementing the Generalized Reconstruction by Inversion of Coupled Systems Method on GPUs Using CUDA

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Development and Preliminary Study of a Garment-Integrated Device Utilizing Knit Sensors for Gait Posture Evaluation

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P-Wave Spatial Variability in 12-Lead ECG Predicts Temporal Changes in Atrial Fibrillation

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A Computational Framework for Learning and Memory: Network Motif Evolution During LTP-Induced Plasticity

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Glioblastoma Tissue Identification in Brain Tumor Surgery: A Multimodal Workflow

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Personalized Morphological Brain Network Analysis for Temporal Lobe Epilepsy: Combining Cortical Thickness and Volume Features

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A Preliminary Study on Mobile Keystroke Dynamics-Based Age Estimation Using Artificial Intelligence

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In-Silico Study on the Dynamical and Topological Relationships between Three-Dimensional Cultures and Relative Slices

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Synthesizing Contrastive SPECT Images for Low-Dose Prostate Scintigraphy

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Measurement and Analysis of Biomedical Signals from Conductive Textiles

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Developing a Whole-Brain Cerebral Blood Flow (CBF) Atlas of Mice Using Magnetic Resonance Imaging

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Personalized Exercise Programs for Smart Fitness Systems: Scenario Design and Logic Development

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From Laboratory to Pre-Market Prototyping: Lessons Learned from a Noninvasive Blood Glucose Level Measurement Device

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Analysis of End-Tidal CO₂ Variability During Plateau Waves Episodes: An Information Theoretic Approach

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Visual Explanation of Generalisation between Mammography Manufacturers

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Phase-Dependent Neuromodulation in a Computational Hippocampal Model

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Alzheimers diagnosis based on magnetic resonance imaging using the ResNet50 model with transfer learning and integration into a 3D simulator

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Decoding Confidence in Future Event: EEG Markers of Prospective Confidence in Perceptual and Memory Tasks

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Using Canonical Correlation Analysis to Assess the Risk of Paroxysmal Sympathetic Hyperactivity in Severe Traumatic Brain Injury

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Non-Intrusive Sleep Staging with Integration of Ballistocardiography and Audio Signals

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Improving Accuracy and Precision of Laser Speckle Contrast Imaging Using Statistical Priors from a Pre-Trained Image Generation Model

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A Deep Learning Framework for Multi-Source EEG Localization

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EEG-Based Classification of Chinese Characters in Overt Speech: The Role of Frequency Bands and Brain Regions

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Ultra-Low Power EEG Headband Based on Gold Nanowire Foam Electrode

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Multi-Scale Feature Fusion with Image-Driven Spatial Integration for Left Atrium Segmentation from Cardiac MR Images

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A Posture Control System for Prolonged Sitting in a Height-Adjustable VDT Environment

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A taVNS-TMS Study on Cortical Excitability for Post-Stroke Upper Limb Rehabilitation

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Improving Guilty Classification in P300-Based Concealed Information Test with Low Inhomogeneity Using Deep Learning

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Development and Evaluation of a Speech-To-Noise Ratio Feedback System

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Development of a WebRTC Based Communication Tool Integrated into a Clinical Trial Management System for Digital Therapeutics

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Normalized Dynamic Time Warping Increases Sensitivity in Differentiating Functional Network Connectivity in Schizophrenia

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Enhanced Early Detection of OSA Using DRS-Based Pulse Oximetry

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Emotion Processing in Virtual Reality: EEG Functional Connectivity Using Weighted Phase Lag Index

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Classification of Sustained Attention States in E-Learning Using Machine Learning-Based EEG Analysis

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Predicting Cerebral Vasospasms in Aneurysmal Subarachnoid Hemorrhage Patients Using Numerical Simulations: a Pilot Study

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Investigating Thresholding Methods for Beta Burst Detection to Decode Inhibitory Control from EEG

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Wearable Stethoscope with Soft Interface and Noise Reduction System towards Continuous Monitoring of Neonates Breath

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Enhancing Medical Telepresence: VR Integration Reduces Task Execution Time While Maintaining Performance

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Quantitative Investigation of Implant Effect of Intracranial EEG Electrodes on Cortico-Cortical Evoked Potentials

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Domain Generalization for Motor Trajectory Decoder

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Development and Validation of a Textile-Based Pressure Sensing System for Lower-Limb Prosthetic Sockets

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A GUI FOR FILTERING EEG ANNOTATIONS IN AN SQL DATABASE

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Exploring Alpha Desynchronization in Alzheimer's Disease Using Coherence Analysis

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Design and Validation of an Affordable Respiration-Synchronized Olfactometer for Objective Assessments of Odor Processing in Humans

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Development of a Portable Indenter Device for Assessing Tissue Stiffness at Injection Sites

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Dynamic Inter-Modality Source Coupling Reveals Sex Differences in Brain Connectivity in Children: A Multimodal MRI Study of the ABCD Dataset

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MSMA: Multistage Missingness-Aware Fusion Network of Diverse Clinical Modalities for In-Hospital Mortality Prediction

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Smart Vest and Metrics for Physical Education Using ECG & IMU

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Heart Rate Variability Changes During a Three-Day Intensive Educational Program

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MRCP As a Control Signal for BCI-Speller. Feasibility Study

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Electroencephalographic Changes During General Anesthesia in Patients with a History of Chemotherapy

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Sensor-Skin Interface Design for the Improvement of Reflective Photoplethysmography Signal Quality on Flat Skin Surfaces

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Exploring the Use of and Opinions on Technology for at Home Exercise in Stroke Patients - a Questionnaire Study

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Machine Learning-Based Detection of Transcranial Evoked Potentials: Towards Fully Automated TMS-EEG Analyses

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Quantification of the Spontaneous Emergence of Leader-Follower Dynamics in EEG Hyperscanning Data

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Development of an Acoustic Impedance Matching Structure for High-Precision Auscultation with a Wearable Electronic Stethoscope

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Intraoperative Laryngospasm Prediction Based on Multivariate Statistical Process Control Using Second-By-Second Vital Sign Data

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Effects of Body Posture on Evoked Compound Action Potential Features in Spinal Cord Stimulation

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EEG Hyperscanning to Quantify Neuronal Synchronization and Cognitive Function in an Educational Context

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Design of Vibration Spectrum for Electrolarynx Based on Machine Learning of User's Vocal Tract Characteristics

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Deep Learning for Embryo Quality Prediction in IVF Decision Support

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Frequency Specific Cortical Behaviour Induced by Psilocybin in Healthy Participants Revealed by EEG Neuroimaging

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Ictal Electrocardiography Connectivity Analysis Using Time-Varying Phase Transfer Entropy for Seizure Onset Zone Identification

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Characterization and Diagnosis of Dementia Spectrum Disorders Using EEG Connectome Dynamics with Deep Learning

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Mitigation of Low-Frequency Artifacts in Segmental Bioimpedance Measurements on a Heart Failure Patient

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Early Detection of Cognitive Impairment in Elderly Using a Passive FPVS-EEG BCI and Machine Learning

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Classification of BD-II Depression and MDD Based on Functional Connectivity Feature Fusion of EEG and Machine Learning

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Pressure Adjustment System in Compression Therapy for Burn Scars with Measurement Capability

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Leveraging Text Messaging Networks to Predict Clinical Deterioration

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Neural Decoder to Classify Gape Cycle Types Using a Dimension Reduction Method Applied to Local Field Potential of Primary Motor Cortex During Feeding Behavior

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Sham-Controlled rTMS Modulation of EEG Functional Connectivity: Insights from Phase Synchronization and Information Flow

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Optimizing PEEP in Pressure-Controlled Mechanical Ventilation in the ICU: A Reinforcement Learning Approach

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Initial Steps with an Array-like Near Infrared Spectroscopy Device for Upper Limb Measurements

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NNSR: Neural Signal Processing and Closed-Loop Research Toolbox for Sensing-Enabled Deep Brain Stimulation

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The Impact of Group Identity and Membership Duration on Social Cognitive Biases: An EEG Synchronization Study

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Data-Centric Approach for Epileptic Seizure Detection with Wearable Eeg

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Machine Learning Approach to Predicting Psychological Stress Using Biological Data in Daily Life

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Effect of Vagus Nerve Stimulation on ECG and EEG in Rats

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A Unified Transformer for Functional and Effective Connectivity: An fNIRS Study

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Cat Avatar Is Associated with Female Voices: A Cognitive Bias Reflected in Eye Movements

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Feasibility Study of Multi-Echo F-MRI to Investigate Local Brain Connectivity During Unilateral Nostril Breathing

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Time-Frequency Analysis of Accelerometric Patterns Using the Pegboard Manual Dexterity Test for the Diagnosis of Cognitive Disorders

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Fuzzy Deep Neural Network for Health Information Prediction in Longitudinal Data

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A Fundamental Study on Readiness Potentials in EEG towards the Predictive BMI

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Waist Circumference Threshold for Hypertension in Postmenopausal Women using XGBoost and SHAP

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Extended Ergodic Sequential Logic Neuron Model and Virtual Clinical Experiment on Neural Prosthesis of Cricket Auditory Nerve System

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Leveraging Eye-Tracking Signals for Neurodegenerative Disease Classification with Deep Learning Models

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Automated Multi-Objective ER-Rule Ensemble Model for Locoregional Recurrence Prediction in Head and Neck Cancer

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Improving AI-Based Canine Heart Disease Diagnosis with Expert-Consensus Auscultation Labeling

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EFRNet: A Deep Hybrid Model for End-to-End Knee Osteoarthritis Detection and Progression Assessment

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Scoliosis Assessment Depending on Curve Magnitude Based on Torsobarography and Machine Learning

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GlauCUTU-WebXR: Virtual Reality Visual Field Perimetry System Embedded with Enhanced Humphrey Field Analyzer Prediction Models for Glaucoma Screening in Resource-Limited Settings

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Graph-BrainConvNet: A One-Class GCN-Based Approach for MCI Detection from Source-Level MEG

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Multimodal Data and Deep Learning-Driven Diagnostic and Therapeutic Assistance Framework for Patellar Dislocation

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A Machine Learning Framework for Efficient Triage of Long COVID Patients to Specialists

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WEARnCARE, a Decision Support System to Enhance Monitoring of Motor Performance in Parkinsons Disease Patients Journey

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AI-Powered Prediction System for Pupil Morphology in Critical Stages of Cataract Surgery

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Predicting Treatment Outcome of Patients with Type 2 Diabetes on Once-Daily Basal Insulin Injections Using Machine Learning

5:00 PM - 7:00 PM

Location: Hall E

Leveraging Eye Movement Features for Enhanced Emotion Recognition Accuracy

5:00 PM - 7:00 PM

Location: Hall E

Machine Learning-Based Demand Prediction for Emergency Medical Services

5:00 PM - 7:00 PM

Location: Hall E

A Nutrition Recommendation System Based on Reinforcement Learning

5:00 PM - 7:00 PM

Location: Hall E

Review on Artificial Intelligence applied to Cardiovascular Disease Management in Latin America

5:00 PM - 7:00 PM

Location: Hall E

Personalized Glycemic Responses in Non-Diabetic Adults: Challenging the Glycemic Index Paradigm

5:00 PM - 7:00 PM
Location: Hall E

Template-Driven Dynamic Functional Network Connectivity Predicts Medication Class Response for Major Depression and Bipolar Disorders

5:00 PM - 7:00 PM
Location: Hall E

Textual Annotation in the Prediction of Heart and Lung Transplantation Outcomes from Donor Data

5:00 PM - 7:00 PM
Location: Hall E

Titration and Treatment of Virtual Type 2 Diabetes Patients Using an Adaptive Automated Insulin Delivery System

5:00 PM - 7:00 PM
Location: Hall E

Modeling Arterial Pulse Waves in Hypertension: Preliminary Study

5:00 PM - 7:00 PM
Location: Hall E

High-Density MEA Reveals Distinct Sharp-Wave Ripple Network Dynamics across Induction Methods in the Hippocampus

5:00 PM - 7:00 PM
Location: Hall E

Mechanical Ventilation-Driven Machine Learning for Predicting the Risk of Pediatric Respiratory Failure

5:00 PM - 7:00 PM
Location: Hall E

A Nonparametric Copula Approach to Predict Heart Rate Trajectories from Single Overnight Wearable Accelerometry

5:00 PM - 7:00 PM
Location: Hall E

Machine Learning-Based Prediction for Stroke Patient Classification Using Polygenic Risk Scores

5:00 PM - 7:00 PM
Location: Hall E

6:00 PM - 8:00 PM

Welcome Reception

Location: Foyer F

Tuesday, July 15, 2025

8:00 AM - 10:00 AM

Signal Processing and Classification Methods for Sleep Studies

Location: D3 - Silent1

Empirical Mode Decomposition for Sleep-Wake Analysis in a Corticothalamic Neural Field Model

8:00 AM - 8:15 AM
Location: D3 - Silent1

The Impact of Smoking Status on Obstructive Sleep Apnea: Insights from Anthropometric and Physiological Covariates

8:15 AM - 8:30 AM
Location: D3 - Silent1

Sleep Analysis Using Longitudinal Ear-EEG Recordings

8:30 AM - 8:45 AM
Location: D3 - Silent1

Sleep Stage Classification of Pediatric Patients with Sleep-Disordered Breathing Using Airflow Signals

8:45 AM - 9:00 AM
Location: D3 - Silent1

Screening Sleep Apnea Using Random Convolution Kernels of Acoustic Speech Representations

9:00 AM - 9:15 AM
Location: D3 - Silent1

Using EEG Frequency Attributions to Explain the Classifications of a Deep Neural Network for Sleep Staging

9:15 AM - 9:30 AM
Location: D3 - Silent1

A Joint Optimization Guided Deep Learning Model Based on CNN and Channel-Wise Transformers for Robust Sleep Stage Classification from EEG Signal

9:30 AM - 9:45 AM
Location: D3 - Silent1

A Comparative Analysis of Cardiac Sympathetic and Parasympathetic Activity in Sleep Using Linear and Nonlinear Indices

9:45 AM - 10:00 AM
Location: D3 - Silent1

8:00 AM - 10:00 AM

Signal Processing and Classification Methods for Wearable and Mobile devices

Location: D3 - Silent2

Non-Invasive Detection of Coronary Artery Disease and Valvular Disorders Using a Multichannel PCG Vest

8:00 AM - 8:15 AM
Location: D3 - Silent2

Respiratory Inhaler Sound Event Classification Using Self-Supervised Learning

8:15 AM - 8:30 AM
Location: D3 - Silent2

Symptom Monitoring in Oncological Patients Using Wrist-Worn Wearables: A Machine Learning Approach

8:30 AM - 8:45 AM
Location: D3 - Silent2

Convolutional Feature Engineering for Cross-Day Personal Identification Using Wrist Electromyography

8:45 AM - 9:00 AM
Location: D3 - Silent2

Sleep Staging for Wearable Electroencephalography Leveraging Machine Learning and Conventional Polysomnography Datasets

9:00 AM - 9:15 AM
Location: D3 - Silent2

A Hybrid Deep Learning Model for Sleep Staging with Multi-Domain Feature Fusion from Single Channel EEG

9:15 AM - 9:30 AM
Location: D3 - Silent2

Foundation Models on Wearable EEG Using Self-Supervised Learning

9:30 AM - 9:45 AM
Location: D3 - Silent2

8:00 AM - 10:00 AM

Biomedical Signal Processing with Deep Learning

Location: D3 - Silent3

Classification of ECG Arrhythmia Types Using 2D Recurrence Polar Maps and Deep Learning Techniques

8:00 AM - 8:15 AM

Location: D3 - Silent3

DC-FFNet: Dual Channel Feature Fusion Network for Real-Time Asynchronous Signal Analysis

8:15 AM - 8:30 AM

Location: D3 - Silent3

A Two-Stage Deep Learning Approach for EEG Artifact Removal and Classification: Towards Reliable Wearable Applications

8:30 AM - 8:45 AM

Location: D3 - Silent3

ExFormer: Exploring Convolution and Transformer Based Model for Sleep Apnea Recognition

8:45 AM - 9:00 AM

Location: D3 - Silent3

A Robust Deep Learning Framework for Detecting Bursts in Muscle Sympathetic Nerve Activity

9:00 AM - 9:15 AM

Location: D3 - Silent3

Deep Learning Based Depression Detection Using Speech Spectrograms

9:15 AM - 9:30 AM

Location: D3 - Silent3

Using Convolutional Neural Networks for Fetal Heart Sound Segmentation

9:30 AM - 9:45 AM

Location: D3 - Silent3

Effective 12-Lead ECG Reconstruction from Minimal Lead Sets Using Deep Learning for Advanced Wearable Systems

9:45 AM - 10:00 AM

Location: D3 - Silent3

8:00 AM - 10:00 AM

Enhancing decision support with Multi-sensor Data Fusion

Location: D2

Evaluating the Effect of Input Features on Deep Learning Models for Blood Glucose Forecasting

8:00 AM - 8:15 AM

Location: D2

AttenGluco: Multimodal Transformer-Based Blood Glucose Forecasting on AI-READI Dataset

8:15 AM - 8:30 AM

Location: D2

Noninvasive Arterial CO2 Estimation for Neonatal Ventilation Using Gated Recurrent Neural Networks in the Preterm Ovine Model

8:30 AM - 8:45 AM

Location: D2

Dynamic Facial Analysis for Predicting Facial Palsy Outcomes: Comparing Landmark Detection Models and Integrating Ordinal Regression

8:45 AM - 9:00 AM

Location: D2

NaviDCN: Navigator-Guided Multi-Modal Deep Clustering for Sepsis Phenotyping in Early ICU Admission

9:00 AM - 9:15 AM

Location: D2

Advancing Alzheimer's Disease Detection Via Multimodal Fusion of Speech and Eye Movement Data

9:15 AM - 9:30 AM

Location: D2

A Swallowing Assessment System Based on Dual-Position Multi-Source Sensing Fusion

9:30 AM - 9:45 AM

Location: D2

Early Risk Prediction of Pediatric Cardiac Arrest from Electronic Health Records Via Multimodal Fused Transformer

9:45 AM - 10:00 AM

Location: D2

8:00 AM - 10:00 AM

Deep/machine learning for feature extraction, Image classification models 1

Location: Aud 15

Unified Cross-Modal Attention-Mixer Based Structural-Functional Connectomics Fusion for Neuropsychiatric Disorder Diagnosis

8:00 AM - 8:15 AM

Location: Aud 15

On the Impact of Input Resolution on CNN-Based Gastrointestinal Endoscopic Image Classification

8:15 AM - 8:30 AM

Location: Aud 15

DentalDiff: Diffusion Probabilistic Models for Tumors and Cysts Segmentation in Dental Panoramic Radiographs

8:30 AM - 8:45 AM

Location: Aud 15

Impact of Adversarial Attack in Deep Learning Models for Pediatric Hip Ultrasound Scan Quality Assessment

8:45 AM - 9:00 AM

Location: Aud 15

Unraveling Patterns in mTLE: A DWI-Centric and Machine Learning Investigation

9:00 AM - 9:15 AM

Location: Aud 15

Enhancing Skin Lesion Classification Generalization with Active Domain Adaptation

9:30 AM - 9:45 AM

Location: Aud 15

Site Common Information-Guided Site-To-Individual-To-Global Multi-View GCN for Psychiatric Diagnosis

9:45 AM - 10:00 AM

Location: Aud 15

8:00 AM - 10:00 AM

EEG processing

Location: Aud 10

SSL-SE-EEG: A Framework for Robust Learning from Unlabeled EEG Data with Self-Supervised Learning and Squeeze-Excitation Networks

8:00 AM - 8:15 AM

Location: Aud 10

Decoding Hybrid EEG-fNIRS Upper Limb Motor Execution with Capsule Dynamic Graph Convolutional Neural Network

8:15 AM - 8:30 AM

Location: Aud 10

Quantifying Inter and Intra-Subject Variability of Sensorimotor Desynchronization Induced by Median Nerve Stimulation and Motor Imagery for BCI

8:30 AM - 8:45 AM

Location: Aud 10

Human Intracranial EEG Biometric Identification

8:45 AM - 9:00 AM

Location: Aud 10

A Brain Switch for SSVEP-Based BCI Speller Using an RNN-Based Detection Approach

9:00 AM - 9:15 AM

Location: Aud 10

A Novel Approach to Improve SSVEP-BCI Performance through Neurofeedback Training

9:15 AM - 9:30 AM

Location: Aud 10

Classifying Awareness with a Lightweight CNN in an Olfactory Oddball Passive BCI

9:30 AM - 9:45 AM

Location: Aud 10

Boosting Spatial Properties of Single-Flicker SSVEP Via Laplacian Electrodes

9:45 AM - 10:00 AM

Location: Aud 10

8:00 AM - 10:00 AM

Implanted electrodes

Location: Aud 11

Biocompatibility Analysis of Thin-Film Titanium and Gold Coatings on Parylene-Insulated Glass Wires for MRI-Compatible Implantable Leads

8:00 AM - 8:15 AM

Location: Aud 11

Honeycomb Electrode Arrangement Improves Stability of Sputtered Iridium Oxide Electrodes

8:15 AM - 8:30 AM

Location: Aud 11

Functional Connectivity in Human-Derived Neurospheroids

8:30 AM - 8:45 AM

Location: Aud 11

Functional Connectivity of Electrically Stimulated hiPSCs-Derived Neuronal Networks

8:45 AM - 9:00 AM

Location: Aud 11

In Vivo Microstimulation Stability of Electrodeposited Platinum-Iridium on Carbon Fiber Electrodes

9:00 AM - 9:15 AM

Location: Aud 11

Fluoroscopy-Guided Electrode Placement for Porcine Sacral Neuromodulation Studies

9:30 AM - 9:45 AM

Location: Aud 11

Observations from the Accelerated Ageing of Polyimide Substrates for Use in Neural Implants

9:45 AM - 10:00 AM

Location: Aud 11

8:00 AM - 10:00 AM

Battery-Free Sensing, Low Power Sensing, and Wireless Power Transfer

Location: Aud 12

Designing a Self-Powered Hydrogel-Based Wearable EMG Device

8:00 AM - 8:15 AM

Location: Aud 12

Efficient Simultaneous Wireless Power Transfer and High-Data-Rate Full-Duplex Communication Circuit for Implantable Medical Devices

8:15 AM - 8:30 AM

Location: Aud 12

Joint Optical Wireless Power and Information Transfer to Implantable Electronic Devices Exploiting NIR Light

8:30 AM - 8:45 AM

Location: Aud 12

An Investigation of Body-Coupled Power Transfer for Multiple Implants

9:00 AM - 9:15 AM

Location: Aud 12

A Miniaturized Batteryless and Wireless Biopotential Recorder With Dynamic Bandwidth and Data Rate Update for Power Optimization

9:15 AM - 9:30 AM

Location: Aud 12

Towards Continuous Pacemaker Monitoring with Energy-Efficient

9:30 AM - 9:45 AM

Location: Aud 12

A Flexible Passive Wireless Permeation Sensor for Implantable Biomedical Electronics

9:45 AM - 10:00 AM

Location: Aud 12

8:00 AM - 10:00 AM

ML models for mental and neurological health

Location: B3 M1-2

Fusion Strategy Evaluation for Clustering Depression Subtypes Using Multimodal Physiological and Social Data

8:00 AM - 8:15 AM

Location: B3 M1-2

NeuroMoE: A Transformer-Based Mixture-Of-Experts Framework for Multi-Modal Neurological Disorder Classification

8:15 AM - 8:30 AM

Location: B3 M1-2

Automated Monitoring and Clinical Notifications of Patient State for Neuropsychiatric Neuromodulation Studies

8:30 AM - 8:45 AM

Location: B3 M1-2

Sampling Rate Guidelines for Eye-Tracking in Neurological Disorders: A Task-Specific Multimetric Analysis

8:45 AM - 9:00 AM

Location: B3 M1-2

Interpretable Multi-Attention Fusion Mechanisms for Early Detection of

9:00 AM - 9:15 AM

Location: B3 M1-2

A Systematic Review on Artificial Intelligence-Based Clinical Decision Support Systems in Depression

9:15 AM - 9:30 AM

Location: B3 M1-2

A Deep Learning Approach for Depressive Symptoms Assessment in Parkinson's Disease Patients Using Facial Videos

9:30 AM - 9:45 AM

Location: B3 M1-2

Exploring Parkinson's Disease Datasets: Key Findings, Challenges, and Recommendations for Motor Symptom Analysis

9:45 AM - 10:00 AM

Location: B3 M1-2

8:00 AM - 10:00 AM

Stimulation for the motor system

Location: B3 M3-4

Investigating the Biomechanics to Mimic Blinking Using an Electromagnetic Actuator

8:00 AM - 8:15 AM

Location: B3 M3-4

Multi-Channel Functional Electrical Stimulation to Improve Specificity of Hand Extension

8:30 AM - 8:45 AM

Location: B3 M3-4

Neuro-Computational Modelling of Closed-Loop Prostheses Control

8:45 AM - 9:00 AM

Location: B3 M3-4

Real-Time Artifact Suppression in Neuromodulation: A Model-Based Approach

9:00 AM - 9:15 AM

Location: B3 M3-4

In Silico Approach to Investigate Magnetoelectric Nanoparticle Effects for Minimally-Invasive Brain Stimulation

9:15 AM - 9:30 AM

Location: B3 M3-4

Development of a New TMS Coil for Small Animals Using an Inverse Problem Approach for Deep Brain Stimulation

9:30 AM - 9:45 AM

Location: B3 M3-4

Electrode Selection System for Motor Point Based on Current-Joint Angle Characteristics Model

9:45 AM - 10:00 AM

Location: B3 M3-4

8:00 AM - 10:00 AM

Ultrasound Imaging

Location: B3 M5-6

Performance Evaluation of a 3D Ultrasound Imaging and Needle Tip Tracking System: A Comparative Study on Tone-Burst and Chirp Excitation

8:00 AM - 8:15 AM

Location: B3 M5-6

Quantitative Forward-Viewing 3D Intravascular Ultrasound Imaging of Hemodynamics

8:15 AM - 8:30 AM

Location: B3 M5-6

3D Reconstruction and Visualization of Tissue Structure and Elasticity Using Robot-Assisted Ultrasound and Shear Wave Elastography Imaging

8:30 AM - 8:45 AM

Location: B3 M5-6

Shear Wave Elastography As a Point of Care Ultrasound Tool for Musculoskeletal Applications in Sports Medicine

8:45 AM - 9:00 AM

Location: B3 M5-6

Fourier Synchrosqueezed Transform for Shear Wave Speed Estimation in Crawling Wave Sonoelastography Approach

9:00 AM - 9:15 AM

Location: B3 M5-6

Neural network-based pose estimation and real-time tracking of ultrasound probes

9:15 AM - 9:30 AM

Location: B3 M5-6

KAN-ULM: Advancing Super Resolution Imaging in Ultrasound Localization Microscopy through Compact Deep Learning Model

9:30 AM - 9:45 AM

Location: B3 M5-6

Utilizing Global Time-Delay Estimation for Axial and Lateral Displacement Computation in Magnetomotive Ultrasound

9:45 AM - 10:00 AM

Location: B3 M5-6

8:00 AM - 10:00 AM

AI Enhanced Diagnostic Technologies

Location: B3 M7-8

Development of a Knowledge Graph-Based Cause Retrieval System for Post-Stroke Gait Analysis

8:00 AM - 8:15 AM

Location: B3 M7-8

Efficient and Effective Fine-Tuning Method for Depression Detection from Conversation

8:15 AM - 8:30 AM

Location: B3 M7-8

Smartphone Keystroke-Based Cognitive Impairment Diagnostic Methodology

8:30 AM - 8:45 AM

Location: B3 M7-8

Machine Learning Enabled Portable Electrical Impedance Tomography System for Community Level Chronic Kidney Disease Classification and eGFR Estimation

8:45 AM - 9:00 AM

Location: B3 M7-8

AI-Enabled Electrical Impedance Tomography (EIT) System for Detecting and Quantifying Metabolic Associated Steatotic Liver Disease

9:00 AM - 9:15 AM

Location: B3 M7-8

Machine Learning-Based Adjudication of Acute Infection for Diagnostic Classifier Development with Silver-Standard Labels

9:15 AM - 9:30 AM

Location: B3 M7-8

Knowledge Distillation-Based TinyML Model for Breast Cancer Detection Using Real and Wasserstein GAN-Generated Microwave Imaging Data

9:30 AM - 9:45 AM

Location: B3 M7-8

Automated Cavity Detection and Classification Using Deep Learning

9:45 AM - 10:00 AM

Location: B3 M7-8

8:00 AM - 10:00 AM

Image synthesis for reconstruction, Image segmentation techniques

Location: B4 M3

Methodology for Generating Medical Images Applied to the Generation of Synthetic Colon Polyps

8:00 AM - 8:15 AM

Location: B4 M3

Estimating Ejection Fraction from Single View Echocardiographic Images

8:15 AM - 8:30 AM

Location: B4 M3

Best Practices for Tracing the Palate in Ultrasound Images

8:30 AM - 8:45 AM

Location: B4 M3

TexSegNet: An Attention-Guided Feedback-Driven Texture-Aware Deep Learning Model for Nuclei Segmentation and Classification in Digital Pathology Images of Breast Tissues

8:45 AM - 9:00 AM

Location: B4 M3

Yet Another STAINormalization Method: Point Set Registration for Color Space Alignment in Histological Images

9:00 AM - 9:15 AM

Location: B4 M3

Prototype-Driven Class-Conditional Synthesis for High-Quality Chest X-Ray Image Generation

9:15 AM - 9:30 AM

Location: B4 M3

Explainable Severity Ranking Via Pairwise N-Hidden Comparison: A Case Study of Glaucoma

9:30 AM - 9:45 AM

Location: B4 M3

Explainable Artificial Intelligence for Early Detection and Diagnosis of

9:45 AM - 10:00 AM

Location: B4 M3

8:00 AM - 10:00 AM

Fatigue, Sleep, and Mental Sensing

Location: B4 M4

The Combined Effect of Alcohol and Sleepiness on Eye Tracking Features: Implications for Driver Monitoring Systems

8:00 AM - 8:15 AM

Location: B4 M4

Extending Stress Detection Reproducibility to Consumer Wearable Sensors

8:15 AM - 8:30 AM

Location: B4 M4

Feasibility Study for Fatigue Detection of an Electrical Circuit Integrated into a Stent

8:30 AM - 8:45 AM

Location: B4 M4

Relationship between Circadian Rhythms and Subjective Sleep Quality in Shift Workers

8:45 AM - 9:00 AM

Location: B4 M4

Towards Objective Cognitive Load Quantification with Multi-Modal and Soft Facial Electrophysiology

9:00 AM - 9:15 AM

Location: B4 M4

Automated Facial Expression Analysis: A New Framework for Comparing Facial Muscle Activity across Individuals

9:15 AM - 9:30 AM

Location: B4 M4

Identification of Patients with REM Sleep Behavior Disorder with a Small and Portable Depth Sensor

9:30 AM - 9:45 AM

Location: B4 M4

Personalized Sleep Prediction Via Deep Adaptive Spatiotemporal Modeling and Sparse Data

9:45 AM - 10:00 AM

Location: B4 M4

8:00 AM - 10:00 AM

Surgical Robotics

Location: B4 M1-2

Analysis of Needle Placement Error During Prostate Biopsies in Real Clinical Cases: Effects of Needle Tip Orientation and Target Location

8:00 AM - 8:15 AM

Location: B4 M1-2

Four-Handed Solo Laparoscopic Anastomosis with the Support of Supernumerary Robotic Arms

8:15 AM - 8:30 AM

Location: B4 M1-2

Design and Control of a Robotic System with Redundant Degrees of Freedom for Surgical Assistants

8:30 AM - 8:45 AM

Location: B4 M1-2

Registration-Free Workflow for Stereotactic Neurosurgery Guided by a Novel Electromagnetic Navigation System

8:45 AM - 9:00 AM

Location: B4 M1-2

Contribution Analysis of Controller Systems in Surgical Robotics Operations Considering the Dominant and Non-Dominant Hand

9:00 AM - 9:15 AM

Location: B4 M1-2

Training Surgical Skills with a Visuo-Haptic Simulator: A Preliminary Study

9:30 AM - 9:45 AM

Location: B4 M1-2

8:00 AM - 10:00 AM

SPC Session 1

Location: Room 18

8:00 AM - 10:00 AM

Tuning for patient-specific care

Location: D5

SimICD: A Closed-Loop Simulation Framework for ICD Therapy

8:00 AM - 8:15 AM

Location: D5

Individualised Treatment Effects Estimation with Composite Treatments and Composite Outcomes

8:15 AM - 8:30 AM

Location: D5

Exploring the Influence of Patients' Heterogeneity on Automated Prediction of Blood Glucose Levels in Type 1 Diabetes

8:30 AM - 8:45 AM

Location: D5

Reconstruction of Aortic Waveforms from Peripheral Data Using Physics Informed Neural Networks

8:45 AM - 9:00 AM

Location: D5

Digital-Twin Based Optimization of Bolus Insulin Dosing in Pediatric Type 1 Diabetes: An in Silico Feasibility Study

9:00 AM - 9:15 AM

Location: D5

Improving Vancomycin through Level Prediction with Machine Learning: A Comparative Study of Feature Selection and Model Performance

9:15 AM - 9:30 AM

Location: D5

Human-Guided Feature Selection for Accurate Cardiomyocyte Dysfunction Classification

9:30 AM - 9:45 AM

Location: D5

Patient-Specific Prediction of Total Knee Arthroplasty Surgical Exposure Using a Statistical Shape Model Augmented with Clinical Dataset

9:45 AM - 10:00 AM

Location: D5

9:00 AM - 10:00 AM

Biomedical Imaging and Image Processing (BIIP) Committee Meeting

Location: Room 5

10:00 AM - 10:30 AM

Break

10:00 AM - 1:00 PM

YPC Session - Showcasing the best papers by Young Professionals of 2025

Location: Room 18

10:30 AM - 11:15 AM	A multi-modality view of molecularly-targeted theranostic approaches Location: D3 Plenary Speaker: Katherine Ferrara
10:30 AM - 11:30 AM	Biomedical Signal Processing (BSP) Committee Meeting Location: Room 5
11:15 AM - 12:00 PM	Immunoengineering to Tip Immune Balances toward Tolerance Location: D3 Plenary Speaker: Jeffrey Hubbell
12:00 PM - 1:00 PM	Lunch
1:00 PM - 1:30 PM	Holistic OR Domain Modeling for AI, AR and Robotic Assisted Precision Surgery Location: B4 M1-2 Keynote Speaker: Nassir Navab
1:00 PM - 1:30 PM	Therapeutic drug monitoring and ingestible devices for drug delivery, sensing and sampling Location: B4 M4 Keynote Speaker: Anja Boisen
1:00 PM - 1:30 PM	Nanotechnology for Cancer Therapy: From Basic Discoveries to Clinical Translation Location: Aud 15 Keynote Speaker: Jennifer West
1:00 PM - 1:30 PM	Optimizing human-robot interaction in exoskeletons and assistive devices Location: Aud 12 Keynote Speaker: Katja Mombaur
1:00 PM - 1:30 PM	Using Machine learning based prediction models in tailoring cancer surgery Location: D2 Keynote Speaker: Ismail Gogenur
1:00 PM - 1:30 PM	Optically addressable spin systems in diamond and proteins as a novel tool for life sciences Location: Room 6 Keynote Speaker: Dominik Bucher
1:00 PM - 1:30 PM	Wearables for better sleep: from adaptive algorithms to deep sleep stimulation Location: Aud 10 Keynote Speaker: Walter Karlen
1:00 PM - 1:30 PM	Putting People First: Responsible AI Design for Healthcare Panel Session Location: Aud 11
1:00 PM - 2:30 PM	SPC Session 2 Location: Room 18

1:30 PM - 3:30 PM

Deep/Machine Learning for Neural Signals

Location: D3 - Silent2

CogniFuse and Multimodal Deformers: A Unified Approach for Benchmarking and Modeling Biosignal Fusion

1:30 PM - 1:45 PM

Location: D3 - Silent2

Using Machine Learning to Model EEG-Derived Brain Activity During Emotion Regulation

1:45 PM - 2:00 PM

Location: D3 - Silent2

Domain Adaptation Model for EEG Analysis: Mitigating Spatial and Spectral Variability in Heterogeneous Datasets

2:00 PM - 2:15 PM

Location: D3 - Silent2

Evidence-Based Epileptic Seizure Detection

2:15 PM - 2:30 PM

Location: D3 - Silent2

Decoding Visual Imagination and Perception from EEG Via Topomap Sequences

2:30 PM - 2:45 PM

Location: D3 - Silent2

A Modeling Pipeline for Inferring Hidden Rhythms in Behavioral Data: Application to the Death Implicit Association Test (DIAT)

2:45 PM - 3:00 PM

Location: D3 - Silent2

Convolutional Neural Networks for Seizure Detection: A Study on Training Strategies

3:00 PM - 3:15 PM

Location: D3 - Silent2

EDGEtNet: Electroencephalography Denoising Efficient Network for Fast

3:15 PM - 3:30 PM

Location: D3 - Silent2

1:30 PM - 3:30 PM

Functional Connectivity, Directionality, and Causality

Location: D3 - Silent3

Integrating Structural and Functional Connectivity for Dynamic fMRI Modeling Via Graph Diffusion Autoregression

1:30 PM - 1:45 PM

Location: D3 - Silent3

Identifying EEG Connections Associated with the Balance between Alpha Functional Connectivity and Small-Worldness

1:45 PM - 2:00 PM

Location: D3 - Silent3

Characterization of 'local' Functional Network Connectivity in 4d Spatial Dynamic Fmri Networks

2:00 PM - 2:15 PM

Location: D3 - Silent3

Topological Time Frequency Analysis of Functional Brain Signals

2:15 PM - 2:30 PM

Location: D3 - Silent3

MGMAP-Net: A Multi-Graph Modality-Aware Network for Enhanced Fluid Intelligence Prediction Using Multimodal Brain Connectivity

2:30 PM - 2:45 PM

Location: D3 - Silent3

A Dynamic Mutual Information Measure of Phase Amplitude Coupling

2:45 PM - 3:00 PM

Location: D3 - Silent3

A Hodge-FAST Framework for High-Resolution Dynamic Functional Connectivity Analysis of Higher Order Interactions in EEG Signals

3:00 PM - 3:15 PM

Location: D3 - Silent3

Electroencephalogram Coherence Analysis of Developmental Changes in Functional Connectivity Networks from Infancy to Preschool Age

3:15 PM - 3:30 PM

Location: D3 - Silent3

1:30 PM - 3:30 PM

Challenges in trustworthy AI 1: Exploring generative AI methods and Synthetic data

Location: D2

CSG: A Context-Semantic Guided Diffusion Approach in De Novo Musculoskeletal Ultrasound Image Generation

1:30 PM - 1:45 PM

Location: D2

FairCauseSyn: Towards Causally Fair LLM-Augmented Synthetic Data Generation

1:45 PM - 2:00 PM

Location: D2

Imaging-Process-Informed Generative Strategy for Microwave Medical Image Processing

2:00 PM - 2:15 PM

Location: D2

Style Transfer as Data Augmentation: Evaluating Unpaired Image-to-Image Translation Models in Mammography

2:15 PM - 2:30 PM

Location: D2

Conditional Generative Adversarial Network for Predicting the Aesthetic Outcomes of Breast Cancer Treatment

2:30 PM - 2:45 PM

Location: D2

PriorPath: Coarse-To-Fine Approach for Controlled De-Novo Pathology Semantic Masks Generation

2:45 PM - 3:00 PM

Location: D2

The Role of Domain-Specific Models for Synthetic Data Generation with Iterative Prompt Optimization

3:00 PM - 3:15 PM

Location: D2

Domain-Specific Data Augmentation for Lung Nodule Malignancy Classification

3:15 PM - 3:30 PM

Location: D2

1:30 PM - 3:30 PM

Harnessing LLMs for clinical decision support 1

Location: D5

Enhancing Intelligent Triage with Large Language Models: A Comprehensive Evaluation and Optimization Study

1:45 PM - 2:00 PM

Location: D5

Leveraging a Vision-Language Model with Natural Text Supervision for MRI Retrieval, Captioning, Classification, and Visual Question Answering

2:00 PM - 2:15 PM

Location: D5

Scaling Public Health Text Annotation: Zero-Shot Learning vs. Crowdsourcing for Improved Efficiency and Labeling Accuracy

2:15 PM - 2:30 PM

Location: D5

Fine-Grained Prompting in Large Language Models for Accurate and Efficient TNM Staging from Radiology Reports

2:30 PM - 2:45 PM

Location: D5

A Natural Language Processing Model Based on Anamnesis Reports to Predict Acute Myocardial Infarction Risk in Emergency Chest Pain Patients

2:45 PM - 3:00 PM

Location: D5

Group-Wise Compression and Summarization Via LLM-Based Ensemble for Chest X-Ray Report Generation

3:00 PM - 3:15 PM

Location: D5

LLM-Powered Automated Infection Detection in Cirrhosis: Achieving Expert-Level Accuracy from Clinical Documents

3:15 PM - 3:30 PM

Location: D5

1:30 PM - 3:30 PM

Deep/machine learning for feature extraction, Image classification models 2

Location: Aud 15

ReLAC: A Transformation Methodology for Automated Optic Disc Tilt and Torsion Correction and Circularity Improvement in Fundus Images

1:30 PM - 1:45 PM

Location: Aud 15

A Simple Back Shape Model for Back Curvature Evaluation at the Sagittal Plane Using a Single 2D Image

1:45 PM - 2:00 PM

Location: Aud 15

Towards Automated Classification of Visual Hallucination Presence in Psychosis Using Resting-State fMRI

2:00 PM - 2:15 PM

Location: Aud 15

Automated Wrist Ultrasound Image Bone Enhancement and Segmentation Using Deep Learning

2:15 PM - 2:30 PM

Location: Aud 15

A Hybrid Lightweight Network Based on State Space Model for Rapid Diagnosis of Emerging Infectious Diseases

2:30 PM - 2:45 PM

Location: Aud 15

Zonal Level Implant Loosening Detection from Hip X-Ray Using a Multi-Stage Deep Learning Method

2:45 PM - 3:00 PM

Location: Aud 15

GEDFormer: Gradient Edge Detection in LDCT Image Denoising Transformer Model

3:00 PM - 3:15 PM

Location: Aud 15

A Hybrid EffViT-B6 Model for Automated Wrist Fracture Detection Using X-Ray Imaging

3:15 PM - 3:30 PM

Location: Aud 15

1:30 PM - 3:30 PM

Modeling Human performance

Location: Aud 10

Agents Trained through Reinforcement Learning Exhibit Human-Like Decision-Making Flexibility

1:30 PM - 1:45 PM

Location: Aud 10

Improved Prediction of Activities of Daily Living from Wrist Electromyography Using Intermediate Gesture Classification

1:45 PM - 2:00 PM

Location: Aud 10

Real-Time Estimation of Overt Attention from Dynamic Features of the Face Using Deep Learning

2:00 PM - 2:15 PM

Location: Aud 10

Investigating the Impact of Virtual Illusions on Upper Limb Motion: Age-Related Differences and Rehabilitation Implications

2:15 PM - 2:30 PM

Location: Aud 10

Nonlinear Error Augmentation Applied to Upper Limb Movements Enhances Motor Learning

2:30 PM - 2:45 PM

Location: Aud 10

A Framework to Replace Measured Ground Reaction Forces with ANN-Predicted Ones for Joint Load Estimation in OpenSim

2:45 PM - 3:00 PM

Location: Aud 10

Mobile Application for Sensorimotor Data Collection in Cognitive and Behavioral Research

3:00 PM - 3:15 PM

Location: Aud 10

Gaussian Process-Driven Hidden Markov Models for Early Diagnosis of Infant Gait Anomalies

3:15 PM - 3:30 PM

Location: Aud 10

1:30 PM - 3:30 PM

Motor function assessment

Location: Aud 11

Dynamic Gesture Customization in a Continous Learning Framework: Empowering Users with Personalized Real-Time sEMG Gesture Recognition

1:30 PM - 1:45 PM

Location: Aud 11

Training Improves Direct Motor Unit Control by an Individual with Spinal Cord Injury

1:45 PM - 2:00 PM

Location: Aud 11

Developing Objective Motor Dysfunction Measures in Parkinson's Disease through Model Simulations

2:00 PM - 2:15 PM

Location: Aud 11

Eye-Tracking Metrics As a New Tool to Assess Patient's Adherence to Robot-Assisted Gait Training

2:15 PM - 2:30 PM

Location: Aud 11

Evaluating the Impact of Different Slipping Velocities on Falls and Non-Falls Induced by a Programmable Split-Belt Treadmill

2:30 PM - 2:45 PM

Location: Aud 11

Ultrasound-Based Assessment of Gastrocnemius Architecture During Locomotion: Analysis of Fascicle

2:45 PM - 3:00 PM

Location: Aud 11

The Effect of Hand-Held Tool Vibration on Reaching

3:00 PM - 3:15 PM

Location: Aud 11

Directional Perilaryngeal Functional Muscle Network Indicates Sequential Patterns of Muscle Coordination During Vocal Tasks

3:15 PM - 3:30 PM

Location: Aud 11

1:30 PM - 3:30 PM

Cardiovascular Health 1

Location: Aud 12

Decoding Blood Volume Loss: Can Non-Invasive Signals Match the Gold Standard?

1:30 PM - 1:45 PM

Location: Aud 12

Autocorrelation-Based Algorithm for Heart Rate Estimation Using Finger-Worn Accelerometers

1:45 PM - 2:00 PM

Location: Aud 12

Exploring the Effect of LED-To-Photodetector Spacing on Subcutaneous Photoplethysmography for Continuous Blood Pressure Measurement

2:00 PM - 2:15 PM

Location: Aud 12

Non-Invasive, Continuous Venous Oxygen Saturation and Oxygen Extraction Estimation from the Internal Jugular Vein

2:15 PM - 2:30 PM

Location: Aud 12

Real-Time, Single-Ear, Wearable ECG Reconstruction, R-Peak Detection, and HR/HRV Monitoring

2:30 PM - 2:45 PM

Location: Aud 12

Hearable Heartbeats: Recording the Heart Rate from the Ear

2:45 PM - 3:00 PM

Location: Aud 12

An LLM-Powered Agent for Physiological Data Analysis: A Case Study on PPG-Based Heart Rate Estimation

3:00 PM - 3:15 PM

Location: Aud 12

Non-Contact Heart Rate Estimation Using VMD with Spectrogram-Based Preprocessing Via CW Radar

3:15 PM - 3:30 PM

Location: Aud 12

1:30 PM - 3:30 PM

Multi-scale modeling for pathways and networks, and medicine

Location: B3 M1-2

Nonlinear Mixed Effects Modeling of Glucagon Kinetics Assessed Using [13C15N]-Glucagon in Individuals With and Without Type 1 Diabetes

1:30 PM - 1:45 PM

Location: B3 M1-2

AI-Based Performance Analysis for Track and Field Athletes

1:45 PM - 2:00 PM

Location: B3 M1-2

Spectral Differentiation of Beta-Carotene Accumulation Patterns in Skin Tissues with Distinct Levels of Constitutive Pigmentation

2:00 PM - 2:15 PM

Location: B3 M1-2

Modeling the Interplay between Myelin Architecture and Local Electromagnetic Fields

2:15 PM - 2:30 PM

Location: B3 M1-2

On the Mathematical Modeling and Control of West Nile Virus in Highly Endemic Areas of Italy

2:30 PM - 2:45 PM

Location: B3 M1-2

A Multi-Scale, High-Fidelity Computational Model of the Mouse Triceps Surae Motor Pool

2:45 PM - 3:00 PM

Location: B3 M1-2

Deciphering the Activation Mechanism and Internal Signaling Pathways of Dopamine Receptor D1 Bound with Various Ligands Via Molecular Simulations

3:00 PM - 3:15 PM

Location: B3 M1-2

Dynamic Hybrid Modeling of Serial Transfer Culture for Describing Growth of Synthetic Human Gut Microbiota

3:15 PM - 3:30 PM

Location: B3 M1-2

1:30 PM - 3:30 PM

Multimodal Cardiovascular Signal Analysis

Location: B3 M3-4

Analysis of Time-Series Changes in Blood Flow and Vascular Resistance across Multiple Sites during Active Orthostatic Test

1:30 PM - 1:45 PM

Location: B3 M3-4

A System Theoretic Oriented Model to Investigate the Dynamics Correlating Respiration and Heart Rate Variability

1:45 PM - 2:00 PM

Location: B3 M3-4

Dynamic Changes of Cardiopulmonary-Cerebral Causality During Cardiopulmonary Resuscitation

2:00 PM - 2:15 PM

Location: B3 M3-4

Cerebrovascular Directional Coupling Assessed Via Causal Squared Coherence in Patients Presenting Silent Stroke after Surgical Aortic Valve Replacement

2:15 PM - 2:30 PM

Location: B3 M3-4

Characterization of the Fast Interactions between Mean Cerebral Blood Flow and Brain Activity in Healthy Subjects

2:30 PM - 2:45 PM

Location: B3 M3-4

Assessment of Short-Term Heart Rate and Breathing Rate Asymmetry in Diabetic and Non-Diabetic Individuals

2:45 PM - 3:00 PM

Location: B3 M3-4

Dynamics of Autonomic Entrainment to Music: Effect of Loudness and Tempo Phrase Structures on RR Intervals and Respiration

3:00 PM - 3:15 PM

Location: B3 M3-4

Enhanced Respiratory Sinus Arrhythmia Quantification Using Variational Mode Decomposition and Multimodal Coupling Analysis for Emotion Recognition

3:15 PM - 3:30 PM

Location: B3 M3-4

1:30 PM - 3:30 PM

Optical Imaging

Location: B3 M5-6

Analysis of Bending Energy of the Nuclei Objects in the Fluorescence Images for the Assessment of Drug Induced Changes in Lung Cancer Cells

1:30 PM - 1:45 PM

Location: B3 M5-6

SABR-MIA: Support-Driven Adaptive Bayesian Reweighting with Momentum Iterative Acceleration for Sparse Reconstruction in Bioluminescence Tomography

1:45 PM - 2:00 PM

Location: B3 M5-6

Sparse Reconstruction Based on K-Sparse Dictionary Learning Method for Bioluminescence Tomography

2:00 PM - 2:15 PM

Location: B3 M5-6

Feasibility of Speckle Contrast Optical Spectroscopy for Quantifying Active Muscle Blood Flow

2:15 PM - 2:30 PM

Location: B3 M5-6

Multi-Resolution and Multi-Modal Feature Integration Using Graph Neural Networks for Optical Coherence Tomography Image Classification

2:30 PM - 2:45 PM

Location: B3 M5-6

Retinal Disease Identification from OCT Images Using Dictionary Learning and YOLOv8

2:45 PM - 3:00 PM

Location: B3 M5-6

Hybrid PRP-FR Conjugate Gradient Algorithm Based Direct Method Model for DFMT

3:00 PM - 3:15 PM

Location: B3 M5-6

Elesclomol-Mediated Alterations of Liver Metabolism in the Context of MBLAC1 Disruption

3:15 PM - 3:30 PM

Location: B3 M5-6

1:30 PM - 3:30 PM

Cardiovascular Monitoring & Cardiology

Location: B3 M7-8

Improving Signal Quality for Remote Photoplethysmography by Suppression of Motion and Lighting Effects

1:30 PM - 1:45 PM

Location: B3 M7-8

Pic2Diagnosis: A Method for Diagnosis of Cardiovascular Diseases from the Printed ECG Pictures

1:45 PM - 2:00 PM

Location: B3 M7-8

Continuous SpO2 Monitoring Using Reflectance Pulse Oximetry at the Wrist and Upper Arm During Overnight Sleep Apnea Recordings

2:00 PM - 2:15 PM

Location: B3 M7-8

Heart Rate and Heart Rate Variability As Indicators for Stress and Skill Development in Minimally-Invasive Surgery

2:15 PM - 2:30 PM

Location: B3 M7-8

SUNQUI: Ambulatory Arrhythmia Monitoring Device Based on Artificial Intelligence Pre-Diagnosis in Electrocardiography

2:30 PM - 2:45 PM

Location: B3 M7-8

Studying the Effects of Large Vessel Myocardial Perfusion in a Tissue-Emulating Cardiac Phantom: In Vitro and in Silico Findings

2:45 PM - 3:00 PM

Location: B3 M7-8

Cardiac Cycle-Synchronous Intermittent Pneumatic Compression Therapy for Enhancing Peripheral Blood Perfusion

3:00 PM - 3:15 PM

Location: B3 M7-8

Spatial Distributions of Blood Residence Time in Stenosed Model Coronary Arteries

3:15 PM - 3:30 PM

Location: B3 M7-8

1:30 PM - 3:30 PM

Gait and Posture

Location: B4 M1-2

Muscle Co-Contraction of the Forearm Is Increased in Response to Temporal Uncertainty During a Dynamic Stabilization Task

1:30 PM - 1:45 PM

Location: B4 M1-2

Aging Effects on Limb Trajectory Control and Dynamic Balance During Obstacle Negotiation

1:45 PM - 2:00 PM

Location: B4 M1-2

Full-Chain Biomechanical Analysis of Human Movement with Musculoskeletal Simulation and Wearable Sensors

2:00 PM - 2:15 PM

Location: B4 M1-2

Foundational Study on the Evaluation of Sensory Reweighting in Human Standing Control

2:15 PM - 2:30 PM

Location: B4 M1-2

Preliminary Investigation of Clustering Analysis for Understanding Individual Sensory Contributions in Human Postural Control

2:30 PM - 2:45 PM

Location: B4 M1-2

Preliminary Investigation on Vertical Ankle Sway in Static Standing under Eyes-Closed and Foam Pad Conditions

2:45 PM - 3:00 PM

Location: B4 M1-2

A Novel Approach to Muscle Control for in Vitro Gait Simulators

3:00 PM - 3:15 PM

Location: B4 M1-2

Forward Simulations of Walking on Surfaces with Asymmetric Mechanical Impedance: Insights for Gait Rehabilitation

3:15 PM - 3:30 PM

Location: B4 M1-2

1:30 PM - 3:30 PM

Microfluidics and Nanotechnology

Location: B4 M4

Parallel Impedivity Measurements for Enzyme Activity Quantification in Microtiter Plates for Calcite Precipitation Research

1:30 PM - 1:45 PM

Location: B4 M4

A Triparallel Extravasation Chip for Evaluation of Subendothelial Matrix Mechanics on Tumor Metastasis

1:45 PM - 2:00 PM

Location: B4 M4

Design of a CMOS Current-To-Frequency Converter for Optical pH Sensing in a Culture Medium: Towards Integration in Organ-On-A-Chip Device

2:00 PM - 2:15 PM

Location: B4 M4

Developing an Endometrium-On-A-Chip Model to Explore Biological Mechanisms in the Peri-Implantation Period of Pregnancy

2:15 PM - 2:30 PM

Location: B4 M4

Microfluidic Topography Biases Neural Organoid Morphogenesis

2:30 PM - 2:45 PM

Location: B4 M4

Optimizing Conducting MoS2 Nanosheet Thin Films for Enhanced Electrochemical Interfaces in Biosensing

2:45 PM - 3:00 PM

Location: B4 M4

Acoustic and Flow Conditions for Effective Non-Contact Culturing of Vascular Endothelial Cells Using Lipid Bubbles

3:00 PM - 3:15 PM

Location: B4 M4

Spatiotemporal Analysis of Endothelial Cell Responses to Complex Mechanical Stress with an ECM-Based Branched Vascular Model

3:15 PM - 3:30 PM

Location: B4 M4

1:30 PM - 3:30 PM

Time-frequency Analysis of Biomedical Signals

Location: D3 - Silent1

Heart Rate Variability in Multi-Domain Signal Analysis: A Study on Measuring the Average Similarity Rate between the R-R Intervals in the Time and Frequency Domains

1:30 PM - 1:45 PM
Location: D3 - Silent1

Time-Frequency Analysis of Frontal EEG Channels for Alzheimer's Disease Detection Using Deep Learning

1:45 PM - 2:00 PM
Location: D3 - Silent1

SViT-ECG: Spectrogram Vision Transformer for Detection of Short-Term Atrial Fibrillation from ECG Signals

2:00 PM - 2:15 PM
Location: D3 - Silent1

Synergistic Spatial-Frequency Feature Guided Transformer Network for Denoising X-Space Reconstruction in Magnetic Particle Imaging

2:15 PM - 2:30 PM
Location: D3 - Silent1

A Wavelet and Machine Learning-Based Framework for the Automatic Detection of Artefacts in Electromyography REM Sleep

2:30 PM - 2:45 PM
Location: D3 - Silent1

Discrete Wavelet Transform Analysis of PERG Signal Energies for Differentiating Retinal Pathologies

2:45 PM - 3:00 PM
Location: D3 - Silent1

Pattern Electroretinography Signal Reconstruction in Rare Eye Diseases Using Wavelet Transform

3:00 PM - 3:15 PM
Location: D3 - Silent1

Time-Frequency Domain Classifier for Propofol-Mediated Unconsciousness

3:15 PM - 3:30 PM
Location: D3 - Silent1

1:30 PM - 2:00 PM

Diamond based quantum sensing for clinical applications

Location: Room 6
Keynote Speaker: Romana Schirhagl

2:00 PM - 3:30 PM

Danish Quantum Technologies for Medicine and Biology

Location: Room 6

3:00 PM - 4:30 PM

SPC Session 3

Location: Room 18

3:00 PM - 4:00 PM

Neural and Rehabilitation Engineering (NRE) Committee Meeting

Location: Room 5

3:30 PM - 5:30 PM

Poster viewing & exhibition

Location: Hall E

Flexible-Rigid Bonding of Silicon Based Neural Interface for Deep Brain LFP Recording

3:30 PM - 5:30 PM
Location: Hall E

Temporal Context Informed Myoelectric Feature Extraction Uncovers Frequency Invariance in EMG-Based Gesture Recognition

3:30 PM - 5:30 PM
Location: Hall E

A Lightweight CNN-LSTM Approach for Accurate EEG Normal-Abnormal Classification

3:30 PM - 5:30 PM
Location: Hall E

Retina Phantom Development to Mimic Retinal Tears and Detachment

3:30 PM - 5:30 PM
Location: Hall E

Classifying Engagement in School Age Children During Storytelling Activities with NAO Robot

3:30 PM - 5:30 PM
Location: Hall E

Automated Point-Of-Care Bladder Pressure and Volume Measurement Device for Urodynamic Monitoring

3:30 PM - 5:30 PM
Location: Hall E

Segmentation-Guided Diffusion for Free-Breathing Cardiac Magnetic Resonance Image Restoration

3:30 PM - 5:30 PM

Location: Hall E

Multichannel Parylene Neural Interface for ECoG Recording Based on Low Temperature Flexible Bonding

3:30 PM - 5:30 PM

Location: Hall E

BEAM: Brainwave Empathy Assessment Model for Early Childhood

3:30 PM - 5:30 PM

Location: Hall E

Quantitative 3D Cell Observation Using Denoising Considering Cell Continuity for Ultrahigh Frequency Acoustic Microscopy

3:30 PM - 5:30 PM

Location: Hall E

Mad Maze: Obstacle-Based Vibrotactile Guidance

3:30 PM - 5:30 PM

Location: Hall E

Estimation of Blood Pressure Response to Physiological Maneuvers in Hypertensive Patients using Bioimpedance

3:30 PM - 5:30 PM

Location: Hall E

EEG-Based Differentiation of Forest and Urban Walking Environments Using Machine Learning

3:30 PM - 5:30 PM

Location: Hall E

Anatomy-Aware Assessment of Critical View of Safety with Spatial Relation Prior

3:30 PM - 5:30 PM

Location: Hall E

EEG-TGC: A Novel Self-Supervised Method Based on Temporal-Graph Contrast for Seizure Detection

3:30 PM - 5:30 PM

Location: Hall E

Ultra-Flexible Coil for Wireless Endovascular Cortical Stimulation

3:30 PM - 5:30 PM

Location: Hall E

Artificial Valves to Replace the Ureterovesical Junctions: A Novel Approach to Prevent Urinary Backflow

3:30 PM - 5:30 PM

Location: Hall E

Volumetric 3D Photoacoustic Microscopy Via High-Resolution Multilayer Volumetric Fusion and Quantification

3:30 PM - 5:30 PM

Location: Hall E

Streamlined Gesture and Arm Motion Analysis Via Direct EIT Voltage Classification

3:30 PM - 5:30 PM

Location: Hall E

Multimodal Deep Learning for Stroke Prediction and Detection Using Retinal Imaging and Clinical Data

3:30 PM - 5:30 PM

Location: Hall E

Functionalized Adhesive Thin Flexible Electrode Arrays for Large-Scale Unobtrusive Ambulatory Monitoring of Neuromuscular Activity

3:30 PM - 5:30 PM

Location: Hall E

Non-Contact Cardio-Respiratory Monitoring of Preterm Infants in NICU: RGB Camera or mmWave FMCW Radar?

3:30 PM - 5:30 PM

Location: Hall E

EEG-Based Inter-Patient Epileptic Seizure Detection Combining Domain Adversarial Training with CNN-BiLSTM Network

3:30 PM - 5:30 PM

Location: Hall E

Viscosity Sensing Via Single Harmonic Amplitude-Phase Cross-Point Using Field-Swept Magnetic Particle Spectroscopy

3:30 PM - 5:30 PM

Location: Hall E

SAM-guided Cross Pseudo Supervision Learning for Semi-supervised Medical Image Segmentation

3:30 PM - 5:30 PM

Location: Hall E

A Lightweight FPGA-Based Platform for Low-Power Neural Recording in Freely Moving Animals

3:30 PM - 5:30 PM

Location: Hall E

Ultrasound Imaging of Natural Elastic Waves in the Heart During Diastasis As a New Indicator of Myocardial Passive Stiffness

3:30 PM - 5:30 PM

Location: Hall E

Non-Invasive In-Vivo Detection of Random Blood Glucose Using Photoacoustic Spectroscopy

3:30 PM - 5:30 PM

Location: Hall E

Comparison of EEG Power Spectra between Resting and Driving-Induced Drowsiness Using a Single-Channel EEG Sensor

3:30 PM - 5:30 PM

Location: Hall E

Single Trial Classification of Per-Stimulus EEG between Different Speed Accuracy Tradeoffs Instruction

3:30 PM - 5:30 PM

Location: Hall E

Adaptive Learning-Based Predictor for Enhanced Control of Assistive Soft Robots

3:30 PM - 5:30 PM

Location: Hall E

From Radiomics to Generative Models: Evaluating Early Radiation Effects in Metastatic Brain Lesions

3:30 PM - 5:30 PM

Location: Hall E

Shielded Relay Coil Design to Optimize WPT and SAR for Distributed Wireless Brain Implants

3:30 PM - 5:30 PM

Location: Hall E

Effect of Acoustic Parameters on Bio-Derived Protein Microbubbles

3:30 PM - 5:30 PM

Location: Hall E

Synthesizing Ultrasound B-mode Images from Subsampled RF Data: A Data-Driven Deep Learning Approach

3:30 PM - 5:30 PM

Location: Hall E

Development of a Hyperspectral Imaging-Based System for Chronic Leg Ulcer Prognosis and Monitoring

3:30 PM - 5:30 PM

Location: Hall E

Camera-Based Blood Oxygen Imaging for Lower Limb Arterial Stenosis Diagnosis

3:30 PM - 5:30 PM

Location: Hall E

Analysis of Abdominal Impedance Parameters Related to Defecation for Predicting Bowel Movements

3:30 PM - 5:30 PM

Location: Hall E

Enhancing Safety and Efficacy in Temporal Interference Brain Stimulation through Ramp Parameter Optimization and Custom Current Stimulator Development

3:30 PM - 5:30 PM

Location: Hall E

XAGnet: Cross-Attention Graph Network for Detecting Auditory Attention in Ear-EEG Signals

3:30 PM - 5:30 PM

Location: Hall E

A Machine Learning Approach to Predictive Modeling of Cardiovascular Events

3:30 PM - 5:30 PM

Location: Hall E

Robotic Arm: Assistive Technology for Independent Feeding

3:30 PM - 5:30 PM

Location: Hall E

Concurrent Modeling of Naturalistic Functional Brain Networks: A Four-Dimensional Multi-Pattern Spatio-Temporal Hybrid Attention Convolutional Neural Network (MSTHA-4DCNN)

3:30 PM - 5:30 PM

Location: Hall E

Evaluating Hyperspectral Imaging for Diabetic Peripheral Neuropathy Detection Using Advanced 3D ROC Measures

3:30 PM - 5:30 PM

Location: Hall E

Highly-Integrated Open-Ended Coaxial Probe Sensor System Enabled by a VNA Chip for Daily Glucose Monitoring

3:30 PM - 5:30 PM

Location: Hall E

AC and DC Excitation for Electrodermal Activity Measurement to Assess Sweat Gland Sensitivity and Activity for Diagnosis of Peripheral Neuropathy

3:30 PM - 5:30 PM

Location: Hall E

Transcutaneous Nerve Stimulation Uncovers Spinal Reflex Contributions to Finger Force Coupling Patterns

3:30 PM - 5:30 PM

Location: Hall E

Evaluating a Gaze-Controlled Navigation Interface: A User-Centered Approach

3:30 PM - 5:30 PM

Location: Hall E

An Efficient 1D CNN Architecture for Multi-Channel EEG Seizure Detection

3:30 PM - 5:30 PM

Location: Hall E

Improving Dermoscopic Lesion Segmentation Via YOLO-Based SAM Initialization

3:30 PM - 5:30 PM

Location: Hall E

Multi-Scale Multiple Instance Learning for Lymph Node Metastasis Prediction in Early Gastric Cancer

3:30 PM - 5:30 PM

Location: Hall E

Recognition of Unseen Combined Motions Via Convex Combination-Based EMG Pattern Synthesis for Myoelectric Control

3:30 PM - 5:30 PM

Location: Hall E

Correlation Analysis of Manual and Automatic FGA Assessment Using Pressure Wellness Mat Metrics

3:30 PM - 5:30 PM

Location: Hall E

Modeling Human Control in Multimodal Human-Machine Interaction

3:30 PM - 5:30 PM

Location: Hall E

Dual-Mode Electronic and Optogenetic Visual Cortical Prosthetics

3:30 PM - 5:30 PM

Location: Hall E

Passive Add-On Mechanism with Rotational Dampers for Step-Down Support in Electric Wheelchairs

3:30 PM - 5:30 PM

Location: Hall E

Unsupervised Deep Embedding for Robust Seizure Detection

3:30 PM - 5:30 PM

Location: Hall E

Phase Lag Estimation-Assisted Contact Force Measurement in Confocal Endomicroscopy

3:30 PM - 5:30 PM

Location: Hall E

Investigations on Hydrophilicity of Oxygen-Plasma Treated Surfaces of Polyimide Substrates for Neural Interfaces

3:30 PM - 5:30 PM

Location: Hall E

ResNext-Based U-Net for Segmenting Sonomammogram

3:30 PM - 5:30 PM

Location: Hall E

Design of an Optical Fibre Carbon Dioxide Sensor for Identifying Oesophageal Intubation

3:30 PM - 5:30 PM

Location: Hall E

Hand Sign Translator Based on Machine Learning and EMG Signals

3:30 PM - 5:30 PM

Location: Hall E

Dual-Module Vision-Based Framework for Close-Proximity Real-Time Fall Detection

3:30 PM - 5:30 PM

Location: Hall E

Evaluating Spatio-Temporal Consistency in Robotic-Assisted Tasks across Varied Gravity Compensation Levels

3:30 PM - 5:30 PM

Location: Hall E

Robust DNN-Based Decoder Model with an Embedded State-Space Model Layer

3:30 PM - 5:30 PM

Location: Hall E

Robust Bacterial Classification for Optical Diffraction Tomography

3:30 PM - 5:30 PM

Location: Hall E

Deep-Meg: A Deep Learning Approach for Magnetoencephalographic Inverse Problem Solutions

3:30 PM - 5:30 PM

Location: Hall E

Cuffless Blood Pressure Estimation and Hypertension Risk Screening: Investigating the Trade-Off between Calibration Frequency and Performance

3:30 PM - 5:30 PM

Location: Hall E

Implementation of a Miniaturize Wireless Bluetooth Sensor Frontend for Bioelectrical Signal Recording in Small-Scale

3:30 PM - 5:30 PM

Location: Hall E

Adaptively Pruned Spiking Neural Networks for Energy-Efficient Intracortical Neural Decoding

3:30 PM - 5:30 PM

Location: Hall E

Prototyping Temporal Interference Stimulation Using Low-Cost Models

3:30 PM - 5:30 PM

Location: Hall E

Individual Robot-Aided Rehabilitation: From Assist-As-Needed Toward Challenge-As-Needed

3:30 PM - 5:30 PM

Location: Hall E

Two-Hourly Prediction of Hypoxic-Ischemic Injury Timing Using EEG During the Latent Phase in Near-Term Fetal Sheep

3:30 PM - 5:30 PM

Location: Hall E

Multifunctional Optical Retinal Phantom for Ophthalmic Imaging Systems

3:30 PM - 5:30 PM

Location: Hall E

Tracking Eyelid Movement in Cogan's Lid Twitch Syndrome

3:30 PM - 5:30 PM

Location: Hall E

Modeling Hydration Variability in Skin Phantoms for Wearable and Biopotential Electrode Applications

3:30 PM - 5:30 PM

Location: Hall E

Development of AI-Integrated Infrastructure with Biomedical Device and Mobile App for Neonatal Vital Monitoring During and In Between Kangaroo Care Sessions

3:30 PM - 5:30 PM

Location: Hall E

Performance Evaluation of a Dental OCT System Using 3D-Printed Phantoms

3:30 PM - 5:30 PM

Location: Hall E

Bimanual Long-Horizon Lifecare Robotics with Temporal Context LLM Planner and Transformer Reinforcement Learning

3:30 PM - 5:30 PM

Location: Hall E

Design and Implementation of a Flexible Stimulator for Neuromodulation Applications

3:30 PM - 5:30 PM

Location: Hall E

Can ICA-Based Artifact Removal Affect Deep Learning Decoding Accuracy? Yes!

3:30 PM - 5:30 PM

Location: Hall E

U-Grad: A Grad-CAM-Guided Reduced U-Net for Efficient Lung Cancer Segmentation

3:30 PM - 5:30 PM

Location: Hall E

Measurement and Analysis of Spontaneous Activity-Related Myomagnetic Fields with Optically Pumped Magnetometers

3:30 PM - 5:30 PM

Location: Hall E

Hypertension Risk Screening Using Long-Term Photoplethysmogram and Ballistocardiograph Measurements from a Smartwatch

3:30 PM - 5:30 PM

Location: Hall E

Rapid Characterization of Collagen Crosslinking with Optical Multifrequency Time-Harmonic Elastography

3:30 PM - 5:30 PM

Location: Hall E

Quantifying Human Trust in Controlling Robot Swarms: EEG-Based Analysis and Classification

3:30 PM - 5:30 PM

Location: Hall E

Knowledge Transfer to Improve sEMG Simultaneous Proportional Movement Detection: A Data Transformation Approach

3:30 PM - 5:30 PM

Location: Hall E

Magnetoelectric Core-Shell Nanorods for Peripheral Nerve Stimulation: A Computational Study

3:30 PM - 5:30 PM

Location: Hall E

AI and Tomosynthesis for Breast Cancer Molecular Subtyping: A Step Toward Precision Medicine

3:30 PM - 5:30 PM

Location: Hall E

Wrist Accelerometry-Based Digital Assessment of Slowness of Movement in Parkinsons Disease: A Multi-Cohort Analysis

3:30 PM - 5:30 PM

Location: Hall E

Anisotropic Prior-Guided Transformer GAN for High-Precision System Matrix Generation in Magnetic Particle Imaging

3:30 PM - 5:30 PM

Location: Hall E

Effects of Warm-Up on Muscle Hemodynamics: A Focus on Muscle Strength and Exercise Intensity in Women

3:30 PM - 5:30 PM

Location: Hall E

Image-based deep causal discovery for explaining medical images with surgical knowledge

3:30 PM - 5:30 PM

Location: Hall E

Validating Optical Multifrequency Time Harmonic Elastography

3:30 PM - 5:30 PM

Location: Hall E

Assist-As-Needed Impedance and Admittance Switching Control for an Upper Limb Compliant Rehabilitation Orthosis

3:30 PM - 5:30 PM

Location: Hall E

Initial Evaluation of Morphic Band Sensors for Respiration Rate Monitoring within Intensive Care Setting

3:30 PM - 5:30 PM

Location: Hall E

High-Frequency Electrical Stimulation Elicits Distinct Response Modes Via Synaptic Interplay

3:30 PM - 5:30 PM

Location: Hall E

Feature Pruning in Deep Neural Networks for Gait Speed Prediction: Evaluating Performance without Domain-Specific Knowledge

3:30 PM - 5:30 PM

Location: Hall E

Neural and Behavioral Perturbations Via Optogenetic Inhibition of the Posterior Parietal Cortex During Motor Planning

3:30 PM - 5:30 PM

Location: Hall E

Investigation of the Optic Nerve Head Morphology Influence to the Optic Nerve Head Biomechanics Regional Deformation Analysis

3:30 PM - 5:30 PM

Location: Hall E

Light Field Fluorescence Imaging for Brain Surgery Guidance

3:30 PM - 5:30 PM

Location: Hall E

Self-Rolled, Highly Conformable, Protruding Cuff Electrodes for Peripheral Nerve Interface Using Two-Step Microelectrothermoforming(μ ETF)

3:30 PM - 5:30 PM

Location: Hall E

Unveiling Predictors of Parkinson's Disease Progression: A Machine Learning Approach with Questionnaire and Wearable Device Data

3:30 PM - 5:30 PM

Location: Hall E

A Hybrid CNN-Transformer Network for fMRI-Based Feature Encoding in Alzheimer's Disease Classification

3:30 PM - 5:30 PM

Location: Hall E

Sleep Spindles As Predictors of Prognosis in Patients with Disorders of Consciousness

3:30 PM - 5:30 PM

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Single-Channel EEG-Based Epileptic Seizure Prediction Using Common Spatial Pattern and Transfer Learning

3:30 PM - 5:30 PM

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ClusMFL: A Cluster-Enhanced Framework for Modality-Incomplete Multimodal Federated Learning in Brain Imaging Analysis

3:30 PM - 5:30 PM

Location: Hall E

Design and Validation of a Spatially-Offset High-Resolution Microendoscopy (SO-HRME) System and Impact of Imaging Fiber Bundle Bending on Image Quality

3:30 PM - 5:30 PM

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Deep Learning-Based Sarcopenia Classification through Gait Video Analysis with a Single Mobile Camera

3:30 PM - 5:30 PM

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Estimation of Upper Limb Dynamic Interaction Force Based on Multimodal Information

3:30 PM - 5:30 PM

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Influence of Electrode Tissue Interface on Neural Recordings from Cortical Microelectrodes

3:30 PM - 5:30 PM

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Meta-Learning Coupled with Transfer Learning for Improved Few-Shot Classification of Cardiac MR Images

3:30 PM - 5:30 PM

Location: Hall E

BM-BPW: A Bidirectional Mamba-Based Model for Blood Pressure Waveform Estimation in Arrhythmia

3:30 PM - 5:30 PM

Location: Hall E

A Pilot Study on Co-Located EMG and FMG Transient-Phase Signal Fusion Approach for Hand Motion Characterization

3:30 PM - 5:30 PM

Location: Hall E

Cyclic Learning of Cytological Image and Findings Generation Via Image-To-Text and Text-To-Image Models

3:30 PM - 5:30 PM

Location: Hall E

Method of Synthesizing and Enhancing Multiple Auscultatory Sounds for Safe and Efficient Robotic Auscultation

3:30 PM - 5:30 PM

Location: Hall E

Interlimb Gait Trajectory Synchronization from Inertial Measurement Unit (IMU) with ResUNet

3:30 PM - 5:30 PM

Location: Hall E

Complementary Capacitive/Inductive Wireless Power Transfer for Implantable Medical Devices

3:30 PM - 5:30 PM

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Effects of Age on Brain Functional Connectivity in Auditory Spatial Selective Attention

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Development of an IoT-Integrated Surface Electromyography Wearable Device for Sarcopenia Risk Assessment

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Characterization of Hippocampal Local Field Potentials Using Lyapunov Exponent Analysis and Unsupervised Machine Learning

3:30 PM - 5:30 PM

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Granzyme B-Based Molecular Probes Facilitate TIL Treatment Regimen Optimization

3:30 PM - 5:30 PM

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Deep Denoising of Volumetric OCT Images for in Vivo Motion Detection

3:30 PM - 5:30 PM

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TAKD: A Temporal Attention-Based Knowledge Distillation Framework for Efficient Multi-Lead ECG Diagnosis

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Electroacupuncture Can Change EEG Microstate Features in Stroke Patients

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Development of Smart Healthcare Clothing System for Women's Health Management with Heart Rate-Based Stress Measurement and Feedback Function

3:30 PM - 5:30 PM

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Comparison of Electromyography Control Strategies for a Powered Wheelchair

3:30 PM - 5:30 PM

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Explainable Spike Detection Algorithm on C-Fiber Microneurography Data Using Weighted Hermite Variable Projection Neural Networks

3:30 PM - 5:30 PM

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Change Detection in Electrocardiogram (ECG) Signals After Postoperative Pain Management

3:30 PM - 5:30 PM

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Application of Feature-Based and Template-Based Automated Image Registration for Optical Coherence Tomography Angiography

3:30 PM - 5:30 PM

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Performance Evaluation of Transfer Learning Based Medical Image Classification Techniques for Disease Detection

3:30 PM - 5:30 PM

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Development of Ingestible Conductometric pH Sensor Based on Polyaniline Thin Film

3:30 PM - 5:30 PM

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Vigilance Classification for Variable-Length EEG Signals Using Graph Projections & Transformers

3:30 PM - 5:30 PM

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Pulse Deficit in Photoplethysmography As an Indicator for Atrial Fibrillation

3:30 PM - 5:30 PM

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A High Density Stretchable sEMG Patch for Prosthetic Applications

3:30 PM - 5:30 PM

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Assessing the Post-Occlusive Reactive Hyperemic Response Using a Multimodal Optical Imaging Setup

3:30 PM - 5:30 PM

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Brain Activity During Repetitive Cognitive Load in Young Adults: A Pilot Study

3:30 PM - 5:30 PM

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Developing Lightweight Models with Data Optimization for Attending Speaker Identity from EEG without Spatial Information

3:30 PM - 5:30 PM

Location: Hall E

Curriculum Learning Using Real and Simulated Data in Deep Learning Models for Electrocardiography Classification

3:30 PM - 5:30 PM

Location: Hall E

Are Edge Models Sufficient for sEMG-Based Gesture Recognition?

3:30 PM - 5:30 PM

Location: Hall E

Automated Detection of Shoulder Arthroplasty in X-Rays Using Machine Learning

3:30 PM - 5:30 PM

Location: Hall E

MoEMba: A Mamba-Based Mixture of Experts for High-Density EMG-Based Hand Gesture Recognition

3:30 PM - 5:30 PM

Location: Hall E

Enhancing ASD Therapy Selection: Emotional Activation

3:30 PM - 5:30 PM

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Image Processing Techniques for the Assessment of Hidden Enamel Microcracks Using Optical Coherence Tomography

3:30 PM - 5:30 PM

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Atrial Fibrillation Detection from Ambulatory ECG with Accelerometry Contextualisation: A Semi-Supervised Learning Approach

3:30 PM - 5:30 PM

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X-Ray Microtomography Enables Microvasculature Quantification - Celiac Disease As a Model

3:30 PM - 5:30 PM

Location: Hall E

Attenuation in the Neural Tracking of Auditory Streams within the First 20 Seconds of Sound Presentation

3:30 PM - 5:30 PM

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Hybrid Symmetry Mamba Network for Ultrasound-Based CAD of Developmental Dysplasia of the Hip

3:30 PM - 5:30 PM

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Correlation of Wearable-Derived Features with Interstitial Glucose

3:30 PM - 5:30 PM

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Masked Autoencoder with Swin Transformer Network for Mitigating Electrode Shift in HD-EMG-Based Gesture Recognition

3:30 PM - 5:30 PM

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Exploring High-Density EMG and Graph Convolutional Network-Based Estimation of Ankle Kinematics for Slope Navigation

3:30 PM - 5:30 PM

Location: Hall E

SurGSplat: Progressive Geometry-Constrained Gaussian Splatting for Surgical Scene Reconstruction

3:30 PM - 5:30 PM

Location: Hall E

Deep Learning-Based Ground Reaction Force Estimation for Real-Time Clinical Applications

3:30 PM - 5:30 PM

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A Proof-Of-Concept Spike Based Neuromorphic Brain-Computer Interface

3:30 PM - 5:30 PM

Location: Hall E

Alert Trigger Logic Supports Phase-Based Ranging Abscondment Sensor for Children with Autism

3:30 PM - 5:30 PM

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Hyperspectral Imaging for the Detection of Acetone in Urine in Occupational Health Monitoring

3:30 PM - 5:30 PM

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Deep Neural Network-Based Detection of Diaphragmatic EMG Activity: From Simulation to Clinical Data

3:30 PM - 5:30 PM

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Demonstrating Feasibility of Optomyography for Active Prosthetics through Wearable Armband

3:30 PM - 5:30 PM

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GEFM: Graph-Enhanced EEG Foundation Model

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Markerless Navigation in Computer Assisted Orthopaedic Surgery Using RGB-D Data: A Phantom-Based Comparative Study of Pose Estimation Algorithms

3:30 PM - 5:30 PM

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Third-Order Correlation for Ultrasound Image Classification

3:30 PM - 5:30 PM

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Preliminary Research on the Development of Digital Therapeutics for Performing Rehabilitation Exercise Programs

3:30 PM - 5:30 PM

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Leveraging Graph Neural Networks to Decode Music-Induced Emotions from EEG

3:30 PM - 5:30 PM

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Modeling the force exerted to patients with motor impairment for a wheelchair transfer skill training system

3:30 PM - 5:30 PM

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Evaluation of Crypts Geometries from X-Ray Microtomography Images of Small Intestine Biopsies Using Deep Learning

3:30 PM - 5:30 PM

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Predicting Adolescent Visual Acuity Using Transformer-Based Time Series Analysis

3:30 PM - 5:30 PM

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Sensitivity of MEG Source Analysis to Conductivity Uncertainties

3:30 PM - 5:30 PM

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Generative Forecasting of Brain Activity Enhances Alzheimer's Classification and Interpretation

3:30 PM - 5:30 PM

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A Novel vAFE-Based Biosensor for Wearables: A Feasibility Study of Cardiac Activity Assessment

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Real-Time Motion-Adaptive Active Magnetic Shielding for MEG with Enhanced Response Speed

3:30 PM - 5:30 PM

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Novel Preprocessing and Segmentation Pipeline for Canine sMRI: Insights into Idiopathic Epilepsy

3:30 PM - 5:30 PM

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Frequency Response of Impedance Changes During Evoked Activity in the Rat Brain and Sciatic Nerve

3:30 PM - 5:30 PM

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Bridging the Gap: A Model Protocol for Industry-Academia Collaboration on Contactless Sensors to Remotely Monitor Falling

3:30 PM - 5:30 PM

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Towards Automated EEG-Based Epilepsy Detection Using Deep Convolutional Autoencoders

3:30 PM - 5:30 PM

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Statistical Analysis of of the Renal Vascular Tree Parameters Based on Micro-CT Data of Corrosive Endocasts

3:30 PM - 5:30 PM

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Neural Speech Tracking with EEG: Integrating Acoustics and Linguistics for Hearing Aid Users

3:30 PM - 5:30 PM

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A Single-Channel EEG Approach for Sleep Stage-Independent Automatic Detection of REM Sleep Behavior Disorder

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Effective Design Techniques When Using Wearable Devices in Patient Monitoring

3:30 PM - 5:30 PM

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Exploring the Hemodynamic Changes of the Brain after Applying Repeated Transcranial Alternating Current Stimulation in Dementia Population

3:30 PM - 5:30 PM

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Automated and Expert-Level Identification of Interictal Epileptiform Discharges with AI-Powered Methods

3:30 PM - 5:30 PM

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Constant Current Stimulator for Intracellular Studies

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Automated Planning of Implant Surgery on Posterior Maxilla Using a 3D Distance-Guided Network

3:30 PM - 5:30 PM

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Deep Learning-Based Fit Level Detection for Industrial Respirators with Embedded Breath Sensors

3:30 PM - 5:30 PM

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Magnetotactic Bacteria As High-Performance Tracers for Relaxation-Based Super-Resolution in Pulsed MPI

3:30 PM - 5:30 PM

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Visualization of Biphasic Glucose Profile in Anesthetized Pigs Using a Compact Noninvasive Microwave Reflection Sensor

3:30 PM - 5:30 PM

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Depression Diagnosis Based on Deep Learning Using Time-Series Sleep Quality Data

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ConvTransNeXt: A Hybrid Convolutional-Transformer Model for Multi-Label Retinal Disease Classification

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Electrode-Electrode Communication Via Modulation of Constant-Current Pulses

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Enhancing Automated Patient Detection and Tracking in Epilepsy Monitoring Unit Videos

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KAN-ULM: Advancing Super Resolution Imaging in Ultrasound Localization Microscopy through Compact Deep Learning Model

3:30 PM - 5:30 PM

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Wearable Multi-Channel Acoustic Sensors for Remote Auscultation

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Predict Microsatellite Instability and Tumor Mutational Burden on H&E Stained Pathological Slides Using Deep Learning

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Analysis of taVNS Effect on Blood Pressure Control System Using Baroreflex Sensitivity: Preliminary Study

3:30 PM - 5:30 PM

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Wi-Fi Channel-State-Information-Based Clustering of Freezing-Of-Gait Episodes Caused by Parkinson's Disease Using Short-Time Autocorrelation Time-Series Features

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Impact of Noise on Deep Learning-Based Pseudo-Online Gesture Recognition with High-Density EMG

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Non-Contact Vital Sign Monitoring Using 50-kHz Airborne Ultrasound and Doppler Effect

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Preliminary Study on Deep Learning-Based Recurrence Prediction in Wet Age-Related Macular Degeneration

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Analyze the Effects of One Week Trigeminal Nerve Stimulation on Sleep and Bio-Signal Parameters: A Pilot Study

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Breathing Rate Detection in Preterm Infants Using a Fiber Optic Pressure-Sensitive Mattress: A Feasibility Study

3:30 PM - 5:30 PM

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Non-Restrictive Heartbeat Monitoring Using Center of Gravity Sensors

3:30 PM - 5:30 PM

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A Temporal-Dynamic Neural-SIR Approach Based on LSTM for Stochastic Infectious Disease Forecasting

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Real-Time EOG Signal Baseline Drift Estimation Using Passive VOG Data

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Staining Conversion of Breast Cancer Pathology Specimen Images Using Image Conversion Technology

3:30 PM - 5:30 PM

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Epineural Stimulation on Distal Brachial Plexus for Functional Restoration of the Upper Limb

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Development of a Sleep Quality Estimation Algorithm for People with Risky Alcohol Use Via Biometric Data from a Wearable Activity Tracker

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Dual-Stream Fusion for Advanced Spatio-Temporal Analysis in Remote Photoplethysmography

3:30 PM - 5:30 PM

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Predictive Obstetrics: Electrohysterogram-Based Detection of Preterm Labor

3:30 PM - 5:30 PM

Location: Hall E

Electrooculography-Based Ocular Angle Estimation of Each Ocular Globe

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Vision Transformer Based Image Regression for Skin Elasticity Prediction Using Hyperspectral Images

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Development of a 3D-Printed Transwell Cell Culture Platform with Electrical Stimulation

3:30 PM - 5:30 PM

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Assessment of Single-Arm, Single-Lead ECG Using 3D-Printed Dry Electrodes in Dynamic Conditions

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Wavelet High-Frequency Enhancement and Frame Dropout Compensation for Accurate Tracking Guidewire/Catheter in Carotid DSA

3:30 PM - 5:30 PM

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Domain Generalization Using Multivariate Heterogeneous Data of Atopic Dermatitis

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Development of a Neuron-On-A-Chip-Based Reservoir Computing System for Evaluating Fading Memory under Different Stimuli

3:30 PM - 5:30 PM

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A Compact and Energy-Efficient Heart Rate Variability (HRV) Spectral Analysis Chip for Wearable Healthcare Devices

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An Analysis of the Electrooculography Slow-Oscillation during Light Adaptation under Varying Lighting Intensities

3:30 PM - 5:30 PM

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Fully Automatic Severity Grading of Lower Limb Arterial Blockage Based on Plantar Perfusion Imaging

3:30 PM - 5:30 PM

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Diagnosis Support System for Cervical Cancer Using Image Analysis

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Development of an Implantable Vagus Nerve Stimulation Electrode: Mechanical and Design Optimization

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Accelerometry-Based Energy Expenditure Estimation During Activities of Daily Living: A Comparison among Different Accelerometer Compositions

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Towards Predicting Future Impedance Distributions from Temporal Sequences of EIT Measurements Using a Recurrent Network

3:30 PM - 5:30 PM

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Visualization of Electrically Stimulated Region using SH-SY5Y human neuroblastoma cell

3:30 PM - 5:30 PM

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Microcatheter Tracking in the Cerebral Circulation for Planning of Arteriovenous Malformation Embolization Using Convolutional Neural Network

3:30 PM - 5:30 PM

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BreastHistoNet: A Efficient Breast Cancer Histopathological Image Classification Using Multiscale Features and Channel Recalibration

3:30 PM - 5:30 PM

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Systems Matrix Super-Resolution of Magnetic Particle Imaging Based on Generative Adversarial Networks and Attentional Mechanisms

3:30 PM - 5:30 PM

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A Novel Depth-Guided Intramuscular HD-EMG Array for Stability and Accuracy

3:30 PM - 5:30 PM

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A Thermal Imaging and Deep-Learning System for Automated Post-Surgical Health Monitoring of Freely Moving Rodents

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Stain Normalization Matters: Impact on Feature Relevance and Classifier Performance in mCRC Therapy Response Prediction

3:30 PM - 5:30 PM

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X2Graph for Cancer Subtyping Prediction on Biological Tabular Data

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Development of Neurofeedback Learning System Using Macro and OCR for Cultured Neuronal Networks

3:30 PM - 5:30 PM

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Standardizing Amyloid-PET Quantitative Measures across Tracers Using the Centiloid Scale

3:30 PM - 5:30 PM

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Predicting Efficacy of Neoadjuvant Immunotherapy in Lung Cancer Based on Tertiary Lymphoid Structure and Multi-Instance Learning

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Deep Learning-Driven Non-Contact Sound Source Localization Via Multi-Axis Analysis with Laser Doppler Vibrometry

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ZeCardioAI: Combining Zebrafish and AI for Biomarker and Drug Discovery in Cardiomyopathies

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Development of a Microelectrode Array with an Integrated Self-Wrapping Layer for Peripheral Nerve Recording

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Detecting Triple Negatives in a Multi Slice Multi-Phase Vision Transformer Using Patient Information and Breast MR Images

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Generative Fabrication Methods for Tools in the Neurosciences

3:30 PM - 5:30 PM

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Enhancing Efficiency in CNN-Based Respiratory Sound Analysis through Temporal Self-Attention and Frequency Band Selection

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Multifractal Analysis of H&E Stained Nuclear Images for Differentiation of Early-Grade Renal Cell Carcinoma

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Combining Deep Learning Techniques and Image Analysis Methods for Vertebrae, Disc, and Spinal Stenosis Characterization in Lumbar Spine MRI

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Towards Micro-Expression Recognition: Facial Expression Classification with Convolutional Neural Networks

3:30 PM - 5:30 PM

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Differential Neural Activity in Y-Shaped Regenerative Ultrathin Microelectrode Arrays: Capped vs End-To-End Motor/sensory

3:30 PM - 5:30 PM

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Adaptive Heatmaps for Medical Imaging in Convolutional Neural Networks

3:30 PM - 5:30 PM

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Exploring the Joint Effect of Resampling Techniques and Cross-Validation for Preterm Birth Prediction

3:30 PM - 5:30 PM

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Deep Learning-Driven Radiomic Feature Extraction for Predicting Complete Pathological Response to Neoadjuvant Chemotherapy in Breast Cancer from 18F-Fluorodeoxyglucose Positron Emission Tomography/Computed Tomography Scans

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Evaluation of Mammogram Vendor-Style Transfer with Generative AI

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Increased Neuronal Activity Evoked by Postural Perturbations Recorded by Capped Regenerative Ultramicroelectrode Arrays

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Exploring Deep Learning in Electrodermal Activity Recording for Continuous Detection of Pain Intensity Level

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Convolutional Neural Network Application for Cancer Detection in Mammography Images

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Detection of Suspicious Lesions in Breast MRI: Radiomics Patch-Based Granular Classification Approach

3:30 PM - 5:30 PM

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Neural Stimulation of Rat Sciatic Nerves for Neuroprosthesis

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Enhancing IJV Pulse Reliability: The Power of ICA in Wearable Accelerometry

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Superpixel-Based Endmember Extraction for Hyperspectral Imaging and Endometriosis Detection

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Atlas-Free Semi-Automatic Segmentation of Sheep Cerebrospinal Fluid Space from MRI

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Evaluation of Artificial Retinal Device under in Vivo Experiments and Integration with an Implantable Imaging Device

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Accurate Gait Assessment and Reduced Patient Burden from a Chest-Mounted Accelerometer

3:30 PM - 5:30 PM

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Quantitative Measurements of Crypts from Advanced Endoscopy Imaging Using Deep Learning-Based Segmentation

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Attention-Driven Bone Age Assessment Using Deep Learning and Keypoint Combinations

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Assessment of Functional Abilities with the Neural Enabled Prosthetic Hand System

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NEO-DVT: A High-Accuracy and Hardware-Efficient Method for Real-Time Spike Detection

3:30 PM - 5:30 PM

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Quantitative Electrodermal Activity Analysis of Simultaneous Recordings from Dyads During Affective Visual Task: Proof of Concept and Preliminary Results

3:30 PM - 5:30 PM

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Patient-Specific CFD Modeling of Cerebrospinal Fluid Dynamics in Lumbar Spinal Stenosis Using Weight-Bearing MRI: Influence of Stenosis Severity and Postural Changes

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End-to-End Deep Learning Network for Automated Osteoporosis Diagnosis in Panoramic Radiographs

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Development of Neuro-Biomarkers to Predict Memory Task Outcomes Using Intracranial Electroencephalography

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Electrodermal Activity Parameters Reflect Cognitive Effort in Mental Tasks: A Comparison of Analysis Methods

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Sex Identification Using Computed Tomography Images of the Human Skull

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Predicting Endoscopic Grading of Gastric Intestinal Metaplasia Using Small Patches

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Enhancing the Objective Assessment of Friedreich Ataxia Severity: A Multiview IMU-Based Approach

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A Bayesian-Based Stimulus Reconstruction for Auditory Attention Decoding of EEG

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Detecting Geometry Changes in Schizophrenia Patients: Graphlets Application to Resting-State fMRI Data

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Addressing Occlusions and Pose Challenges in Clinical Gait Analysis: A Robust 3D-To-2D Motion Pipeline

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Comparative Analysis of PINN Architectures for Solving the Non-Dimensionalized Pennes' Bioheat Equation in Non-Homogeneous Domain

3:30 PM - 5:30 PM

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Statistical Insights into Fibronectin Networks in the Extracellular Matrix

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Real-Time Clothing Stain Detection System for the Visually Impaired Using YOLO

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Identifying Carotid Plaque Compositions Exhibiting Discordant Motion in B-Mode Ultrasound Videos

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Triple Matrix Factorization for Drug-Drug Interaction Prediction Using Fused Gromov-Wasserstein Distances

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Multi-Modal Data Fusion for Enhanced Pancreatic Cancer Detection

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Deep Learning Food Spoilage Detection System for Type 2 Dichromatism

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Performance Improvement of Subject-Independent Silent Speech Recognition Based on Three-Axis Accelerometers Using Z-Axis Vector Rotation-Based Data Augmentation

3:30 PM - 5:30 PM

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Spatial Adaptation for Motor Unit Decomposition

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Development of an Optimal Flow Diverter Stent Prediction Model Based on Parent Artery Morphology Analysis

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Revolutionizing Health Monitoring: A Three-Gas Sensor System Powered by Machine Learning for Predicting Cholesterol, Glucose, and Uric Acid Levels from Exhaled Breath

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Radial Pressure Waveform-Based Arterial Stiffness Estimation Using in Silico Dataset with Deep Learning: Preliminary Study

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Learning Spatiotemporal Models of Intracranial Human Neural Recordings Using Masked Reconstruction

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HRV-Based Approach towards the Assessment of Perceived Stress and Resilience

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Personalized vs Unpersonalized Medicine in Wearable Based Seizure Detection

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Automated Classification of Non-Clinical Depressive States Based on EEG during Listening to Natural Speech

3:30 PM - 5:30 PM

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Practical Recommendations for Constructing Machine Learning Models for Biomedical Signal Processing

3:30 PM - 5:30 PM

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Leg Motion Discrimination Using Spatiotemporal Movement-Related Cortical Imaging

3:30 PM - 5:30 PM

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A Smart Wearable Device that Synchronized Respiratory Assess Venous Return Challenge to Prevents Intradialytic Hypotension in ESRD Patients

3:30 PM - 5:30 PM

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VIDEO-TO-sEMG: A DEEP LEARNING APPROACH

3:30 PM - 5:30 PM

Location: Hall E

Nonlinear Dynamics of the Visual System Revealed Using Multi-Sinusoidal Light Stimulation

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A Data Quality Assessment Methodology in Sensor Network for Breast Cancer Detection

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Towards Atrial Fibrillation Detection in ECGs of Pacemaker Patients without Labeled Data

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Functional Network Alterations in Resting-State EEG During Transition from Major

Depressive Disorder to Bipolar Disorder

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Personalized, Acute Stress Detection of Occupational Drivers in the Wild: A Real Time Application

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Polysomnography-Based Age Estimation Using Deep Learning on ECG and Respiratory Signals

3:30 PM - 5:30 PM

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Task Presence Prediction across Task Paradigms in Multiple Datasets Using Dynamic Functional Connectivity Features

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Development of a Context-Aware Just-In-Time Adaptive Intervention for Promoting Physical Activity

3:30 PM - 5:30 PM

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Multimodal Classification of First-Episode Schizophrenia: Assessment of Cross-Site Generalizability

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Prefrontal Asymmetry and Decline in Performance under Psychological Pressure: Simultaneous EEG-fNIRS Measurements

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Influence of Close-Proximity Wireless Transceivers on ECG Morphological Variations in Continuous Cardiac Monitoring Devices

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Machine Learning Methods for Predicting Epileptic Seizures Using Electroencephalogram Signals: Barriers and Causal Factors

3:30 PM - 5:30 PM

Location: Hall E

Extracting Melodic Predictability-Related Components from Pupil Dilation Responses and Event-Related Potentials to Pitch Deviations

3:30 PM - 5:30 PM

Location: Hall E

Development of a Deep Learning Accelerated Virtual Screening System for Anti-Tuberculosis Drug Discovery

3:30 PM - 5:30 PM

Location: Hall E

Development of an R-CNN Model for Rib Fracture Detection in Chest X-Ray Images

3:30 PM - 5:30 PM

Location: Hall E

Improving Microwave-Based Non-Invasive Blood Glucose Level Sensing with Neural Networks

3:30 PM - 5:30 PM

Location: Hall E

Comprehensive Comparison of Functional Connectivity Measures under the Influence of Physiological Artifacts: A Simulation Study

3:30 PM - 5:30 PM

Location: Hall E

Seeing Beyond Today: AI Predicts Breast Cancer Two Years Ahead

3:30 PM - 5:30 PM

Location: Hall E

Model Complexity in Sleep Staging: Exploring the Effect of Depth and Complexity Factor in the U-Sleep Model

3:30 PM - 5:30 PM

Location: Hall E

Applying VARLiNGAM to EEG : Insights from Motor Imagery Connectivity Analysis

3:30 PM - 5:30 PM

Location: Hall E

Effectiveness and Usability Evaluation of an AR-Based Medical Device Inspection System

3:30 PM - 5:30 PM

Location: Hall E

Evaluation of Deep Learning Models for LBBB Classification in ECG Signals

3:30 PM - 5:30 PM

Location: Hall E

2-FtNets: Bi-Featuring Deep Convolutional Neural Network for Enhanced Screening of Glaucoma, Glaucoma Suspect, and No Glaucoma Using Fundus Images and Estimated TSNIT Graphs

3:30 PM - 5:30 PM

Location: Hall E

Motor Unit-Inspired Population Encoding of sEMG for Finger Movement Regression

3:30 PM - 5:30 PM

Location: Hall E

Zero-Shot Diagnosis Report Generation from Whole Slide Images Based on Pathology Foundation Model and LLM

3:30 PM - 5:30 PM

Location: Hall E

Airway Site of Collapse Prediction for Obstructive Sleep Apnea in Wakefulness Using Voice Biomarkers

3:30 PM - 5:30 PM

Location: Hall E

Preliminary Characterization of Transradial Prosthesis Alignment

3:30 PM - 5:30 PM

Location: Hall E

Approaching Clinical Diagnosis of Depression Using Bipolar EEG and Machine Learning

3:30 PM - 5:30 PM

Location: Hall E

Embedded Training and Classification for Breath-Based Augmentative and Alternative Communication

3:30 PM - 5:30 PM

Location: Hall E

Deep Learning-Assisted MRI Analysis for Lumbar Spine Degeneration: A YOLOv8 and EfficientNet Pipeline

3:30 PM - 5:30 PM

Location: Hall E

Sex Differences in Brain Electrical Entropy in Adults During an Inhibition Task

3:30 PM - 5:30 PM

Location: Hall E

Channel Variability of Body-Resonance Human Body Communication

3:30 PM - 5:30 PM

Location: Hall E

Optimizing ViT-LoRA: A Memory-Efficient Approach for Fine-Tuning

3:30 PM - 5:30 PM

Location: Hall E

Practical Experiments with Ultra-Low Voltage Biomedical Amplifiers

3:30 PM - 5:30 PM

Location: Hall E

Static RF shimming for parallel-transmit at 7T: B1+-field and specific-absorption-rate optimization using the particle-swarm algorithm

3:30 PM - 5:30 PM

Location: Hall E

Decision-Level Ensemble Stacking for Predicting Postoperative Recurrence in NSCLC Patients

3:30 PM - 5:30 PM

Location: Hall E

A Comparative Analysis of Centralized and Federated Learning for Multimodal ECG and PCG Classification

3:30 PM - 5:30 PM

Location: Hall E

Language Model of Lung Nodules in LNDb Medical Reports

3:30 PM - 5:30 PM

Location: Hall E

4:00 PM - 6:00 PM

Functional Connectivity in Brain Disorders

Location: D3 - Silent1

Stability Analysis of Linear Time Varying Models Constructed from Intracranial EEG Recordings for Modeling Epileptogenic Networks

4:00 PM - 4:15 PM

Location: D3 - Silent1

Widespread Spatiotemporal Patterns of Functional Brain Networks in Longitudinal Progression of Alzheimer's Disease

4:15 PM - 4:30 PM

Location: D3 - Silent1

Recovery of Naming Abilities in Aphasia: fMRI Brain Connectivity Analysis in Case Studies

4:30 PM - 4:45 PM

Location: D3 - Silent1

Adaptive Hypergraph Contrastive Learning for ASD Classification Using fMRI Connectome

4:45 PM - 5:00 PM

Location: D3 - Silent1

Analysis of Resting-State EEG Features in Alzheimer's Disease and Frontotemporal Dementia with Bayesian Hierarchical Models

5:00 PM - 5:15 PM

Location: D3 - Silent1

Longitudinal Changes in Functional Brain Network Properties Following Surgical Glioma Resection

5:15 PM - 5:30 PM

Location: D3 - Silent1

Brain Connectivity for the Diagnosis of Epileptic Encephalopathy with Spike Wave Activation in Sleep (EE-SWAS) Syndrome

5:30 PM - 5:45 PM

Location: D3 - Silent1

MMM-DBNF: Multi-Atlas, Multi-Modal and Multi-Site Dynamic Brain Network Fusion for the Diagnosis of Schizophrenia

5:45 PM - 6:00 PM

Location: D3 - Silent1

4:00 PM - 6:00 PM

Fractals and Dynamical Systems in Physiology

Location: D3 - Silent2

Multimodal analysis of postural control in adults at risk of falls

4:00 PM - 4:15 PM

Location: D3 - Silent2

Temporal Stability of Higuchi's Fractal Dimension in EEG Signals of Healthy Individuals

4:15 PM - 4:30 PM

Location: D3 - Silent2

Phase Space Reconstruction and Ensemble Voting to Localize Arrhythmogenic Zones of the Ventricles

4:30 PM - 4:45 PM

Location: D3 - Silent2

Using Symmetric Projection Attractor Reconstruction to Visualise and Analyse Prosodic Action-Based ECG Morphologies During Music Performance

4:45 PM - 5:00 PM

Location: D3 - Silent2

Detrended Fluctuation Analysis to Assess Long-Range Temporal Correlations in EEG from SYNGAP1-Related Disorder

5:00 PM - 5:15 PM

Location: D3 - Silent2

Dynamic System Modeling for Reconstruction of Intracranial EEG Signals in Epilepsy Using Weighted Least Squares

5:15 PM - 5:30 PM

Location: D3 - Silent2

Heartbeat Dynamics is an Output of a Non-Chaotic Dynamical System driven by Physiological Noise

5:30 PM - 5:45 PM

Location: D3 - Silent2

Assessment of Multifractal-Multiscale Properties of Heart Rate Variability in Sleep Disorders

5:45 PM - 6:00 PM

Location: D3 - Silent2

4:00 PM - 6:00 PM

Noise in Physiological Systems

Location: D3 - Silent3

Denoising of Heart Sound Recordings - a Self-Supervised Approach for Real Non-Stationary Noise Conditions

4:00 PM - 4:15 PM
Location: D3 - Silent3

IDNoise: Resource-Aware Machine Learning-Based Noise and SNR Detection in Electrocardiogram Signals

4:15 PM - 4:30 PM
Location: D3 - Silent3

Physics-Inspired Diffusion Probabilistic Models for Improved Denoising in Intracardiac Time Series

4:30 PM - 4:45 PM
Location: D3 - Silent3

Effects of Noise Exposure on Intelligibility of Bone-Conducted Speech During Earplugging*

4:45 PM - 5:00 PM
Location: D3 - Silent3

Model-Free Physiological Denoising Using State-Space Reconstruction and Time Reversal

5:00 PM - 5:15 PM
Location: D3 - Silent3

Fluctuating Physiological Noise in Cortical Activity During Visual Stimulation

5:15 PM - 5:30 PM
Location: D3 - Silent3

Preprandial and Postprandial Body Surface GastroIntestinal Mapping Source Separation Based Denoising Allows Intestinal Spike Bursts Analysis

5:30 PM - 5:45 PM
Location: D3 - Silent3

Sparse Dictionary Learning Neural Networks for ECG Signal Denoising

5:45 PM - 6:00 PM
Location: D3 - Silent3

4:00 PM - 6:00 PM

Challenges in trustworthy AI 2: Fairness and Privacy

Location: D2

Comparative Assessment of Fairness Definitions and Bias Mitigation Strategies in Machine Learning-Based Diagnosis of Alzheimer's Disease from MR Images

4:00 PM - 4:15 PM
Location: D2

Self-Supervised and Supervised Learning in Medical Imaging Classification: Addressing the Hidden Bias of Workflow Design

4:15 PM - 4:30 PM
Location: D2

Bridging the Generalisation Gap: Synthetic Data Generation for Multi-Site Clinical Model Validation

4:30 PM - 4:45 PM
Location: D2

Federated Learning for Predicting Mild Cognitive Impairment to Dementia Conversion

4:45 PM - 5:00 PM
Location: D2

Gradient-Aware Data Augmentation for Federated Stress Detection under Data Incompleteness

5:00 PM - 5:15 PM
Location: D2

Utilizing Synthetic Data for Privacy-Preserving AI Modeling in Radiomics: A Case Study

5:15 PM - 5:30 PM
Location: D2

Fine-Tuning Foundation Models with Federated Learning for Privacy Preserving Medical Time Series Forecasting

5:30 PM - 5:45 PM
Location: D2

Moving from Manual to Automated Sleep Staging with Federated Learning

5:45 PM - 6:00 PM
Location: D2

4:00 PM - 6:00 PM

Harnessing LLMs for clinical decision support 2

Location: D5

Fusion of Traditional and Large Language Models for Linguistic Analysis in Alzheimer's Disease Detection
4:00 PM - 4:15 PM Location: D5
Uncertainty-Aware Adaptation of Large Language Models for Protein-Protein Interaction Analysis
4:15 PM - 4:30 PM Location: D5
Evaluating the Performance of LLMs in ICF Classification: Insights from Medical and General Models
4:30 PM - 4:45 PM Location: D5
Leveraging the Long-Term Health Monitoring Dataset for Personalized Healthcare: A Large Language Model Approach
4:45 PM - 5:00 PM Location: D5
A Multimodal Pipeline for Clinical Data Extraction: Applying Vision-Language Models to Scans of Transfusion Reaction Reports
5:00 PM - 5:15 PM Location: D5
NutriGen: Personalized Meal Plan Generator Leveraging Large
5:15 PM - 5:30 PM Location: D5
Context-Aware Vision Language Foundation Models for Ocular Disease Screening in Retinal Images
5:30 PM - 5:45 PM Location: D5
LoRA Fine-Tuned Large Vision Models for Automated Assessment of Post-SBRT Lung Injury
5:45 PM - 6:00 PM Location: D5

4:00 PM - 6:00 PM

Deep/machine learning for feature extraction, Image classification models 3

Location: Aud 15

Glioblastoma Detection with Hyperspectral Image Analysis through Optimal Wavelength Selection
4:00 PM - 4:15 PM Location: Aud 15
Dual-Stream Cross-Fusion Learning for Retinopathy of Prematurity Fundus Image Quality Assessment
4:15 PM - 4:30 PM Location: Aud 15
A Federated Semi-Supervised Learning Approach for COVID-19 CT Image Segmentation
4:30 PM - 4:45 PM Location: Aud 15
Fine-Tuning a Foundation Model Using Simulated Pre-Operative Tumor Resection Data for Post-Operative Glioma Segmentation
4:45 PM - 5:00 PM Location: Aud 15
DHF-Net: A Dual Heterogeneity Fusion Network for Molecular Subtype Diagnosis of Breast Cancer
5:00 PM - 5:15 PM Location: Aud 15
Automated Cell Quantification in Hypoxic-Ischemic Fetal Sheep Brain Histology: A Two-Step Segmentation and Classification Pipeline
5:15 PM - 5:30 PM Location: Aud 15
Dual-Path Learning Via Optimal Transport Fusion for Precise Brain Tumor Segmentation
5:30 PM - 5:45 PM Location: Aud 15
Spinal Disease Classification Using Deep Learning on Dual-View Videos
5:45 PM - 6:00 PM Location: Aud 15

4:00 PM - 6:00 PM

Neural implants for neurorehabilitation

Location: Aud 10

A Three-Dimensional Spatially Precise Activation and Compliant Electrode (SPACE) to Interface Internally and Externally with Nerve

4:00 PM - 4:15 PM

Location: Aud 10

Electrochemical Impedance Behavior under Various Test Configurations for Electrodes in Implantable Neurostimulators

4:15 PM - 4:30 PM

Location: Aud 10

Cerebellum-Targeted Transcranial Focused Ultrasound Stimulation Inhibits Hippocampal Neural Activity and Suppresses Epileptiform Activity

4:30 PM - 4:45 PM

Location: Aud 10

Motor Point Displacement: Optimising Electrode Positioning in FES

4:45 PM - 5:00 PM

Location: Aud 10

Fidelity of Dorsal Column Axon Activity in Response to Clinical Spinal Cord Stimulation Paradigms

5:00 PM - 5:15 PM

Location: Aud 10

A Cost Benefits Analysis of Different Transducer Components for Simultaneous Trans-Spinal Magnetic and Low-Intensity Focal Ultrasound Stimulation

5:15 PM - 5:30 PM

Location: Aud 10

Effect of Microcoil Tip Angle on the Electric Field Gradient for Intracortical Magnetic Stimulation: A Computational Study

5:30 PM - 5:45 PM

Location: Aud 10

Speech Envelope Reconstruction from Stereo EEG in a Speech Production Task

5:45 PM - 6:00 PM

Location: Aud 10

4:00 PM - 6:00 PM

Motor learning

Location: Aud 11

Modular Tracking System for Treadmill-Based Rodent Experiments

4:00 PM - 4:15 PM

Location: Aud 11

Biomechanical Reconstruction with Confidence Intervals from Multiview Markerless Motion Capture

4:15 PM - 4:30 PM

Location: Aud 11

Temporal Basis Function Models for Closed-Loop Neural Stimulation

4:30 PM - 4:45 PM

Location: Aud 11

Evaluation of Hand Gesture Classification Based on Motor Units Activation for Prosthetic Application

4:45 PM - 5:00 PM

Location: Aud 11

Correlation Analysis Based on Muscle sEMG Time-Frequency Characteristics and Ultrasound-Measured Muscle Mass Parameters

5:00 PM - 5:15 PM

Location: Aud 11

Frame-Level Real-Time Assessment of Stroke Rehabilitation Exercises from Video-Level Labeled Data: Task-Specific vs. Foundation Models

5:15 PM - 5:30 PM

Location: Aud 11

Investigating the Impact of IMU Sensor Quantity on Locomotion Recognition Performance Using Neural Networks for Powered Lower-Limb Prostheses

5:30 PM - 5:45 PM

Location: Aud 11

Multi-Day Reliability of High-Density Electromyography for Continuous Control of Assistive Devices

5:45 PM - 6:00 PM

Location: Aud 11

4:00 PM - 6:00 PM

Cardiovascular Health 2

Location: Aud 12

LiMO a Lightweight MambaOut System for End-To-End IoMT ECG Diagnosis with Fully Configurable Quantization Co-Design on MCU

4:00 PM - 4:15 PM

Location: Aud 12

Gyrosphygmogram: A Novel Wrist-Based Wearable Method for Heart Rate Variability Assessment

4:15 PM - 4:30 PM

Location: Aud 12

Non-Invasive Fetal ECG Standardization: Assessing the Influence of Electrode Configurations and Fetal Position

4:30 PM - 4:45 PM

Location: Aud 12

Predicting Heart Rate Estimation Accuracy: Photoplethysmography Sensor Measurements on Eight Anatomical Sites

4:45 PM - 5:00 PM

Location: Aud 12

Towards Cardiac Output Estimation Using Earbud Photoplethysmography Sensor

5:00 PM - 5:15 PM

Location: Aud 12

Visualizing Cardiac Motion Using Subcutaneously Measured Electrocardiography and Three-Axis Acceleration: Day-To-Day Comparability and Event-Related Changes in Congestive Heart Failure Patients

5:15 PM - 5:30 PM

Location: Aud 12

A Novel Implantable Inferior Vena Cava Sensor: Validation of Remote Monitoring Derived Area with Computerized Tomography

5:30 PM - 5:45 PM

Location: Aud 12

Unobtrusive Heart Rate Variability Monitoring with a Chair-Based Strain Gauge Ballistocardiography in Office and Home Settings

5:45 PM - 6:00 PM

Location: Aud 12

4:00 PM - 6:00 PM

Systems Modeling/Medicine & Medical Decision

Location: B3 M1-2

A Computational Model of Restenosis under Deployment of Rapamycin-Eluting Stents

4:00 PM - 4:15 PM

Location: B3 M1-2

Modeling of Phage-Mediated CRISPRi System to Inhibit Antibiotic Resistances in Bacteria

4:15 PM - 4:30 PM

Location: B3 M1-2

Computational Modeling of NMDAR-Mediated Calcium Dysregulation in Hippocampal Dendritic Spines in Alzheimer's Disease

4:30 PM - 4:45 PM

Location: B3 M1-2

Advancing Drug Risk Assessment with Tissue Models: Correlating QT Interval and APD90 Prolongation to Refine Proarrhythmic Risk Guidelines

4:45 PM - 5:00 PM

Location: B3 M1-2

A Computational Model of Neural Signaling under the Superposition Effect of Aligned Nodes of Ranvier

5:00 PM - 5:15 PM

Location: B3 M1-2

Simulated Flow-Induced Deformation of Homogeneous Adherent Cell

5:15 PM - 5:30 PM

Location: B3 M1-2

Nonlinear Dynamics in Pulse-Modulated Feedback Drug Dosing

5:30 PM - 5:45 PM

Location: B3 M1-2

Personalized Computational Modeling of Left Atrial Substrate in Persistent Atrial Fibrillation: Insights from the Triple Extrastimulus Protocol

5:45 PM - 6:00 PM

Location: B3 M1-2

4:00 PM - 6:00 PM

Respiratory Modeling & Monitoring

Location: B3 M3-4

Probe Site Specific Skin Tone Assessment and Perfusion Alteration for Assessment of Pulse Oximeter Accuracy: A Pilot Study

4:00 PM - 4:15 PM

Location: B3 M3-4

Contribution of Extracorporeal Membrane Oxygenation to Overall Gas Exchange in a Porcine Model of Lung Injury

4:15 PM - 4:30 PM

Location: B3 M3-4

Highly Penetrative Chest-Worn Metasurface for Multi-Angle RADAR-Based Vital Sign Monitoring

4:30 PM - 4:45 PM

Location: B3 M3-4

Noninvasive Estimation of Lung Parameters via Constrained Optimization: Toward Improved Ventilation

4:45 PM - 5:00 PM

Location: B3 M3-4

Safety-Guaranteed Lung-Protective Mechanical Ventilation Using Digital Twins and Reinforcement Learning

5:00 PM - 5:15 PM

Location: B3 M3-4

Machine Learning-Assisted Portable Electrical Impedance Tomography Enables Accurate Lung Function Assessment

5:15 PM - 5:30 PM

Location: B3 M3-4

Entropy Analysis of Diaphragmatic EMG Signals As an Indicator of Extubation Viability in Mechanically Ventilated Patients

5:30 PM - 5:45 PM

Location: B3 M3-4

Multivariate Model-Based Tool for Predicting Cardiovascular Outcomes Using Multimodal Physiological Sleep Data

5:45 PM - 6:00 PM

Location: B3 M3-4

4:00 PM - 6:00 PM

Electromagnetic Source and Impedance Imaging

Location: B3 M5-6

Assessing the Sensitivity and Localization Accuracy of Electromagnetic Source Imaging Via Computational Simulation with Realistic Data

4:00 PM - 4:15 PM

Location: B3 M5-6

On the Implicit Representation of the Electrical Impedance Tomography Inverse Problem

4:15 PM - 4:30 PM

Location: B3 M5-6

Electrical Impedance-Based Classification for in Vivo Oral Cancer Detection

4:30 PM - 4:45 PM

Location: B3 M5-6

Portable Electrical Impedance Tomography Enables Heart Ejection Fraction Measurement for Health Screening in Nonspecialist Settings

4:45 PM - 5:00 PM

Location: B3 M5-6

Posterior Sampling with Latent Diffusion for Microwave Brain Imaging

5:00 PM - 5:15 PM

Location: B3 M5-6

Sinusoidal Representation of the Electrical Impedance Tomography Inverse Problem

5:15 PM - 5:30 PM

Location: B3 M5-6

Classification of Functional Near-Infrared Spectroscopy Based on Gramian Angular Difference Field and a Temporal-Spatial Feature Fusion Network

5:30 PM - 5:45 PM

Location: B3 M5-6

TMODFCFNet: Topological Multi-Order Dynamic Functional Connection Fusion Network for the Diagnosis of ADHD in Children Based on FNIRS

5:45 PM - 6:00 PM

Location: B3 M5-6

4:00 PM - 6:00 PM

Drug Delivery & Therapeutic Systems

Location: B3 M7-8

Probing Monocyte - Endothelial Adhesion at the Single - Cell Level Using Hypersonic Streaming Jet

4:00 PM - 4:15 PM

Location: B3 M7-8

In Vitro Rifampicin Release and Antimicrobial Activity of Biodegradable Polymer Coatings

4:30 PM - 4:45 PM

Location: B3 M7-8

Design and Evaluation of Resistively Tapered Cylindrical Leads to Mitigate MRI-Induced RF Heating: Construction, in Vitro Validation, and in Vivo Predictions

4:45 PM - 5:00 PM

Location: B3 M7-8

Sonication Tuning in Focused Ultrasound Multi-Target Brain Tumor Therapy

5:00 PM - 5:15 PM

Location: B3 M7-8

Development of a Bipolar Nozzle for Disinfection in Periodontology with Plasma Jets

5:15 PM - 5:30 PM

Location: B3 M7-8

Bidimensional Multiscale Entropy for Monitoring the Dynamics of Droplet Fragmentation under Ultrasound Stimulation

5:30 PM - 5:45 PM

Location: B3 M7-8

Impact of Inaccurate Meal Announcements on Glycaemia Control with or without an Artificial Pancreas

5:45 PM - 6:00 PM

Location: B3 M7-8

4:00 PM - 6:00 PM

Haptics in Rehabilitation

Location: B4 M1-2

Preliminary Study on the Badminton Backhand Skill Analysis Based on the Tactile Glove

4:00 PM - 4:15 PM

Location: B4 M1-2

Mastering Tongue-Computer Interfaces: A Pilot Study on How Users Improve With Practice

4:15 PM - 4:30 PM

Location: B4 M1-2

Vibrotactile Haptic and Gesture Feedback in a Smartwatch for Controlling a Multi-Activity Powered Knee-Ankle Prosthesis

4:30 PM - 4:45 PM

Location: B4 M1-2

Characterization of Electrotactile Stimulation Intensity to Exploit the Funneling Illusion

4:45 PM - 5:00 PM

Location: B4 M1-2

Effectiveness of Vibrotactile Feedback in an Exergame for Knee Joint Training

5:00 PM - 5:15 PM

Location: B4 M1-2

Proprioceptive Sensing in Soft Robotic Arms Using Soft Strain Sensors

5:15 PM - 5:30 PM

Location: B4 M1-2

On the Impact of Different Light Wavelengths in Decoding Human Intention in Lightmyography Controlled Prosthetic Hands

5:30 PM - 5:45 PM

Location: B4 M1-2

Regenerative Peripheral Nerve Interfaces (RPNIs) Improve Functional Outcomes and Intuitive Control of a Prosthetic Wrist and Multi-Grip Hand

5:45 PM - 6:00 PM

Location: B4 M1-2

4:00 PM - 6:00 PM

Machine learning and AI-enhanced imaging, Image classification models

Location: B4 M3

Towards MR-Only Radiotherapy: AI -Generation of Synthetic CT from Zero-TE MRI for Head and Neck Cancer Patients

4:00 PM - 4:15 PM

Location: B4 M3

Enhanced Anomaly Detection for Capsule Endoscopy Using Ensemble Learning Strategies

4:15 PM - 4:30 PM

Location: B4 M3

Video Summarization and Fracture Detection in Pediatric Wrist Ultrasound Using Deep Reinforcement Learning

4:30 PM - 4:45 PM

Location: B4 M3

AI-Driven Pathomics for Predicting Chemotherapy Response in Metastatic Colorectal Cancer: A Transfer Learning Approach with Attention-Based Multiple Instance Learning

4:45 PM - 5:00 PM

Location: B4 M3

Investigating Multiple Physical Priors in Deep Learning for Electrical Properties Reconstruction in MREPT

5:00 PM - 5:15 PM

Location: B4 M3

Enhanced Multiple Instance Learning for Breast Cancer Detection in Mammography: Adaptive Patching, Advanced Pooling, and Deep Supervision

5:15 PM - 5:30 PM

Location: B4 M3

Immunohistochemical Information Integrated Pre-Training Improves HER2 Status Prediction from Whole Slide Images of Breast Cancer

5:30 PM - 5:45 PM

Location: B4 M3

WaveHCT: Wavelet-Attentive Hybrid Convolution-Transformer Network for Breast Cancer Diagnosis in Ultrasound Images

5:45 PM - 6:00 PM

Location: B4 M3

4:00 PM - 6:00 PM

Machine learning and AI-enhanced imaging, Deep/machine learning for feature extraction

Location: B4 M4

Multimodal Structural MRI Synthesis Pipeline across Age

4:00 PM - 4:15 PM

Location: B4 M4

Predicting Acute Ischemic Stroke Core in Multiphase CT Angiography Using a CT Perfusion-Trained Neural Network

4:15 PM - 4:30 PM

Location: B4 M4

HIP: Homotopic Individual Brain Parcellation with Dynamic Threshold Region Growing

4:30 PM - 4:45 PM

Location: B4 M4

A Novel Graph Neural Network Framework for Brain Age Prediction

4:45 PM - 5:00 PM

Location: B4 M4

A Novel Approach for Shape Segmentation of Vertebrae: Decomposition into Anatomical Regions Using 3D Skeletonization

5:00 PM - 5:15 PM

Location: B4 M4

MAD-Net: Morphometric-Attentive Diffusion Network for Predicting Longitudinal Infant Brain Functional Connectivity

5:15 PM - 5:30 PM

Location: B4 M4

BlaVeS: A Novel Hand-Labeled Dataset for Improved Bladder Vessel Segmentation with Modified U-Net

5:30 PM - 5:45 PM

Location: B4 M4

NeuroSync: Generalized Brain Decoding of Visual Stimuli across Subjects

5:45 PM - 6:00 PM

Location: B4 M4

4:00 PM - 4:15 PM

Quantum Approaches for Dysphonia Assessment in Small Speech Datasets

Location: Room 6

4:15 PM - 4:45 PM

Quantum Biotechnology – Why and How

Location: Room 6

Keynote Speaker: Halina Rubinsztein-Dunlop

4:30 PM - 5:30 PM	SPC Judging Location: Room 18
4:45 PM - 5:15 PM	Special Quantum startup presentation by Anders Sjögren (Deep Light Vision, SE) Location: Room 6
6:30 PM - 9:30 PM	Student/YP reception at NOHO Kødbyen Location: NOHO Kødbyen, Flæsketorvet 28, 1711 København V
6:30 PM - 8:00 PM	Biomedical & Health Informatics (BHI) Committee Meeting Location: Room 6

Wednesday, July 16, 2025

8:00 AM - 9:30 AM	Recent advances in automated seizure detection from scalp EEG - Opportunities and challenges in improving epilepsy care Location: D3
8:00 AM - 9:30 AM	Advancing Cardiovascular Digital Twins: Integrating Multiscale and Hybrid Approaches for Predictive Modeling Location: D2
8:00 AM - 9:30 AM	Biomechanics of soft tissues and cells: Emerging biophotonics methods Location: B3 M5-6
8:00 AM - 9:30 AM	Advancing Cardiovascular Care: Integrating HemodynAmic Modeling, AI, and Privacy-Preserving Technologies (CHAMP) Location: Aud 15
8:00 AM - 9:30 AM	Different approaches for treating and monitoring critically ill patients: an update of current technologies Location: Aud 11
8:00 AM - 9:30 AM	Novel Human-Machine Interfaces based on High-Density Wearable Electronics Location: Aud 12
8:00 AM - 9:30 AM	Perspectives on Trans-Spinal Magnetic Stimulation on diagnosis and repair of spinal neural networks Location: B3 M1-2
8:00 AM - 9:30 AM	Healing Ourselves, Healing Our Planet: Sustainability with AI and the Medical Internet of Things (MIoT) along the Continuum of Care Location: B3 M3-4
8:00 AM - 9:30 AM	Towards multimodal sleep monitoring to support diagnosis of health conditions Location: B3 M7-8
8:00 AM - 9:30 AM	Ultrasound-Triggered Drug Delivery Location: B4 M1-2
8:00 AM - 9:30 AM	Foundational and Federated AI for Robust and Equitable Ophthalmic Diagnostics Location: B4 M3
8:00 AM - 9:30 AM	EU AI Act: Opportunities and challenges for researchers in building trustworthy AI Location: B4 M4
8:00 AM - 9:30 AM	SLEEP HEALTH FOR ALL - Part 1: ADVANCING SLEEP INFORMATICS Location: Aud 10

9:30 AM - 10:15 AM	Advanced Delivery Systems for Autoimmune Diseases Location: D3 Plenary Speaker: Nicholas Peppas
9:45 AM - 10:30 AM	Student Panel 2 Location: Room 18
10:15 AM - 10:30 AM	Break
10:30 AM - 12:00 PM	Unlocking brain complexity: fractal signals from the brain Location: D3
10:30 AM - 12:00 PM	Micro/nano technologies for biological cell-based assays and related applications Location: D2
10:30 AM - 12:00 PM	Advanced Photoacoustic, Optical, and Ultrasound Imaging Location: D5
10:30 AM - 12:00 PM	Heart, brain and neuromusculoskeletal system: hybrid digital twins and AI models for stroke care (HBN-DT) Location: Aud 15
10:30 AM - 12:00 PM	Emerging Technologies for Cuffless Blood Pressure Monitoring: from Novel Sensing and Modeling to New Evaluation Standard Location: Aud 11
10:30 AM - 12:00 PM	Fiber-based neural implants: from technologies to applications Location: Aud 12
10:30 AM - 12:00 PM	Integrating Digital Biomarkers in Motor Rehabilitation Location: B3 M1-2
10:30 AM - 12:00 PM	Ear-Centered Sensing for Wearable Monitoring and Interaction Location: B3 M3-4
10:30 AM - 12:00 PM	Wearable devices: a multidisciplinary approach to improve wellbeing and patient quality of life Location: B3 M5-6
10:30 AM - 12:00 PM	Electromagnetic thermal therapies: challenges, opportunities, and new frontiers Location: B3 M7-8
10:30 AM - 12:00 PM	Electromagnetically Responsive Nanomaterials and Their Applications in Medicine Location: B4 M1-2
10:30 AM - 12:00 PM	Digital Twins to Transform Personalized Care in Diabetes Location: B4 M3
10:30 AM - 12:00 PM	Strengthening STEM Through Gender-Inclusive Digital Transformation Location: B4 M4
10:30 AM - 12:00 PM	SLEEP HEALTH FOR ALL - Part 2: ADVANCING MEASUREMENT TECHNOLOGY Location: Aud 10
10:30 AM - 12:30 PM	YP Roundtable discussion and whitepaper initiation on the role of consumer electronics Location: Room 18
10:30 AM - 12:00 PM	Biomedical & Health Informatics (BHI) Committee Meeting Location: Room 5
12:00 PM - 1:00 PM	Lunch

12:00 PM - 1:00 PM	Women in Biomedical Engineering Networking Lunch & a Sneak Peek!
12:00 PM - 1:00 PM	Wearable Biomedical Sensors and Systems (WBSS) Committee Meeting Location: Aud 10
1:00 PM - 2:30 PM	From Signals to Insights: Cardiac Electromechanical Activity in Modern Cardiology Location: D3
1:00 PM - 2:30 PM	Advances in Noninvasive Brain Injury Management: Monitoring & Treatment Methods Location: D2
1:00 PM - 2:30 PM	AI, Robotics, and Neurotechnology: Advancing Personalized Rehabilitation and Neurological Recovery Location: D5
1:00 PM - 2:30 PM	SLEEP HEALTH FOR ALL - Part 3: ADVANCING MECHANISTIC AND AI/ML APPROACHES IN SLEEP HEALTH Location: Aud 15
1:00 PM - 2:30 PM	Combining Lung function assessment and modeling for advancing respiratory medicine Location: Aud 10
1:00 PM - 2:30 PM	Ear-EEG: Advancing Wearable Brain Monitoring and Clinical Applications Location: Aud 11
1:00 PM - 2:30 PM	Conformal neural interfaces: technologies and applications Location: Aud 12
1:00 PM - 2:30 PM	Sensor-Informed Closed-Loop Systems for Personalized Health Support Location: B3 M1-2
1:00 PM - 2:30 PM	Intrabody Communication and Wireless Power Transfer Based on Galvanic and Capacitive Coupling for Next-Generation Implants. Location: B3 M3-4
1:00 PM - 2:30 PM	AIInCP: A Multidisciplinary Approach for Personalized Diagnosis and Telerehabilitation in Children with Unilateral Cerebral Palsy Location: B3 M5-6
1:00 PM - 2:30 PM	"The Future of Healthcare: Integrating Natural Products, Cancer Therapies, and Biomedical Technologies for Advanced Therapeutics and Diagnostics Location: B3 M7-8
1:00 PM - 2:30 PM	Advancing Science by Linking Physiological Mechanistic Knowledge with Data-Driven Approaches Location: B4 M1-2
1:00 PM - 2:30 PM	Towards Building Foundation Models for Physiological Data Location: B4 M3
1:00 PM - 2:30 PM	Human-Centered Design for Healthcare Innovation and Translation Location: B4 M4
1:00 PM - 2:30 PM	Enabling Smart, Age-Friendly Communities Location: Room 18
1:30 PM - 3:30 PM	Cardio-Pulmonary Systems and Physiological Engineering (CSPE) Committee Meeting Location: Room 5
2:00 PM - 4:00 PM	Poster viewing & exhibition Location: Hall E
	Evaluation of Kinematic Similarity between Non-Assisted and Assisted Walking with a Hip Exoskeleton Using a Vector Coding Technique

2:00 PM - 4:00 PM

Location: Hall E

Idiopathic Pulmonary Fibrosis Identification and Prediction of Disease Severity Via Combination of Different Biomarker Types

2:00 PM - 4:00 PM

Location: Hall E

Sleep Stage Classification with CNN-Transformer-Combined Structure Using Single-Channel Raw ECG

2:00 PM - 4:00 PM

Location: Hall E

Medical Image Alignment for Different Resolutions and Fields of View Using Contrastive Learning with Feature-Level Similarity

2:00 PM - 4:00 PM

Location: Hall E

An Investigation of Foot Temperature Deviations in Individuals with Diabetes: Insights from Wearable In-Shoe Technology

2:00 PM - 4:00 PM

Location: Hall E

Sensitivity of Arterial Stiffness Indices to Aging and Physical Activity Interventions with and without Pressure Standardization

2:00 PM - 4:00 PM

Location: Hall E

Towards a better understanding of real-life hearing impairments via electrophysiology

2:00 PM - 4:00 PM

Location: Hall E

Fine-Tuning Strategies for Continual Online EEG Motor Imagery Decoding: Insights from a Large-Scale Longitudinal Study

2:00 PM - 4:00 PM

Location: Hall E

A Battery-Free Unintentional-Fall Detection System Utilizing TENG Insoles

2:00 PM - 4:00 PM

Location: Hall E

Pilot Study on the Separability of the Native Heart Sounds and Device Support Noise in Patients Implanted with Left Ventricular Assist Devices

2:00 PM - 4:00 PM

Location: Hall E

T2ID-CAS: Diffusion Model and Class Aware Sampling to Mitigate Class Imbalance in Neck Ultrasound Anatomical Landmark Detection

2:00 PM - 4:00 PM

Location: Hall E

Stiffness and Damping in Human Walking across Different Directions and Walking Trials

2:00 PM - 4:00 PM

Location: Hall E

Development of a Free-Viewpoint Bladder Observation System for Cystoscopy

2:00 PM - 4:00 PM

Location: Hall E

Monitoring Airway Resistance for Obstructive Sleep Apnea Using a Leak-Based BiPAP System

2:00 PM - 4:00 PM

Location: Hall E

Explainable AI for Multi-Label Chest X-Ray Diagnosis: Layer-Wise Grad-CAM with Hierarchical Feature Extraction

2:00 PM - 4:00 PM

Location: Hall E

Amplitude Permutation Conditional Entropy Detects the Decrease of Complexity of Heart Period Variability During Vagal Inhibition

2:00 PM - 4:00 PM

Location: Hall E

A More Rational and Efficient Kalman Filter Design for Motor Brain-Machine Interfaces

2:00 PM - 4:00 PM

Location: Hall E

Temporal Synchronization of Multimodal Hyperscanning Recordings: Challenges, Methodologies, and Best Practices

2:00 PM - 4:00 PM

Location: Hall E

Automatic Detection of Transitions in Sleep Stage Using Single Overnight Triaxial Accelerometry and Heart Rate

2:00 PM - 4:00 PM

Location: Hall E

Diffusion-Inspired Anchor Conditioned Noisy Vectors Segmentation for Needle Segmentation in MR Images

2:00 PM - 4:00 PM

Location: Hall E

Attention-Enabled Explainable AI for Bladder Cancer Recurrence Prediction

2:00 PM - 4:00 PM

Location: Hall E

Balancing Cohort Size and Variability in Iterative Deep Brain Template Creation

2:00 PM - 4:00 PM

Location: Hall E

Biomechanical Consequences of Motion-Restricting Lower Extremity Orthoses

2:00 PM - 4:00 PM

Location: Hall E

GACT: A Two-Stage Age Prediction Model Combining a Global Attention Block

2:00 PM - 4:00 PM

Location: Hall E

Compressed Sensing of Acoustic Cardiopulmonary Signals Using a CNN-Based Reconstruction Method

2:00 PM - 4:00 PM

Location: Hall E

Synchronized EEG with Two Galvanically-Separated Miniature Wireless Behind-The-Ear EEG Sensors

2:00 PM - 4:00 PM

Location: Hall E

Empowering Accessibility: Human-Centered Approach to a BCI Home Control for Impaired People

2:00 PM - 4:00 PM

Location: Hall E

Automated REM vs NREM Sleep Staging Using Single Overnight Heart Rate and Accelerometer Data

2:00 PM - 4:00 PM

Location: Hall E

Surgical Workflow Analysis: An Explainable Approach

2:00 PM - 4:00 PM

Location: Hall E

Machine Learning-Based Immune Subgroup Classification of Solid Tumors Using RNA-Seq Data

2:00 PM - 4:00 PM

Location: Hall E

Engineering a Mechanical Stimulation System for Inducing Shear Stress in Chondrocyte Cultures

2:00 PM - 4:00 PM

Location: Hall E

Improving Food Image Recognition with Noisy Vision Transformer

2:00 PM - 4:00 PM

Location: Hall E

Explainable Hybrid Convolutional and Transformer Network for Pediatric Sleep Apnea Diagnosis Using Nocturnal Oximetry

2:00 PM - 4:00 PM

Location: Hall E

Computational Model of the Cochlear Implant User's Auditory System

2:00 PM - 4:00 PM

Location: Hall E

Breathing Segmentation for Per Breath Sleep Apnea Detection

2:00 PM - 4:00 PM

Location: Hall E

Segmentation and Classification of Joint Space Narrowing in Rheumatoid Arthritis Using Deep Learning

2:00 PM - 4:00 PM

Location: Hall E

Vision Transformer-Based Classification Model for Estimating Left Atrium Low-Voltage Area Using ECG Images

2:00 PM - 4:00 PM

Location: Hall E

Human Body Communication between Pocketed and On-Body Devices

2:00 PM - 4:00 PM

Location: Hall E

Assessment of the Fields Induced in the Human Body During Magnetotherapy Treatment of Lumbar Region

2:00 PM - 4:00 PM

Location: Hall E

Predicting the Efficacy of First-Line Therapy for Patients with Colorectal Cancer Liver Metastases Using CT Imaging and Clinical Data

2:00 PM - 4:00 PM

Location: Hall E

Analytical Expression for the Dependence of Ejection Fraction on End-Systolic or End-Diastolic Volume

2:00 PM - 4:00 PM

Location: Hall E

Fully Automated Gait Analysis with Earables: Evaluation of an End2End Pipeline with Hearing-Aid Integrated Accelerometers

2:00 PM - 4:00 PM

Location: Hall E

Estimating Musculoskeletal Torque from Ultrasound Images with Regression and Sensor Alignment

2:00 PM - 4:00 PM

Location: Hall E

Leveraging Transfer Learning and Monte Carlo Dropout for Uncertainty Informed NIRS-Based Detection of Systemic Sclerosis Hand Perfusion Patterns

2:00 PM - 4:00 PM

Location: Hall E

Sound-Based Sleep Staging Using Pretrained Speech Foundation Models

2:00 PM - 4:00 PM

Location: Hall E

Recognition of Gait Phases from Time-Domain Descriptors of Surface EMG Signals and Dynamic Convolutional Neural Networks

2:00 PM - 4:00 PM

Location: Hall E

Modeling and Simulation of Spatial Characteristics in Epidural Electrical Stimulation for Targeted Neural Activation

2:00 PM - 4:00 PM

Location: Hall E

Automated Lattice Technique-Based Algorithm for High-Dose Sphere Distribution in Radiotherapy

2:00 PM - 4:00 PM

Location: Hall E

Explainable AI Radiomics in Prostate Cancer Aggressiveness Prediction Using Different Quantitative Diffusion MRI Models

2:00 PM - 4:00 PM

Location: Hall E

Experimental and Simulative Characterization of the Neuromuscular Response to Passive Cycling with Dynamically Changing Crank Arm Lengths

2:00 PM - 4:00 PM

Location: Hall E

Gaussian Splatting with a Shading Model for Endoscope Image Visualization

2:00 PM - 4:00 PM

Location: Hall E

Kinematic Outcomes of Early-Stage Passive Rehabilitation in Subject Undergoing Knee Arthroplasty

2:00 PM - 4:00 PM

Location: Hall E

Mamba-CAM-Sleep: A Mamba-Based Channel Attention Model for Sleep Staging Classification

2:00 PM - 4:00 PM

Location: Hall E

Wireless Communication Protocol for Backscatter-Based Neural Implants

2:00 PM - 4:00 PM

Location: Hall E

Evaluating the Pulse Rate Estimation Performance of the DS-EWMA Algorithm

2:00 PM - 4:00 PM

Location: Hall E

On the Use of Integral Equation Approach for Low Frequency Bioelectromagnetics Problems

2:00 PM - 4:00 PM

Location: Hall E

Fourier Transforms the Way We See B-Lines in Lung Ultrasound

2:00 PM - 4:00 PM

Location: Hall E

Day and Night Patterns of Heart Rate Variability in Type 2 Diabetes: Gender and Microvascular Complications Considerations in Normal and Micro-Albuminuria

2:00 PM - 4:00 PM

Location: Hall E

SpecExpert-CGC: Multi-Task Co-Learning Framework for Simultaneous Sleep Staging and OSA Event Detection Using EEG and ECG Signals

2:00 PM - 4:00 PM

Location: Hall E

Trustworthy Assessment of 2D Model for Lung CT Scans

2:00 PM - 4:00 PM

Location: Hall E

Muscular Coactivation to Evaluate the Ergonomic Impact of Human-Robot Collaboration in Manual Handling Tasks

2:00 PM - 4:00 PM

Location: Hall E

Machine Learning for Short-Term Seizure Forecast Using Neonatal EEG

2:00 PM - 4:00 PM

Location: Hall E

Proposal and Technical Validation of a Robotic Cane with Admittance Controller

2:00 PM - 4:00 PM

Location: Hall E

Deep Learning-Based Adaptive Sitting Posture Recognition System

2:00 PM - 4:00 PM
Location: Hall E

Effects of Examiner Competency on the Amblyopia Screening Performance of Three Visual Acuity Tests through Monte Carlo Simulation

2:00 PM - 4:00 PM
Location: Hall E

Controllability Analysis of Macaque Structural Connectome from an Edge Centric Perspective

2:00 PM - 4:00 PM
Location: Hall E

Effect of Blood-Air Contact on Blood-Based Perfusates for Ex Vivo Lung Perfusion Using an in Vitro Approach

2:00 PM - 4:00 PM
Location: Hall E

Contra-Discriminative GAN-Based Anomaly Detection Framework for Medical Images

2:00 PM - 4:00 PM
Location: Hall E

Topology-Aware Retinal Vasculature Segmentation Using Multi-Branch Dynamic Convolutions and Topological Loss

2:00 PM - 4:00 PM
Location: Hall E

Enhancing EEG Classification for Motor Imagery Control of a VR Game Based on Deep Learning Techniques on Small Datasets

2:00 PM - 4:00 PM
Location: Hall E

A 3D-Printed Hand Exoskeleton for Affordable and Accessible Upper Limb Rehabilitation

2:00 PM - 4:00 PM
Location: Hall E

Weekly Lifelog As Predictors of Frailty: Insights from Wearable Sensor Data and Multivariate Analysis in Swing Japan Study

2:00 PM - 4:00 PM
Location: Hall E

Temporal Dynamics on Mental Compression of Spatial Sequences Revealed by EEG-Based Multivariate Decoding

2:00 PM - 4:00 PM
Location: Hall E

Multimodal Sleep Stage and Sleep Apnea Classification Using Vision Transformer: A Multitask Explainable Learning Approach

2:00 PM - 4:00 PM
Location: Hall E

A Novel Strain-Based Dynamic Left Ventricle Model for Surgical Planning and Training

2:00 PM - 4:00 PM
Location: Hall E

Assessment of a Global Arterial Viscosity Modulus Using the Pressure-Volume Relationship of the Systemic Arterial Tree

2:00 PM - 4:00 PM
Location: Hall E

Arterial Pressure Estimation Based on Chest Compression Waveform and Electrocardiogram for Cardiopulmonary Resuscitation

2:00 PM - 4:00 PM
Location: Hall E

Evaluation of gait training based on the combination of TWIN exoskeleton and Functional Electrical Stimulation of tibialis anterior

2:00 PM - 4:00 PM
Location: Hall E

Global-To-Focal: Topology-Guided Progressive Refinement Network for Accurate Coronary Artery Segmentation

2:00 PM - 4:00 PM
Location: Hall E

Classification of Global Brain States by Resampling and Data Augmentation of EEG

2:00 PM - 4:00 PM
Location: Hall E

Towards Intelligent Agents for Radiotherapy: Integrating Exploration-Exploitation with Foundation Models

2:00 PM - 4:00 PM
Location: Hall E

Heart Failure Diagnosis and Severity Estimation Enhanced by Generative Adversarial Network

2:00 PM - 4:00 PM
Location: Hall E

Development of a Virtual Reality Software for Upper Limb Physical Therapy in Pediatric Patients: Exploration of Pain, Motivation, Difficulty, and Acceptability Perceptions

2:00 PM - 4:00 PM
Location: Hall E

A Neuromorphic Approach for Brain-Machine Interface Using Spiking Neural Networks

2:00 PM - 4:00 PM

Location: Hall E

Remote Photoplethysmography-Triggered Signal Averaging for Non-Contact Heart Sound Measurement

2:00 PM - 4:00 PM

Location: Hall E

Enhancing Fairness in Ultrasound Imaging: Evaluating Adversarial Debiasing across Diverse Patient Demographics

2:00 PM - 4:00 PM

Location: Hall E

Myoelectric Temporal Patching: Future Prosthetics Shall Effectively Leverage sEMG Temporal Patterns

2:00 PM - 4:00 PM

Location: Hall E

From Brainwaves to Brain Scans: A Robust Neural Network for EEG-To-fMRI Synthesis

2:00 PM - 4:00 PM

Location: Hall E

AI-Assisted Automatic Jump Detection and Height Estimation in Volleyball Using a Waist-Worn IMU

2:00 PM - 4:00 PM

Location: Hall E

Deep-Fusion of Scalogram and Spatio-Temporal EEG Features with Attention Mechanism for Autism Spectrum Disorder Identification

2:00 PM - 4:00 PM

Location: Hall E

A Dual Defocused Camera System for Reconstructing the Cardiac Z-Axis Vibrations

2:00 PM - 4:00 PM

Location: Hall E

Osteotomy Wedge Computational Study of New Implant: Interfragmentary Movement

2:00 PM - 4:00 PM

Location: Hall E

Functional Network Connectivity in White Matter: A Spatially-Guided ICA-Based Network Approach

2:00 PM - 4:00 PM

Location: Hall E

ScorER: Exploring Annotation Bias in Vision-Based Neonatal Pain Assessment

2:00 PM - 4:00 PM

Location: Hall E

Durability and Signal Quality Assessment of Rivet and Snap Connections for Wearable EMG Armband

2:00 PM - 4:00 PM

Location: Hall E

Assessment of Tissue Impedance Post-Mortem Using Needle Measurement and Computation Modelling

2:00 PM - 4:00 PM

Location: Hall E

The Role of Sleep Duration and Age in Neural Reactivation and Episodic Memory Performance across the Adult Lifespan

2:00 PM - 4:00 PM

Location: Hall E

Brain-Body Coupling in Listening to Metronomic Sounds and Music

2:00 PM - 4:00 PM

Location: Hall E

Low-Cost CFD Method for Blood Flow Analysis after Flow Diverter Stent Deployment: Implications for Treatment Planning

2:00 PM - 4:00 PM

Location: Hall E

Analysis of the Cardiovascular Response to Standardized Polymicrobial Peritonitis Experimental Model

2:00 PM - 4:00 PM

Location: Hall E

Exploring the Effect of Race in Automated Skin Cancer Detection

2:00 PM - 4:00 PM

Location: Hall E

Multi-Modal Feature Fusion Using Transformer for Early Alzheimers Disease Diagnosis

2:00 PM - 4:00 PM

Location: Hall E

Extracting Preserved Neural Latent Dynamics across Tasks Using Convolutional Transformer-Based Variational Autoencoder

2:00 PM - 4:00 PM

Location: Hall E

Preliminary Study on the Connective Tissue Sheath Removal Device to Facilitate Insertion of Peripheral Nerve Interfaces

2:00 PM - 4:00 PM

Location: Hall E

MealMeter: Using Multimodal Sensing and Machine Learning for Automatically Estimating Nutrition Intake

2:00 PM - 4:00 PM

Location: Hall E

Hypergraph Regularized Dynamic Model Enhances Seizure Onset Detection and Epileptogenic Zone Localization

2:00 PM - 4:00 PM

Location: Hall E

Synthetic Vascular Image Selection for Deep Learning Based Cerebral Bifurcation Classification

2:00 PM - 4:00 PM

Location: Hall E

Towards Cross-Subject EMG Pattern Recognition Via Dual-Branch Adversarial Feature Disentanglement

2:00 PM - 4:00 PM

Location: Hall E

Finite Element Modeling for Gentle Removal of Total Hip Arthroplasties Using Induction Heating

2:00 PM - 4:00 PM

Location: Hall E

Multi-scale Feature Learning with CNN-RNN-Attention Framework for ECG-based Cancer Therapy-Related Cardiac Dysfunction Detection

2:00 PM - 4:00 PM

Location: Hall E

An Electromagnetic Sensor Platform with Passive Implant-Target and Wearable Patch for Monitoring Deep-Tissue Biomarkers

2:00 PM - 4:00 PM

Location: Hall E

A Walking Assist Control with Exoskeleton for Active Prosthetic Leg Motion and Its Evaluation Method

2:00 PM - 4:00 PM

Location: Hall E

Dilated 1D Convolutional Neural Network for EEG Error-Related Potential Detection

2:00 PM - 4:00 PM

Location: Hall E

A Laboratory-Based Federated Learning Deployment on Real Devices for ECG-Based Clinical Decision Support Systems

2:00 PM - 4:00 PM

Location: Hall E

Optimal Electrohysterography Signal Preprocessing for Delivery Term Prediction Using Hypergraph Neural Networks

2:00 PM - 4:00 PM

Location: Hall E

Decision-Level Ensemble Stacking for Predicting Postoperative Recurrence in NSCLC Patients

2:00 PM - 4:00 PM

Location: Hall E

Tissue Composition Assessment for Wide-Band Dielectric Property Estimation of Human Tissue

2:00 PM - 4:00 PM

Location: Hall E

Impact of the Auscultation Area on Heart Sound Waveforms for the Estimation of Cardiac Time Intervals

2:00 PM - 4:00 PM

Location: Hall E

Shoulder Angle Measurement by Optimized Strain Sensor Placement on Flexible Printed Circuit

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Clinical Assessment of a Five-DOF Upper Limb Exoskeleton for Severely Disabled Individuals in Performing Daily Activities

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Location: Hall E

A Window Analysis for the Decoding of Premovement and Movement Intentions in Freewill EEG

2:00 PM - 4:00 PM

Location: Hall E

Assessment of Scalability and Adaptability in Federated Learning Framework for Robust Driver Stress Monitoring

2:00 PM - 4:00 PM

Location: Hall E

Feasibility of Time Delay Stability Analysis of Physiological Signals Acquired During Short-Time 3T Magnetic Resonance Imaging

2:00 PM - 4:00 PM

Location: Hall E

DBS Optimization Using Routinely Collected Patient-Specific Data

2:00 PM - 4:00 PM

Location: Hall E

Dual-Branch Multi-Task Regressor and Transformer Model for Endoscopic Image Classification

2:00 PM - 4:00 PM

Location: Hall E

Privacy-Preserving Infant Sleep-Wake Detection in NICUs Based on Federated Learning: A Multi-Center Clinical Study

2:00 PM - 4:00 PM

Location: Hall E

From Grasping to Manipulation: Kinematic Synergy Analysis for Advanced Prosthetics

2:00 PM - 4:00 PM

Location: Hall E

Smart Life-Space Surveillance: Integrated Life-Space Mobility Monitoring Using a Sensor Fusion System for Older Adults Living Alone

2:00 PM - 4:00 PM

Location: Hall E

Neural Correlates of Laparoscopic Training: A Preliminary Study

2:00 PM - 4:00 PM

Location: Hall E

Sub-Group Partition Strategy for RSVP-Based Collaborative Brain-Computer Interfaces

2:00 PM - 4:00 PM

Location: Hall E

Lung Nodule Malignancy Classification on 3D CT Images Using a Cosine Similarity-Enhanced Graph Attention Network

2:00 PM - 4:00 PM

Location: Hall E

Development of Wearable Cyborg HAL Ankle Joint Unit to Improve Ankle Joint Function During Gait

2:00 PM - 4:00 PM

Location: Hall E

Bioimpedance Monitoring of Arrested Myocardium During Open-Chest Surgery: From Coronary Artery Occlusion to Cardiac Resuscitation

2:00 PM - 4:00 PM

Location: Hall E

Hospital Participation in Federated Learning: Evaluating Sustainability and Clinical Utility

2:00 PM - 4:00 PM

Location: Hall E

Patient Testing in the DriveS Driving Simulator Requires High Refresh Rates to Avoid Simulator Sickness Example of an Adaptation

2:00 PM - 4:00 PM

Location: Hall E

Automatic Classification of Idiopathic Parkinson's Disease Using Kinematic Data of Motion Capture Systems

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Location: Hall E

Preliminary Results of Phenotype Characterisation for Cerebellar Ataxia Using Automated Lower Limb Assessment

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Location: Hall E

Image-Free System for Non-Contact Cardiopulmonary Monitoring in Supine Posture

2:00 PM - 4:00 PM

Location: Hall E

A Review of Robust Wearable Sensor Systems for Monitoring in Extreme Environments

2:00 PM - 4:00 PM

Location: Hall E

MultiConsSleepNet: Self-Supervised Contrastive Learning for a Multimodal Consistency-Based Automatic Sleep Staging Model

2:00 PM - 4:00 PM

Location: Hall E

A Lysosome-Targeting Molecular Logic Gate Triggered by pH and Viscosity for Cancer Cell Discrimination

2:00 PM - 4:00 PM

Location: Hall E

Comparison of Statistical Methods for Brain Age Prediction Using Neuroimaging Data

2:00 PM - 4:00 PM

Location: Hall E

A Phantom Study of Using Structured Light to Measure Absolute Respiratory Amplitude

2:00 PM - 4:00 PM

Location: Hall E

Makita Hapiy 2.0: Design and Development of a Low-Cost and Lightweight Myoelectric Transradial Prosthesis Using 3D Printing

2:00 PM - 4:00 PM

Location: Hall E

Automatic Pipeline for Kinematic Tracking of Clinically Relevant Upper-Limb Motor

Tasks in Humans and Macaque

2:00 PM - 4:00 PM

Location: Hall E

Evaluation of Mandibular Condylar Morphology and Width Using Cone-Beam Computed Tomography in a Taiwanese Population

2:00 PM - 4:00 PM

Location: Hall E

Evaluation of Cardiac Output Estimation with Veno-Venous Extracorporeal Membrane Oxygenation Support: In Vitro Study*

2:00 PM - 4:00 PM

Location: Hall E

Rethinking Sleep Staging: Tapping the Potential of Novel Label Encoding Beyond Network Designs

2:00 PM - 4:00 PM

Location: Hall E

Uncertainty Quantification of the Nerve Activation Threshold in Phrenic Nerve Stimulation

2:00 PM - 4:00 PM

Location: Hall E

Virtual Reality Supported Neck Stretching Exercises to Improve Cervical Range of Motion

2:00 PM - 4:00 PM

Location: Hall E

Design and State Machine Control of an Exoskeleton Frame Integrated to Telerehabilitation Network for Duchenne Muscular Dystrophy Patients

2:00 PM - 4:00 PM

Location: Hall E

Shape Registration for Laparoscopic Images Using Offline Diffusion Learning

2:00 PM - 4:00 PM

Location: Hall E

Occlusion-Corrected EMG-Based Effort Estimator for FES-Assisted Rehabilitation Applications

2:00 PM - 4:00 PM

Location: Hall E

Electrical Detection of Senescent Cells Using Frequency-Modulated Dielectrophoresis

2:00 PM - 4:00 PM

Location: Hall E

Radon Inversion Reconstruction for Kooshball-Like Sampling Trajectory in Cine

2:00 PM - 4:00 PM

Location: Hall E

Simulation of Diaphragmatic Motor Unit Action Potentials Throughout the Respiratory Cycle Using a Dynamic Breathing Model

2:00 PM - 4:00 PM

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Digital Twin-Based Reinforcement Learning for Personalized Mealtime Insulin Dosing in Pediatric Type 1 Diabetes: A Proof of Concept

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Design of a Telerehabilitation Software Platform for a Compliant Upper-Limb Rehabilitation Orthosis

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Multimodal AI Model for Detecting Parkinsons Disease Based on Nocturnal Multichannel Physiological Signals

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Location: Hall E

Exploring Position, Velocity, and Torque Control Via Minimal sEMG Calibration for Robotic Ankle Prostheses

2:00 PM - 4:00 PM

Location: Hall E

Novel Insights into Lower Limb Corticomuscular Coupling Asymmetries: A Comparative Study of Stroke Patients and Healthy Controls

2:00 PM - 4:00 PM

Location: Hall E

Sleep Disorder Analysis Using Large Language Models

2:00 PM - 4:00 PM

Location: Hall E

Morphometric Analysis of Mandibular Arch Dimensions Using Dental Cone-Beam Computed Tomography

2:00 PM - 4:00 PM

Location: Hall E

Machine Learning Approach for Quantifying Hereditary Cerebellar Ataxia Severity and Evaluating Rehabilitation Effectiveness

2:00 PM - 4:00 PM

Location: Hall E

Benchmark Algorithm for Surface Electromyography-Based Periodic Limb Movement

Detection

2:00 PM - 4:00 PM

Location: Hall E

Towards Accessible & Affordable Home-Rehabilitation For Stroke Patients

2:00 PM - 4:00 PM

Location: Hall E

Predicting COVID-19 Mortality Risk in the Post-Pandemic Era Using Machine Learning

2:00 PM - 4:00 PM

Location: Hall E

Symptomatic and Asymptomatic Carotid Plaques Classification Using CT Images and Hybrid Deep Transfer Learning

2:00 PM - 4:00 PM

Location: Hall E

A Simplified Approach to Automatic Stance Control of Unilateral Knee Exoskeletons

2:00 PM - 4:00 PM

Location: Hall E

Reinforcement Learning Agent Trained As FES Controller in Modified Xia-Law Simulation Robustly Controls Grip Force

2:00 PM - 4:00 PM

Location: Hall E

EEG-Based Analysis of Breakfasts Impact on Cognitive Performance Using Earth Movers Divergence

2:00 PM - 4:00 PM

Location: Hall E

A Differential Approach to Benign Paroxysmal Positional Vertigo and Vestibular Migraine Based on Walking Stability Features

2:00 PM - 4:00 PM

Location: Hall E

Clinical Evaluation of PPG-Based Deep Learning Models for Sleep Staging in Patients with Suspected Sleep Apnea

2:00 PM - 4:00 PM

Location: Hall E

Trained nnU-Net Model for Semantic Segmentation of Human Adult Cervical Vertebrae from CT-Scans

2:00 PM - 4:00 PM

Location: Hall E

Biological Effects of Ti-Zr-Ta Films with Laser Surface Texturing and Oxidation Treatment on Osteoblast-Like Cells

2:00 PM - 4:00 PM

Location: Hall E

Evaluating Activity Levels in Individuals with TBI Using IMU

2:00 PM - 4:00 PM

Location: Hall E

Movement Range Analysis of a Prosthetic Hand with Flexible Silicone Joints for War-Wounded Children: A Case Study

2:00 PM - 4:00 PM

Location: Hall E

A Combined System Based on GC-IMS and MOS Sensors for the Detection of Volatile Substances in Neonatal Incubators

2:00 PM - 4:00 PM

Location: Hall E

Post-Processing of R Wave Detection to Enhance Heart Rate Variability Analysis

2:00 PM - 4:00 PM

Location: Hall E

EEG Complexity Measures for Alzheimers and Frontotemporal Dementia Classification Using Explainable Machine Learning

2:00 PM - 4:00 PM

Location: Hall E

Resolution Enhancement of Prostate 3D MRI and Ultrasound Using Implicit Neural Representations

2:00 PM - 4:00 PM

Location: Hall E

Real-Time Alignment Sensing for Optimized Inductive Charging of Medical Implants

2:00 PM - 4:00 PM

Location: Hall E

Soft Wearable Robot Adaptive to Individual Shoulder Differences for Respiratory Rehabilitation

2:00 PM - 4:00 PM

Location: Hall E

Vascular Ultrasound Data During Enhanced External Counterpulsation for Predicting Coronary Artery Disease

2:00 PM - 4:00 PM

Location: Hall E

Quantitative Measurement and Analysis of Golf Putting Movement in Rehabilitation Sport

2:00 PM - 4:00 PM

Location: Hall E

Predicting Oral Device Efficacy for Treatment of Obstructive Sleep Apnea Based on Snore Sound

2:00 PM - 4:00 PM

Location: Hall E

Prediction of Hypnotic Trance with Brain-Evoked Responses to an Auditory Oddball Using Magnetoencephalography

2:00 PM - 4:00 PM

Location: Hall E

Cold Tissue Temperature Decreases Electrocutaneous Sensory Perception and Discriminability

2:00 PM - 4:00 PM

Location: Hall E

A Method for Heartbeat Extraction Using Combined BCG and IPG Signals from a Smart Shoe Insole

2:00 PM - 4:00 PM

Location: Hall E

Deep Learning-Based Classification of Anopheles Stephensi Adult Mosquitoes with Enhanced Solutions for Data Imbalance

2:00 PM - 4:00 PM

Location: Hall E

Synthesizing CT from MRI with Cycle-Consistent Generative Adversarial Networks for Pelvis Tumor Radiotherapy Treatment Planning

2:00 PM - 4:00 PM

Location: Hall E

Enhancing Surgical Preoperative Planning with 3D Interaction: A Comparative Study of Integral and Direct Mapping Methods

2:00 PM - 4:00 PM

Location: Hall E

Repurposing Cryopreserved Slaughterhouse Waste for Vascular Replacement Therapy

2:00 PM - 4:00 PM

Location: Hall E

Estimation of Anisotropic Complex Conductivity of Muscle Using Surface Electrical Impedance Myography

2:00 PM - 4:00 PM

Location: Hall E

Effects of Seat Cushion on Sit-To-Stand Motion and Seating Comfort

2:00 PM - 4:00 PM

Location: Hall E

Electroencephalogram-derived Involvement Indexes in Sensory Processing Sensitivity

2:00 PM - 4:00 PM

Location: Hall E

Computational Methods to Support Clinical Assessment in Examination of Walking Ability

2:00 PM - 4:00 PM

Location: Hall E

Comparison of Mass Segmentation Methods for Mammography

2:00 PM - 4:00 PM

Location: Hall E

Evaluating Cross-Subject and Cross-Device Consistency in Visual Fixation Prediction

2:00 PM - 4:00 PM

Location: Hall E

Proposal of a Focused Self-Attention LLM Allowing to Interpret Fragmentary Requests from Visually Impaired People

2:00 PM - 4:00 PM

Location: Hall E

Assessing Spectral Distortions Produced by Off-The-Shelf Sound Spatialization Engines

2:00 PM - 4:00 PM

Location: Hall E

A Flexible Hand Exoskeleton Actuated by Shape Memory Alloy for Future Use in Rehabilitative Medicine

2:00 PM - 4:00 PM

Location: Hall E

MVCA-Net: Multi-View Convolution Attention Network for Measuring EEG Rhythms Representing Anxiety

2:00 PM - 4:00 PM

Location: Hall E

Extravascular Blood Pressure Measurement with Circumferential vs. Radial Artificial Aortic Baroreceptors

2:00 PM - 4:00 PM

Location: Hall E

Biomechanical Analysis of Intrasinus and Parasinus Surgical Approaches for Zygomatic Dental Implants

2:00 PM - 4:00 PM

Location: Hall E

Successful Motor Imagery Engages a Network Similar to Motor Execution: An ECoG-

Based Study Using Explainable AI

2:00 PM - 4:00 PM
Location: Hall E

Deep Learning-Based Integration of CBCT and Face Scan Data for Precise 3D Alignment in Medical Imaging

2:00 PM - 4:00 PM
Location: Hall E

Static and Dynamic Evaluation of an Axial Magnetically Levitated Motor for a Centrifugal Left Ventricular Assist Device

2:00 PM - 4:00 PM
Location: Hall E

EnhancerNet: AI for Predicting Gene Enhancer Functionality

2:00 PM - 4:00 PM
Location: Hall E

AI-Driven Neurodiagnostics: A Scalable Framework for EEG Anomaly Detection Using a Distributed-Delay Neural Mass Model

2:00 PM - 4:00 PM
Location: Hall E

Development of Adhesive and Suction Vibrators for Enabling Easy Fixation in Distantly-Presented Bone-Conducted Ultrasound

2:00 PM - 4:00 PM
Location: Hall E

GAN-HLT: Generative Hierarchical Light-Transformer for Extendable Human Activity Recognition

2:00 PM - 4:00 PM
Location: Hall E

Generating Missing Electrocorticography Channels from Multi-Session Data Using Denoising Diffusion Probabilistic Models

2:00 PM - 4:00 PM
Location: Hall E

Operating System for a Multiple DOF Prosthesis Using Simple Speech Recognition Via User Testing

2:00 PM - 4:00 PM
Location: Hall E

Contrastive Learning-Based Multimodal Imaging-Gene Fusion for Parkinson's Disease Classification

2:00 PM - 4:00 PM
Location: Hall E

Assessing Cerebrovascular Reactivity Via fNIRS: A Comparative Study of Slow and Fast Head-Tilt

2:00 PM - 4:00 PM
Location: Hall E

A Physiological-Model-Based Neural Network Framework for Blood Pressure Estimation from Photoplethysmography Signals

2:00 PM - 4:00 PM
Location: Hall E

Exploratory Analysis and Modeling of EEG Spectral Characteristics and Treatment Factors in ECT Patients

2:00 PM - 4:00 PM
Location: Hall E

Development of an Algorithm for Extracting Limb Movement Candidates Using Surface Electromyography

2:00 PM - 4:00 PM
Location: Hall E

Investigating Subcutaneous Muscle Displacement Based on Innervation Zone Obtained by Decomposition of High-Density Surface Electromyography Signals

2:00 PM - 4:00 PM
Location: Hall E

Effects of Images of Falling Objects with Different Volumes and Impact Sounds on Weight Sensation in a VR Environment

2:00 PM - 4:00 PM
Location: Hall E

UNI-HoverNet: Nuclei Segmentation and Classification across Diverse Tissue Sections Based on the UNI Foundation Model

2:00 PM - 4:00 PM
Location: Hall E

Adaptive Swimming Prosthesis with IMU-Based Wrist Control

2:00 PM - 4:00 PM
Location: Hall E

Prototype for Measuring Compression Location During Cardiopulmonary Resuscitation and how it Affects Blood Flow

2:00 PM - 4:00 PM
Location: Hall E

Multi-Type Lesion Segmentation of Fibrotic Interstitial Lung Disease Using Self-Supervised Pretrained Models

2:00 PM - 4:00 PM
Location: Hall E

Multimodal Guidance in Neurosurgery

2:00 PM - 4:00 PM

Location: Hall E

GAN-Enhanced Neural Signal Datasets Improve BCIs Decoding Performance for Continuous Movement Trajectories

2:00 PM - 4:00 PM

Location: Hall E

Investigating Genioglossus Electromyograms of Obstructive Sleep Apnea Patients and Healthy Subjects During Wakefulness

2:00 PM - 4:00 PM

Location: Hall E

Development of a Durability Test System with Calcific Aortic Stenosis Models for Evaluating Balloons in Aortic Valvuloplasty

2:00 PM - 4:00 PM

Location: Hall E

A Soft Robotic Artificial Heart Ventricle: Experimental Testing and Validation in a Mock Circulation Loop

2:00 PM - 4:00 PM

Location: Hall E

Progress in Continuous Brain Stroke Monitoring Using a Portable and Low-Complexity Microwave Imaging Device

2:00 PM - 4:00 PM

Location: Hall E

ECG Signal Quality Assessment for QRS Detectability in Single-Lead On-Device Processing

2:00 PM - 4:00 PM

Location: Hall E

Impact of Embodiment into a Foot-Extended Avatar Using Virtual Self-Touch on Stepping Over Obstacles

2:00 PM - 4:00 PM

Location: Hall E

Recognition of Micro-Expressions from Nonlinear Features of Surface Electromyography and Random Forest

2:00 PM - 4:00 PM

Location: Hall E

Combining Electrical and Musculoskeletal Models for the In-Silico Optimization of Spinal Cord Stimulation Protocols

2:00 PM - 4:00 PM

Location: Hall E

Developing an Automated General Movement Assessment Tool for Infants Using a Clinician-Centered Approach

2:00 PM - 4:00 PM

Location: Hall E

Using Digital Twins to Assess the Accuracy of Mechanical Power Equations in Non-Invasive Respiratory Support

2:00 PM - 4:00 PM

Location: Hall E

Influence of Human Body Curvature on Body-Centric Wireless Communication

2:00 PM - 4:00 PM

Location: Hall E

Nonlinear HRV Analysis with Raw and Relative Interbeat Intervals from Electrocardiograms, Seismocardiograms, and Gyrocardiograms

2:00 PM - 4:00 PM

Location: Hall E

Adaptation to Physio-Avatar EB and Postadaptation Motor Performance

2:00 PM - 4:00 PM

Location: Hall E

Freezing of Gait Detection Using Gramian Angular Fields and Federated Learning from Wearable Sensors

2:00 PM - 4:00 PM

Location: Hall E

Portable Twin-Screw System for High-Efficiency Solid Sample Processing in Diagnostic Applications

2:00 PM - 4:00 PM

Location: Hall E

Chronotype-Aware Sleep Optimization: AI-Driven Physical Activity Strategies

2:00 PM - 4:00 PM

Location: Hall E

Classification of Valvular Heart Diseases Based on Heart Rate Variability and Hjorth Parameters in Electrocardiograms, Seismocardiograms, and Gyrocardiograms

2:00 PM - 4:00 PM

Location: Hall E

The Proactive and Reactive Balance Response on Bicycle for Individuals with Parkinson Disease

2:00 PM - 4:00 PM

Location: Hall E

In Search of Distinguishable Features for Lower Limb Movement Classification

2:00 PM - 4:00 PM

Location: Hall E

U-Net Based Decomposition of Respiratory Surface Electromyography for Removal of Cardiac Artifacts

2:00 PM - 4:00 PM

Location: Hall E

A 0-Dimensional Approach for Central Aortic Pressure with Direct Reflected Component Modeling

2:00 PM - 4:00 PM

Location: Hall E

Softness Sensor Using Acoustic Reflection Attached to Transvaginal Probe

2:00 PM - 4:00 PM

Location: Hall E

Accessible In-Home Gait Assessment Using Spatiotemporal Neural Networks with Visual and Kinematic Data

2:00 PM - 4:00 PM

Location: Hall E

A Neural Enabled Prosthetic Hand System for Use in Real-World Environments

2:00 PM - 4:00 PM

Location: Hall E

QRS Complex Detection for Wearable ECG Devices Using a Three-Stage Process

2:00 PM - 4:00 PM

Location: Hall E

Tracking Limb Movement in Preterm Infants Using an Inertial Measurement Bracelet

2:00 PM - 4:00 PM

Location: Hall E

Finite Element Analysis of Different Width Calcaneal Slide Plate Fixation in Medial Displacement Calcaneal Osteotomy

2:00 PM - 4:00 PM

Location: Hall E

Cortical Activity During the Sit-To-Stand Transfer in Stroke Survivors and Healthy Controls

2:00 PM - 4:00 PM

Location: Hall E

Neural Strategies for Upper Limb Movements: Motor Unit Control During Dynamic Contractions at Increasing Speeds

2:00 PM - 4:00 PM

Location: Hall E

Artificial Intelligence-Driven Research on Assisted Diagnosis and Prediction in Reproductive Medicine

2:00 PM - 4:00 PM

Location: Hall E

Multisite and Multiwavelength Photoplethysmogram (PPG) Waveform Comparison for Blood Pressure (BP) Estimation

2:00 PM - 4:00 PM

Location: Hall E

Engaging Home-Based Upper Limb Rehabilitation Post Stroke: A Modular Robotic Platform

2:00 PM - 4:00 PM

Location: Hall E

Paper-Based Biased Alternating Current Electrophoresis Enables Sample Enrichment for Point of Care Tests

2:00 PM - 4:00 PM

Location: Hall E

Postural Sway Analysis Using Inertial Measurement Units

2:00 PM - 4:00 PM

Location: Hall E

Back Silhouette and Sagittal Vertical Axis Measurement for Hunchback Using Wearable IMU Body Sensor Network

2:00 PM - 4:00 PM

Location: Hall E

EEG Artifact Recognition Using BERT-Based Language Models

2:00 PM - 4:00 PM

Location: Hall E

Isolating Local Repolarization Changes for Intra-Cardiac Mapping Using Multi-Electrode Arrays and Principal Component Reference Strategy

2:00 PM - 4:00 PM

Location: Hall E

3D Tracking of Upper Limb Movements from Monocular Video Using Transformers and Parametric Human Models for Stroke Rehabilitation

2:00 PM - 4:00 PM

Location: Hall E

Influence of Stance Width and Foot Rotation on Hip Adductor and Gluteus Medius Activation During Squatting in Females: An Electromyographic Analysis

2:00 PM - 4:00 PM

Location: Hall E

Multimodal Multifractal Analysis of Heart Dynamics before and after Running

2:00 PM - 4:00 PM

Location: Hall E

Self-Supervised Contrastive Learning to Monitor Free-Body Movement Daily Activities of Parkinson's Disease Patients Using a Single Wrist Sensor

2:00 PM - 4:00 PM

Location: Hall E

Repetitive Saliva Swallow Test: A Surface Electromyography-Based Approach

2:00 PM - 4:00 PM

Location: Hall E

VR-Based Implicit User Authentication Using Electromyogram and Inertial Measurement Unit

2:00 PM - 4:00 PM

Location: Hall E

Bionic AR: Stand-Alone Augmented Reality System Controlled by Multimodal Biosignals

2:00 PM - 4:00 PM

Location: Hall E

Neural Network-Based Ultrasound Brain-Computer Interfaces Remove Need for Time-Consuming Image Reconstruction

2:00 PM - 4:00 PM

Location: Hall E

Effect of Cuff Fabric Material on Oscillometric Blood Pressure Measurements; a Dynamic Numerical Study

2:00 PM - 4:00 PM

Location: Hall E

Development of Electroencephalography Indices for Quantitative Evaluation of Vehicle Motion Sickness in Real Car-Driving Environments

2:00 PM - 4:00 PM

Location: Hall E

Development of a New Around-The-Ear Electroencephalography Device for Passive BrainComputer Interface Applications

2:00 PM - 4:00 PM

Location: Hall E

Biomechanical Feature Extraction for Lower-Limb Assessment in X-Linked Dystonia Parkinsonism

2:00 PM - 4:00 PM

Location: Hall E

Facial Electromyogram-Based Human Computer Interface for Continuous Hands-Free Avatar Control in XR Environment

2:00 PM - 4:00 PM

Location: Hall E

Balancing Needs and Technology: Stakeholder Priorities on Athlete Monitoring

2:00 PM - 4:00 PM

Location: Hall E

Reliability of Lesion Masks Derived from CT Scans When Compared to MR Scans in Acute Stroke

2:00 PM - 4:00 PM

Location: Hall E

Securing Deep Learning with Differential Privacy for Cardiovascular Disease Prediction

2:00 PM - 4:00 PM

Location: Hall E

Key Features for IMU-Based Pelvic Rotation Direction Recognition

2:00 PM - 4:00 PM

Location: Hall E

Enhancing Similarity to Original Speech in ECoG-Based Auditory Speech Synthesis Using Image-To-Image Translation

2:00 PM - 4:00 PM

Location: Hall E

A User-Friendly Sensor Array for Home Multi-Electrode Monitoring

2:00 PM - 4:00 PM

Location: Hall E

SleepPACNet: New Convolutional Neural Network Considering Phase-Amplitude Coupling for Automatic Sleep Stage Classification Using Single-Channel EEG

2:00 PM - 4:00 PM

Location: Hall E

A Study on Multi-User Multiplexing Based on Calculation Over Galois Field for Optical Wireless Communications

2:00 PM - 4:00 PM

Location: Hall E

Performance Analysis of ECG-Based Biometric Authentication across Different Wearable Devices

2:00 PM - 4:00 PM

Location: Hall E

Method Development for Synchronizing Processor Time of Accelerometer with

Computer for Sensor-Equipped Health Measurements

2:00 PM - 4:00 PM

Location: Hall E

Development of Facial Electromyography-Based Silent Speech Interface for Augmented Reality Applications Using Transfer Learning-Based On-Device Artificial Intelligence

2:00 PM - 4:00 PM

Location: Hall E

Embedded System for Breathing Motion Monitoring Using Inertial Measurement Units

2:00 PM - 4:00 PM

Location: Hall E

Deep Learning Methods for Subject-Independent Emotion Classification Using Simultaneously Recorded EEG and FNIRS

2:00 PM - 4:00 PM

Location: Hall E

Advancing Clinical Gait Analysis: A Multi-Sensor Model for High-Precision Lower Limb Motion Mapping

2:00 PM - 4:00 PM

Location: Hall E

AD Stage and Cognitive Function Prediction Using EEG and a Classification-Guided Deep Multi-Task Neural Network Model

2:00 PM - 4:00 PM

Location: Hall E

Path Loss Estimation between Hub and Nodes in Body Area Networks Using Random Forest

2:00 PM - 4:00 PM

Location: Hall E

Robust Attention Assessment Based on a BCI Utilizing EEG Spectral-Connectivity Features and Mental Arithmetic Task

2:00 PM - 4:00 PM

Location: Hall E

A Multi-Function Integrated Virtual Vital-Signs Sensor: MIRUWS

2:00 PM - 4:00 PM

Location: Hall E

Performance Enhancement of Steady-State Visual Evoked Field-Based Brain-Computer Interfaces Using Spatial Distribution of Synchronization Index in MEG Channel Space

2:00 PM - 4:00 PM

Location: Hall E

Real-Time Body Core Temperature Estimation with Attention-Based LSTM and Wearable Sensors

2:00 PM - 4:00 PM

Location: Hall E

Performance Enhancement of Steady-State Visual Evoked Field-Based Brain-Computer Interface Using Magnetoencephalography Source Imaging

2:00 PM - 4:00 PM

Location: Hall E

Effect of Data Augmentation on Multi-Class Classification Performance of Complex MI Tasks

2:00 PM - 4:00 PM

Location: Hall E

Ear-EEG-Based Mental Stress Detection Using Deep Neural Network with Channel Attention

2:00 PM - 4:00 PM

Location: Hall E

Pedobarographic Gait Analysis of Adolescent Idiopathic Scoliosis with Brace Treatment

2:00 PM - 4:00 PM

Location: Hall E

Spatial Design Requirements for Pressure-Sensing Mattresses for Position Classification

2:00 PM - 4:00 PM

Location: Hall E

Investigating Human Activity Recognition through Soft Sensor-Derived ECG Signals for IMU-Free Operation

2:00 PM - 4:00 PM

Location: Hall E

The CNN-Based Analysis of EEG for Sound Perception and Imagery

2:00 PM - 4:00 PM

Location: Hall E

Surface EMG Signal Decomposition for Spontaneous Electrical Activity

2:00 PM - 4:00 PM

Location: Hall E

Fronto-Parietal Dysconnectivity in Depression

2:00 PM - 4:00 PM

Location: Hall E

Relationship between Body Sway and Visually Induced Motion Sickness in VR Due to Visual Movement Patterns

2:00 PM - 4:00 PM

	<p>Location: Hall E</p> <p>Leveraging Model Uncertainty for AI-Assisted Evaluation of Clinical Sleep Studies</p> <p>2:00 PM - 4:00 PM</p> <p>Location: Hall E</p> <p>Decoding Epileptic Biomarkers through Interpretable Kolmogorov-Arnold Networks</p> <p>2:00 PM - 4:00 PM</p> <p>Location: Hall E</p> <p>Needle Biopsy and Fiber-Optic Compatible Robotic Insertion Platform</p> <p>2:00 PM - 4:00 PM</p> <p>Location: Hall E</p> <p>Augmenting Body Weight Support Rehabilitation with Mixed Reality to Enhance Lower Limb Functional Recovery Post-Stroke</p> <p>2:00 PM - 4:00 PM</p> <p>Location: Hall E</p> <p>Sleep Spindle Detection with Soft Dry Electrodes: Toward Clinical and Home-Based Monitoring in Parkinsons Disease</p> <p>2:00 PM - 4:00 PM</p> <p>Location: Hall E</p> <p>Monitoring Insertion and Functionality of Cochlear Implants by Impedance Spectroscopy</p> <p>2:00 PM - 4:00 PM</p> <p>Location: Hall E</p> <p>Study of the impacts of surfactants on bubble behavior in a PDMS-based biomimetic microvasculature using blood -like fluids</p> <p>2:00 PM - 4:00 PM</p> <p>Location: Hall E</p> <p>Time Series Deep Learning for Rapid, Accurate ELISA Detection in Paper-Based Microfluidic Analytical Devices</p> <p>2:00 PM - 4:00 PM</p> <p>Location: Hall E</p> <p>Dual Haptic Feedback Enhancing Virtual Needle Insertion Experience: Design and Evaluation</p> <p>2:00 PM - 4:00 PM</p> <p>Location: Hall E</p> <p>Attention GhostUNet++: Enhanced Segmentation of Adipose Tissue and Liver in CT Images</p> <p>2:00 PM - 4:00 PM</p> <p>Location: Hall E</p>
2:00 PM - 2:45 PM	<p>Demo and Innovation Fair</p> <p>Location: Hall E</p>
2:30 PM - 6:30 PM	<p>Exploring Wearable EEG & BCI: Applications in Health, Cognitive Performance, and Neurofeedback</p> <p>Location: D2</p>
2:30 PM - 6:30 PM	<p>Wearables for eHealth and Wellness: from research and innovation to clinical translation</p> <p>Location: D5</p>
2:30 PM - 6:30 PM	<p>Advances in Generative AI for Clinical Applications</p> <p>Location: Aud 15</p>
2:30 PM - 6:30 PM	<p>Beyond Noise: Generative AI-Powered Signal Processing for Accurate and Reliable Sensing</p> <p>Location: Aud 10</p>
2:30 PM - 6:30 PM	<p>Innovative Health and Medical Technologies in the AI Era</p> <p>Location: Aud 11</p>
2:30 PM - 6:30 PM	<p>Design and Assessment Wearable Robotics (DAWR) - Bridging the Gap Between Existing and Desired Evaluation Outcomes</p> <p>Location: Aud 12</p>
2:30 PM - 6:30 PM	<p>Foundational frameworks in Biomedical Signal Processing</p> <p>Location: B3 M1-2</p>
2:30 PM - 6:30 PM	<p>Exploring Altered States of Consciousness Through EEG and Brain-Computer Interfaces</p> <p>Location: B3 M3-4</p>

2:30 PM - 6:30 PM	Innovation Across Scales in Neural Engineering: from Basic Research to Market Transformation Location: B3 M5-6
2:30 PM - 6:30 PM	Open Biomedical Multimodal AI Research: From Pixels to Molecules Location: B3 M7-8
2:30 PM - 6:30 PM	Neurodegeneration studies with MRI and Optoacoustics Location: B4 M1-2
2:30 PM - 4:30 PM	Meet the EMBC Journal Editors Location: Treehouse
2:30 PM - 4:30 PM	YP Career Catalyst Series - Fireside chat about lab to marketplace challenges with Guests: Friedrich Wetterling and Michael Friebe Location: Room 18
2:30 PM - 3:30 PM	Therapeutic & Diagnostic Systems and Technologies (TDST) Committee Meeting Location: Room 6
2:30 PM - 4:00 PM	Special Panel on Funding Opportunities of NIBIB and selected other NIH initiatives Location: D3
2:30 PM - 4:30 PM	Meet the Editors Location: Treehouse
4:30 PM - 6:00 PM	Neuromodulation for Movement Restoration: Mechanisms to Outcomes Location: D3
5:00 PM - 6:00 PM	NER - Mentorship Hour with Erika Ross Ellison and Philip Hempel Location: Room 18
5:00 PM - 6:30 PM	Chapter chairs meeting Location: Treehouse

Thursday, July 17, 2025

7:30 AM - 8:00 AM	Student & YP Plogging Event
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8:00 AM - 10:00 AM

Neural Signals in Sleep

Location: D3 - Silent1

SpindleX: A Multi-Scale Event Detection Window and CBAM Attention-Based Model for Sleep Spindle Detection

8:00 AM - 8:15 AM
Location: D3 - Silent1

A Gradient Boosting Classifier-Based Approach for Automated Sleep Spindle Detection in Rat EEG Recordings

8:15 AM - 8:30 AM
Location: D3 - Silent1

Applicability of LSTM and Double Decoders on U-Net Models for Sleep and Arousal Scoring Using In-Home EEG Signals

8:30 AM - 8:45 AM
Location: D3 - Silent1

Assessment of Cyclic Alternating Pattern of Sleep During Late Pregnancy

8:45 AM - 9:00 AM
Location: D3 - Silent1

Sleep Spindles as Biomarkers for Idiopathic REM Behaviour Disorder

9:00 AM - 9:15 AM
Location: D3 - Silent1

Enhancing Neonatal Sleep Analysis with Multi-Resolution CNN and Mamba Integration

9:15 AM - 9:30 AM
Location: D3 - Silent1

Archetypal Analysis for the Characterization of Distinct Patterns in Mouse Sleep Data

9:30 AM - 9:45 AM
Location: D3 - Silent1

Sleep Brain and Cardiac Activity Predict Cognitive Flexibility and Conceptual Reasoning Using Deep Learning

9:45 AM - 10:00 AM
Location: D3 - Silent1

8:00 AM - 10:00 AM

Processing and Modeling of Neural Signals

Location: D3 - Silent2

State of consciousness classification in pediatric subjects using SVM with both linear and nonlinear EEG features

8:00 AM - 8:15 AM
Location: D3 - Silent2

Development of an EEG-Based Method for Detecting Flow State Using Wearable Headbands in a Game Environmen

8:15 AM - 8:30 AM
Location: D3 - Silent2

Enhancing Emotion-Brain Representations with Orthogonal Fuzzy Power-Coherence Alignment

8:30 AM - 8:45 AM
Location: D3 - Silent2

EEG-Based Emotion Intensity Recognition using Machine-Learning and CNN-Ensemble Models

8:45 AM - 9:00 AM
Location: D3 - Silent2

Using Generative Adversarial Networks to Eliminate RF and Gradient Interference in Neurophysiology Signals Recorded Simultaneously with Functional MRI

9:00 AM - 9:15 AM
Location: D3 - Silent2

Superficial Fluctuations in Functional Near-Infrared Spectroscopy During Concurrent Transcranial Magnetic Stimulation

9:15 AM - 9:30 AM
Location: D3 - Silent2

FEMBA: Efficient and Scalable EEG Analysis with a Bidirectional Mamba Foundation Model

9:30 AM - 9:45 AM
Location: D3 - Silent2

Optimized EEG and fMRI Biomarker Fusion Using Federated Learning for Parkinson's Disease Diagnosis

9:45 AM - 10:00 AM
Location: D3 - Silent2

8:00 AM - 10:00 AM

Physiological Systems Modeling

Location: D3 - Silent3

Uncovering Population PK Covariates from VAE-Generated Latent Spaces

8:00 AM - 8:15 AM
Location: D3 - Silent3

Empirical Dynamic Modeling for Accurate Prediction and Detection of State Transition in Physiological and Behavioral Time Series of Mice

8:15 AM - 8:30 AM
Location: D3 - Silent3

Modeling Spatial Synchronization of Sleep for Detection of Idiopathic REM Sleep Behavior Disorder

8:30 AM - 8:45 AM
Location: D3 - Silent3

Enhanced OSA Detection Via Multi-Scale Modeling of EEG and ECG Signals

8:45 AM - 9:00 AM
Location: D3 - Silent3

An EEG Source Reconstruction Method Accounting for Ascending Sympathovagal Activity: A Proof-Of-Concept Study

9:00 AM - 9:15 AM
Location: D3 - Silent3

Investigating the Relationship between Aperiodic Components of Electroencephalographic and Heartbeat Dynamics

9:15 AM - 9:30 AM
Location: D3 - Silent3

Multimodal Modeling of Ultradian Rhythms Using the Hankel Alternative View of Koopman

9:30 AM - 9:45 AM
Location: D3 - Silent3

Respiratory Asynchrony and Airway Narrowing in Asthma and Sleep Apnea: A Modeling Approach

9:45 AM - 10:00 AM
Location: D3 - Silent3

8:00 AM - 10:00 AM

Supporting motion, gait and activity analysis

Location: D2

Can Gait Deviations Be Identified through Video-Based Gait Analysis? Validation of the BlazePose Pose Estimation Algorithm

8:00 AM - 8:15 AM
Location: D2

Camera-Based Analysis of Motion Coordination between Infant Left and Right Limbs: A Clinical Study in NICU

8:15 AM - 8:30 AM
Location: D2

Human Motion Recognition for Adaptive Deep Brain Stimulation Using a Head-Mounted Triaxial Accelerometer

8:30 AM - 8:45 AM
Location: D2

Deep Learning-Based Human Joint Localization Using mmWave Radar and Sequential Frame Fusion

8:45 AM - 9:00 AM
Location: D2

Spatio-Temporal Fuzzy Coding of Video Motion Time Series for Late Onset Sepsis Detection in Neonatology

9:00 AM - 9:15 AM
Location: D2

A Phantom Study of Using Moire Effect to Significantly Enhance Camera-Based Respiratory Motion Extraction

9:15 AM - 9:30 AM
Location: D2

Single Omnidirectional Camera System for Motorized Mobility Scooters to Measure Driving Operations, User Behavior, and

9:30 AM - 9:45 AM
Location: D2

Segmentation-Guided Denoising and Gradient-Aware Depth Completion for Enhanced LiDAR-Based Human Activity Recognition

9:45 AM - 10:00 AM
Location: D2

8:00 AM - 10:00 AM

AI enhanced clinical workflow and risk stratification

Location: D5

An Artificial Intelligence-Based Probabilistic Forecasting Model for Predicting Nursing Workforce Demand in Hospital Units

8:00 AM - 8:15 AM

Location: D5

Generating OpenEHR Archetypes and Templates with Annotated Mindmap Models

8:15 AM - 8:30 AM

Location: D5

TRAI: An AI-Driven Mobile Application to Reduce the Gap between Triage and Care

8:30 AM - 8:45 AM

Location: D5

Early Prediction of PositiveHospital-Acquired MRSA Screening Using Deep Learning on Vital Signs Time Series

8:45 AM - 9:00 AM

Location: D5

Clustering type 1 diabetes patients based on blood glucose level measurements

9:00 AM - 9:15 AM

Location: D5

A Cloud-Based Risk Stratification Platform Cardiovascular Disease, Depression and Comorbidities

9:15 AM - 9:30 AM

Location: D5

Continuous Non-Invasive Measurement of Core Vital Signs in the Hospital Ward

9:30 AM - 9:45 AM

Location: D5

mEnergy: Development of a Novel mHealth Multi-device Platform for Near Real-time Remote Assessment of Energy Disorders

9:45 AM - 10:00 AM

Location: D5

8:00 AM - 10:00 AM

Neuroimaging, Atlas-based registration

Location: Aud 15

Regional Brain Age Measures Based on Convolutional Neural Networks (CNNs)—Symmetry Properties and Associations with Fluid and Crystallized Intelligence

8:00 AM - 8:15 AM

Location: Aud 15

Motor Network Efficiency in Stroke Patients: Comparing Activation Likelihood Estimation-Based and Whole Brain Parcellations

8:15 AM - 8:30 AM

Location: Aud 15

A Text-Image Network for Isocitrate Dehydrogenase(IDH) Mutation Status Prediction in Glioma Diagnosis Using Multimodal MRI and Radiology Report

8:30 AM - 8:45 AM

Location: Aud 15

Automated Autism Spectrum Disorder Diagnosis Using Graph Metrics from Diffusion Tensor Imaging and Machine Learning

8:45 AM - 9:00 AM

Location: Aud 15

Tissue Individual Signatures through Machine Learning Analysis of Ultrasound Images

9:00 AM - 9:15 AM

Location: Aud 15

Diffusion Bridge Models for 3D Medical Image Translation

9:15 AM - 9:30 AM

Location: Aud 15

The Impact of Rs-fMRI Preprocessing on the Quality of Machine Learning Models for Autism Spectrum Disorder Diagnosis

9:30 AM - 9:45 AM

Location: Aud 15

Mind the Gap: Evaluating Patch Embeddings from General-Purpose and Histopathology Foundation Models for Cell Segmentation and Classification

9:45 AM - 10:00 AM

Location: Aud 15

8:00 AM - 10:00 AM

Neural modeling

Location: Aud 10

Spiking Reservoir Computing Architectures for Model-Based Epileptic Brain State Recognition

8:00 AM - 8:15 AM
Location: Aud 10

Model-Based Analysis of a Distal Sensory Feedback Implant for Thumb Prostheses

8:15 AM - 8:30 AM
Location: Aud 10

Bridging Neuronal Avalanches and Crucial Events: Evidence for Temporal Criticality in EEG

8:30 AM - 8:45 AM
Location: Aud 10

Exploring Whole-Brain Dynamics of Epileptic Networks During tDCS Using Neural Mass Modeling

8:45 AM - 9:00 AM
Location: Aud 10

Weighted Graph for Longitudinal Tracking of Neurons in Cortical Organoids on a High-Density Microelectrode Array

9:00 AM - 9:15 AM
Location: Aud 10

A Novel Ergodic Sequential Logic Cochlear Model: Reproductions of Multiple Nonlinear Sound Processing Functions of Mammalian Cochlea and Efficient FPGA Implementation

9:15 AM - 9:30 AM
Location: Aud 10

Computational Framework and Tools for Evaluating Engineered Channelrhodopsin Performance in a Degenerated Retina

9:30 AM - 9:45 AM
Location: Aud 10

Exploring Tonic and Burst Stimulation in Neural Fibers: A Computational Modeling Approach

9:45 AM - 10:00 AM
Location: Aud 10

8:00 AM - 10:00 AM

Neurorehabilitation

Location: Aud 11

Neural Mechanisms of Post-Stroke Anomic Aphasia: Insights from fMRI-Based Machine Learning Categorical Features

8:00 AM - 8:15 AM
Location: Aud 11

Decoding of Individual Fingers Attempted Movement from Epidural ECoG in a Patient with Tetraplegia

8:15 AM - 8:30 AM
Location: Aud 11

Barn Ruins Virtual Reality-Based Serious Game as a Rehabilitation Tool for Older Adults with Mild and Moderate Cognitive Impairment: A Pilot Study

8:30 AM - 8:45 AM
Location: Aud 11

Design of a Virtual Reality Interactive Serious Game for Older Adults for Improving Spatial Cognitive Function

8:45 AM - 9:00 AM
Location: Aud 11

Functional and Structural Neural Plasticity Following sEMG Control of a Virtual Prosthetic Hand in an Individual with Bilateral Upper-Limb Congenital Amputation

9:00 AM - 9:15 AM
Location: Aud 11

White Matter Integrity As a Biomarker of Gait Recovery in Patients Post-Stroke

9:15 AM - 9:30 AM
Location: Aud 11

DGPC-Net: Dual Branch Gaussian Process Constrained Network for Spinal Cord Stimulation Effect Prediction

9:30 AM - 9:45 AM
Location: Aud 11

Interplay of Compensation and True Recovery in Upper Limb Movements Post-Stroke: A Computational Model

9:45 AM - 10:00 AM
Location: Aud 11

8:00 AM - 10:00 AM

Bio-impedance and impedance

Location: Aud 12

Finite Element Modelling of Standardised Measuring Cells Filled with Tissue-Mimicking Materials for Bioimpedance Assessment

8:00 AM - 8:15 AM

Location: Aud 12

Non-Invasive Blood Oxygen Level Monitoring Using Bio-Impedance

8:15 AM - 8:30 AM

Location: Aud 12

BioZ: A Portable Multi-Frequency Bioimpedance Sensor

8:30 AM - 8:45 AM

Location: Aud 12

Urine Volume Estimation Using Eight-Electrode Electrical Impedance Measurements: A Healthy Volunteer Study

8:45 AM - 9:00 AM

Location: Aud 12

An Unobtrusive PEP Estimation Method Using Hand-To-Hand Impedance Plethysmography

9:00 AM - 9:15 AM

Location: Aud 12

Signal Quality Estimation of Impedance Pneumography Signals in the NICU Using a Frequency-Based Approach

9:15 AM - 9:30 AM

Location: Aud 12

Eco-Friendly Bioimpedance Fat Phantom: PVA Emulsion Mimicking the Electrical Properties of Living Tissue at Low Frequencies

9:30 AM - 9:45 AM

Location: Aud 12

Individual Difference Frequency Adaptive Adjustment Method for Magnetic Resonant Human Body Communication

9:45 AM - 10:00 AM

Location: Aud 12

8:00 AM - 10:00 AM

Supporting surgery and treatment

Location: B3 M1-2

Motor Evoked Potential-Based Spinal Cord Function Assessment in Intraoperative Monitoring Using Machine Learning Model

8:00 AM - 8:15 AM

Location: B3 M1-2

Precision Needle Localization Using Electromagnetic Tracking and AR Visualization in Ventricular Interventions

8:15 AM - 8:30 AM

Location: B3 M1-2

Ensemble Guided Fine-Tuning Pre-Trained Models for Kinase Inhibitor Design

8:30 AM - 8:45 AM

Location: B3 M1-2

Relationship between Pulse Transit Time, PPG Features, and Blood Pressure in Atrial Fibrillation

8:45 AM - 9:00 AM

Location: B3 M1-2

Systematic Hardware Integration Testing for Smart Video-Based Medical Device Prototypes

9:00 AM - 9:15 AM

Location: B3 M1-2

Post Quantum Secure Communication Protocol with Ultra Low-Power Hardware Solution for Ingestible Medical Device

9:15 AM - 9:30 AM

Location: B3 M1-2

Efficient Edge AI for Neonatal Care: Implementing HIE Grading on Snapdragon Edge Device

9:30 AM - 9:45 AM

Location: B3 M1-2

Enhancing Stroke Severity Evaluation: A Machine Learning Approach to Mortality Prediction versus Traditional Scales

9:45 AM - 10:00 AM

Location: B3 M1-2

8:00 AM - 10:00 AM

Sensory Neuroprostheses

Location: B3 M3-4

Effect of Wrist Posture on the Intensity, Size, and Location of Hand Sensations Evoked by Transcutaneous Nerve Stimulation at the Wrist

8:00 AM - 8:15 AM

Location: B3 M3-4

Multipolar Hybrid Stimulation for Visual Prostheses: Enhancing Resolution and Specificity

8:15 AM - 8:30 AM

Location: B3 M3-4

A Behavioral Study of Event-Based Depth-Filtered Prosthetic Vision in Simulated Dynamic Environments

8:30 AM - 8:45 AM

Location: B3 M3-4

Generating Natural Neural Response in Visual Neuroprosthetics Using the Artificial Bee Colony Algorithm

8:45 AM - 9:00 AM

Location: B3 M3-4

Efficient Spatial Estimation of Perceptual Thresholds for Retinal Implants Via Gaussian Process Regression

9:00 AM - 9:15 AM

Location: B3 M3-4

Temporally-Varying Stimulations for Cortical Visual Neuroprosthetic Using Spiking Neural Networks

9:15 AM - 9:30 AM

Location: B3 M3-4

Geo-GCN: Geometric-Graphical Convolutional Network for EEG-Based Auditory Attention Detection

9:30 AM - 9:45 AM

Location: B3 M3-4

Evaluating Deep Human-In-The-Loop Optimization for Retinal Implants Using Sighted Participants

9:45 AM - 10:00 AM

Location: B3 M3-4

8:00 AM - 10:00 AM

New Biomedical Imaging Methodologies

Location: B3 M5-6

A Simple, but Variable Transformer-Matched Resonance Circuit for High Resolution Sodium-23 Magnetic Resonance Imaging of an in Vivo Stroke Model at 9.4T

8:00 AM - 8:15 AM

Location: B3 M5-6

SegUnXt+: A High-Performance Deep Learning Model for Thyroid Segmentation in Fully Automatic 3D USE Robotic Examination System

8:15 AM - 8:30 AM

Location: B3 M5-6

An Intelligent Cardiac View Classification System for Autonomous Echocardiography Robot

8:30 AM - 8:45 AM

Location: B3 M5-6

A Photoconvertible Chenopodium Album Water-Soluble-Chlorophyll-Binding Protein As a Contrast Agent for Photoacoustic Imaging

8:45 AM - 9:00 AM

Location: B3 M5-6

Weighted Non-Linear Beamformer for PLD-Based Photoacoustic Imaging Systems: Initial Results

9:00 AM - 9:15 AM

Location: B3 M5-6

Ultrasound Based Viscoelasticity Imaging Tool for Differentiation of Breast Lesions

9:15 AM - 9:30 AM

Location: B3 M5-6

Novelty Detection for Bone Age Anomaly Identification Using Self-Supervised Learning

9:30 AM - 9:45 AM

Location: B3 M5-6

Domain-Specific Progressive Channel Dropout: Single-Source

9:45 AM - 10:00 AM

Location: B3 M5-6

8:00 AM - 10:00 AM

EEG & Neural Interfaces

Location: B3 M7-8

Bipolar EEG Power Spectral Density Analysis of Resting-State for Multi-Level Cognitive Impairment Evaluation

8:00 AM - 8:15 AM

Location: B3 M7-8

Towards Objective Programming in SNM Therapy: Development and Validation of a Pelvic Floor Measurement System

8:15 AM - 8:30 AM

Location: B3 M7-8

Development of a Demonstrator for the Excitation of Magneto-Electric Nano Particles in Biomedical Treatments Involving Neural Connectivity

8:30 AM - 8:45 AM

Location: B3 M7-8

Interhemispheric Symmetry in Alpha Peak before and after rTMS for Major Depressive Disorder

8:45 AM - 9:00 AM

Location: B3 M7-8

P300 Event-Related Potentials Applied Synchronously with Vagus Nerve Stimulation for Response Prediction in Epilepsy

9:00 AM - 9:15 AM

Location: B3 M7-8

Arbitrary Waveform Multi-Lead Temporal Interference Stimulation

9:15 AM - 9:30 AM

Location: B3 M7-8

Real-Time Hand Rehabilitation: FPGA-Accelerated Neural Network for Muscle Activity Classification

9:30 AM - 9:45 AM

Location: B3 M7-8

Investigation of Varying Frequencies of Transcutaneous Electrical Nerve Stimulation for Labor Pain Control: A Randomized Double-Blinded Sham-Controlled Pilot Study

9:45 AM - 10:00 AM

Location: B3 M7-8

8:00 AM - 10:00 AM

HRI and exoskeleton design

Location: B4 M1-2

Switch-Based Independent Antagonist Actuation with a Single Motor for a Soft Exosuit

8:00 AM - 8:15 AM

Location: B4 M1-2

Task-Agnostic Exoskeleton Torque Assistance Reduces Ankle Osteoarthritis Pain: A Pilot Study

8:15 AM - 8:30 AM

Location: B4 M1-2

A Closed-Loop Platform for the Embodiment of Supernumerary Robotic Limbs During Augmented Tasks

8:30 AM - 8:45 AM

Location: B4 M1-2

Can an Optimal Control Model Capture Tracking Kinematics? Insights from Healthy and Post-Stroke Robot Interactions

8:45 AM - 9:00 AM

Location: B4 M1-2

A Novel Human-Robot Three Arm Collaboration Method for Multi Aim Reach-Grasp-Place Task Via Hand-Eye Coordination

9:00 AM - 9:15 AM

Location: B4 M1-2

Counterfactual Multi-Agent Reinforcement Learning for Long-Horizon Medical Assistive Tasks with Dual-Arm Robot

9:15 AM - 9:30 AM

Location: B4 M1-2

Evaluating the Impact of Channel Count and Feature Set on Online Pattern Recognition Control of a Virtual Arm

9:30 AM - 9:45 AM

Location: B4 M1-2

A Wearable Device for Accurate Ankle Movement Evaluation

9:45 AM - 10:00 AM

Location: B4 M1-2

8:00 AM - 10:00 AM

Image segmentation techniques, Machine learning and AI-enhanced imaging

Location: B4 M3

Learning Generalizable Features for Tibial Plateau Fracture Segmentation Using Masked Autoencoder and Limited Annotations

8:00 AM - 8:15 AM

Location: B4 M3

Mathematical Model of the Deterministic Components of Artifacts in Fundus Photography

8:15 AM - 8:30 AM

Location: B4 M3

Self-Supervised Learning for Stroke Lesion Segmentation on CT: A New Pretext Task for Neuroimaging

8:30 AM - 8:45 AM

Location: B4 M3

LWT-ARTERY-LABEL: A Lightweight Framework for Automated Coronary Artery Identification

8:45 AM - 9:00 AM

Location: B4 M3

Effect of Accurate Segmentation of Prostate Areas on Radiomics Based Model for Prostate Cancer Classification

9:00 AM - 9:15 AM

Location: B4 M3

UA-UNet: Uncertainty Aware Pseudo-Label Generation in Residual U-Net for Medical Image Segmentation

9:15 AM - 9:30 AM

Location: B4 M3

TRAM-UNet: Transformer and Region Attention Module Based U-Net for Breast Ultrasound Image Segmentation

9:30 AM - 9:45 AM

Location: B4 M3

8:00 AM - 10:00 AM

Kinematic and Kineatic Analysis

Location: B4 M4

Submovement Characteristics Are Related to the Presence of Parkinson's Disease

8:00 AM - 8:15 AM

Location: B4 M4

AI-Driven Slip Detection for Smarter Footwear Testing Using Vision Transformers

8:15 AM - 8:30 AM

Location: B4 M4

Development of a Simple Softness Measurement Method Using a Wearable Force Sensor and Depth Camera for Remote Edema Palpation

8:30 AM - 8:45 AM

Location: B4 M4

A Machine Learning Framework for Parkinson's Disease Detection through Turning Metrics

8:45 AM - 9:00 AM

Location: B4 M4

An AI-Enabled Low-Cost Wearable to Support Musculoskeletal Rehabilitation: A Proof of Concept

9:00 AM - 9:15 AM

Location: B4 M4

Inertial Sensor-Based Motion Calibration for 1-DoF Joint Angle Estimation

9:15 AM - 9:30 AM

Location: B4 M4

Ultra-Wideband Radar-Based Gait Analysis System for Non-Contact Knee Angle Monitoring

9:30 AM - 9:45 AM

Location: B4 M4

A Plug-And-Play Inertial Motion Tracking Method for Magnetometer-Free Orientation Estimation of Arbitrary Joints

9:45 AM - 10:00 AM

Location: B4 M4

10:00 AM - 10:30 AM

Break

10:30 AM - 11:15 AM

Engineering and translating new biomaterials for biosensing and advanced therapeutics

Location: D3

Plenary Speaker: Molly Stevens

11:15 AM - 12:00 PM

The Impact of Technological Advances in Electromyography: From Neural Control to Neuromechanics and Human-Machine Interfaces

Location: D3

Plenary Speaker: Dario Farina

12:00 PM - 12:30 PM

Closing Remarks

Location: D3

12:30 PM - 2:30 PM

Poster viewing & exhibition

Location: Hall E

Predicting Improvement in Parkinson's Disease Patients Using Location of Stimulation

12:30 PM - 2:30 PM

Location: Hall E

STAR-eX: A Student-Teacher Assistive Rehabilitation Exoskeleton for Post-Stroke Mirror Therapy Hand Hemiplegia

12:30 PM - 2:30 PM

Location: Hall E

FICE Fovea-Inspired Closed-Loop Edge-AI System for Enhanced Capsule Endoscopy Imaging

12:30 PM - 2:30 PM

Location: Hall E

PRompt-Aware Interactive Stain Model for Unpaired H&E-To-IHC Stain Translation

12:30 PM - 2:30 PM

Location: Hall E

The Effect of Changes in the Number of People in a VR Environment on Interpersonal Distance

12:30 PM - 2:30 PM

Location: Hall E

Impact of Dynamic Serious Game Environments on Multimodal Physiological Signals: A Multivariate Swarm-Prey Approach

12:30 PM - 2:30 PM

Location: Hall E

Facilitating Aboriginal Perinatal Mental Health Information Access with a Retrieval-Augmented LLM-Based Chatbot

12:30 PM - 2:30 PM

Location: Hall E

Proposal of a Marker-less Registration Method for Measuring Changes in Daily Swelling of the Foot of Individuals with Spinal Cord Injury Using a Handheld 3D Scanner

12:30 PM - 2:30 PM

Location: Hall E

Investigating the Effect of Systolic and Diastolic Arterial Pressures on Mean Pressure through Partial Information Decomposition

12:30 PM - 2:30 PM

Location: Hall E

Simulation of Spatiotemporal Current Density Distribution on Electrode-Electrolyte Interface During Deep Brain Stimulation

12:30 PM - 2:30 PM

Location: Hall E

Explainable Supervised Learning Reveals Radiomics Markers for Vertebral Fracture Detection

12:30 PM - 2:30 PM

Location: Hall E

Glaucoma Detection for Automated Referral System: Using OCT Data and Fine-Tuning LLM Models

12:30 PM - 2:30 PM

Location: Hall E

Traction Cybernetic Avatar System for Colon ESD

12:30 PM - 2:30 PM

Location: Hall E

Integrative Analysis of Multi-Omics Data for Biomarker Discovery

12:30 PM - 2:30 PM

Location: Hall E

Development of rplec: An R package of placental epigenetic clock to estimate aging by DNA-methylation-based gestational age

12:30 PM - 2:30 PM

Location: Hall E

Investigating High-Order Interactions among Physiological Variables Using Predictability and Information-Theoretic Measures

12:30 PM - 2:30 PM

Location: Hall E

Leveraging LLMs for Efficient Data Structure Standardization in Chinese Medical Examination Reports

12:30 PM - 2:30 PM

Location: Hall E

Electrophysiological Changes of Multi-Site Local Field Potentials after Deep Brain Stimulation in the Medial Prefrontal Cortex

12:30 PM - 2:30 PM

Location: Hall E

Computer Vision and Augmented Reality Guided Shoulder Rehabilitation

12:30 PM - 2:30 PM

Location: Hall E

Adaptive Motion-Augmenting Glove for Personalized Hand Rehabilitation Using Biomechanical Feedback

12:30 PM - 2:30 PM

Location: Hall E

Dual-Mamba: A Hybrid CNN-Mamba Architecture for Tumor Segmentation from 3D Medical Images

12:30 PM - 2:30 PM

Location: Hall E

Improving Omics-Based Classification: The Role of Feature Selection and Synthetic Data Generation

12:30 PM - 2:30 PM

Location: Hall E

Leveraging Memory for Improved Medical Image Segmentation with Limited Parameters

12:30 PM - 2:30 PM

Location: Hall E

A Disturbance Suppression Framework Based on Online Prediction for the Dynamic Measurement of Skin Temperature

12:30 PM - 2:30 PM

Location: Hall E

Transformer-Based Misinformation Detection in Headache Medicine: A BERT Model Approach

12:30 PM - 2:30 PM

Location: Hall E

AI-Enhanced Motor Power Analysis for Joint Kinematics Prediction and Fault Detection in Rehabilitation Systems

12:30 PM - 2:30 PM

Location: Hall E

Centimeter Differences in Wrist Electrode Placement Significantly Impact Myoelectric Performance

12:30 PM - 2:30 PM

Location: Hall E

Analysis of CGM Data in Pregnant Women through Machine Learning and Mechanistic Models

12:30 PM - 2:30 PM

Location: Hall E

REMOTE: A Framework to Create Fast Healthcare Interoperability Resources (FHIR) from Unstructured Clinical Data

12:30 PM - 2:30 PM

Location: Hall E

Deep Neural Network for Online Identification of Motor Unit Activities from High-Density Surface Electromyography

12:30 PM - 2:30 PM

Location: Hall E

Design and Optimization Study of a Linkage Driven Finger of a Hand Exoskeleton for Use in Post Stroke Rehabilitation

12:30 PM - 2:30 PM

Location: Hall E

Adaptive Feature Mode Decomposition in Respiratory Sound Analysis

12:30 PM - 2:30 PM

Location: Hall E

Class-N-Diff: Classification-Induced Diffusion Model Can Make Fair Skin Cancer Diagnosis

12:30 PM - 2:30 PM

Location: Hall E

Predicting Skeletal Landmarks from Soft-Tissue Landmarks Using Machine Learning: A Study on Nasion Localization

12:30 PM - 2:30 PM

Location: Hall E

Cell Type Proportion Inference Over Human Neurodevelopment

12:30 PM - 2:30 PM

Location: Hall E

Quantifying Phase Coupling between Fetal Heart Rate and Uterine Contractions

12:30 PM - 2:30 PM

Location: Hall E

Continuum Finger Rehabilitation System for Rheumatoid Arthritis

12:30 PM - 2:30 PM

Location: Hall E

Estimation of Thermal Conductivity of Cortical and Cancellous Bone, Muscle, Fat, and Chondrosarcoma Tumor Phantoms by Using the Hot Plate Method: Preliminary Study

12:30 PM - 2:30 PM

Location: Hall E

A Real-Time High-Density sEMG Gesture Recognition System Distilled from a Deep Model

12:30 PM - 2:30 PM

Location: Hall E

Advancing Embodied Virtual Reality for Motor Learning and Neurorehabilitation

12:30 PM - 2:30 PM

Location: Hall E

Acoustic and Sentiment Analyses for Voice and Life Quality Characterisation after Medical Intervention in Voice Pathologies

12:30 PM - 2:30 PM

Location: Hall E

Spike Train Scalograms (STS): A Deep Learning Classification Pipeline for Neuronal Cell Types

12:30 PM - 2:30 PM

Location: Hall E

Thalamus Parcellation Based on Evidence Accumulation Clustering Using dMRI Tractography

12:30 PM - 2:30 PM

Location: Hall E

Achieving Larger, Safer Lesions with Low Power Settings and Extended Durations, Ex-Vivo Experiments

12:30 PM - 2:30 PM

Location: Hall E

Development of a Test Environment for the Validation of Needle Mounted Vibroacoustic Sensors

12:30 PM - 2:30 PM

Location: Hall E

Smartphone Haptics for Tactile Temporal Discrimination: Preliminary Insights into Measurement of Function

12:30 PM - 2:30 PM

Location: Hall E

Low-Light Image Enhancement Using Cone-Rod Coupling

12:30 PM - 2:30 PM

Location: Hall E

Quantitative Analysis of Motor Neuron Activity in Dynamic and Isometric Finger Flexion and Extension

12:30 PM - 2:30 PM

Location: Hall E

A Resource-Efficient Load Cell-Based Smart Bed System for Posture Classification

12:30 PM - 2:30 PM

Location: Hall E

Integrating Rehabilitation Knee Orthosis and FES-Feedback System for Isometric Training Protocols

12:30 PM - 2:30 PM

Location: Hall E

Simulation-Based Bioelectronic Modeling for Clustering Cancer Cells by Malignancy in Biosensing Applications

12:30 PM - 2:30 PM

Location: Hall E

Tri-MTL: A Triple Multitask Learning Approach for Respiratory Disease Diagnosis

12:30 PM - 2:30 PM

Location: Hall E

Lactate Sensors for Early Detection of Metabolic Disorders in Dynamic Muscle Tissue Models

12:30 PM - 2:30 PM

Location: Hall E

Using fMRI Time Series and Functional Connectivity for Autism Classification: Integrating Mamba and KAN in Domain-Adversarial Neural Networks

12:30 PM - 2:30 PM

Location: Hall E

Sex and Age-Related Changes in Lean Mass of C57BL/6 Mice: A New Method for Assessing Body Composition

12:30 PM - 2:30 PM

Location: Hall E

Using MMG to Assist Functional Classification in Wheelchair Rugby Athletes

12:30 PM - 2:30 PM

Location: Hall E

Biochemical Oscillations in HeLa Cells: Automated Time-Lapse Image Analysis and Two-Step Parameter Estimation.

12:30 PM - 2:30 PM

Location: Hall E

Domain-Specific Multilingual Strategies for Medical NLP: A Cross-Lingual Analysis of Orthographic and Phonemic Representations

12:30 PM - 2:30 PM

Location: Hall E

Effect of Abnormal Calcium Dynamics on Heart Failure Based on a Biophysical Modeling Study

12:30 PM - 2:30 PM

Location: Hall E

Evaluating Wearable Sensor Technologies for Predicting Shoulder Endurance

12:30 PM - 2:30 PM

Location: Hall E

Average of Baseline Autocorrelation Function Is a Leading Indicator of Neural Stimulation Data Quality

12:30 PM - 2:30 PM

Location: Hall E

Diffusion Meets Sinogram: A Hybrid Learning Framework for Low-Dose CT Image Denoising with Structural and Textural Priors

12:30 PM - 2:30 PM

Location: Hall E

Decoupled Representation Learning for Difference Medical Report Generation

12:30 PM - 2:30 PM

Location: Hall E

Effective Transcutaneous Auricular Stimulation of the Vagus Nerve Stimulation Artifact Removal for Accurate Event-Related Potentials Analysis and Neural Signal Integrity

12:30 PM - 2:30 PM

Location: Hall E

Development of FascialSense: A Smart Low-Cost Optical Fiber Based Sensor for Fascial Densification Detection

12:30 PM - 2:30 PM

Location: Hall E

Device-Specific Calibration Methods for Optical Frequency Domain Reflectometry-Based Shape Sensing in Catheters and Surgical Needles

12:30 PM - 2:30 PM

Location: Hall E

MCVoxel2MeshNet: Voxel-To-Mesh Generation for Mandibular Canal Segmentation in CBCT

12:30 PM - 2:30 PM

Location: Hall E

Embedding Ultrasensitivity Via Cooperation in Biomolecular Circuit Design: A Framework for Robust Adaptation

12:30 PM - 2:30 PM

Location: Hall E

Graph Signal Processing As a Tool for Mitigating the Impact of Spatial Blurring in EEG-Based Neuroelectrical Imaging

12:30 PM - 2:30 PM

Location: Hall E

Modeling the Varied Expression of the Triad of Motor Symptoms in Parkinsons Disease

12:30 PM - 2:30 PM

Location: Hall E

Advancing Survival Analysis with Large Language Models: A Solution to Data Scarcity and Missing Information in Healthcare

12:30 PM - 2:30 PM

Location: Hall E

Tunable Electrospun Polycaprolactone Membranes for Selective Particle Size Filtration

12:30 PM - 2:30 PM

Location: Hall E

Induction of Gamma Oscillations Via Transcranial Temporal Interference Stimulation: A Human Head Phantom Study

12:30 PM - 2:30 PM

Location: Hall E

Electric Security Fences for Power Substations: Electrical Safety of Induced Potentials

12:30 PM - 2:30 PM

Location: Hall E

CNN-Mamba Interaction Fusion Network for Diagnosis Retinopathy of Prematurity

12:30 PM - 2:30 PM

Location: Hall E

Structured Insight from Unstructured Data: Large Language Models for SDOH-Driven Diabetes Risk Prediction

12:30 PM - 2:30 PM

Location: Hall E

Feasibility of Neural Activity Modulation with Lithium Niobate Photo-Induced Electric Fields: A Simulation Study

12:30 PM - 2:30 PM

Location: Hall E

Prototype Hardware for Closed-Loop Stimulation of the Retina

12:30 PM - 2:30 PM

Location: Hall E

Using Intraoperative Microelectrode Recordings to Predict Improvement in Bradykinesia for Parkinsons Disease Patients

12:30 PM - 2:30 PM

Location: Hall E

Individual Differential Functional Brain Networks Based on Sparsity and Dissimilarity

12:30 PM - 2:30 PM

Location: Hall E

Exploring Neural Reorganization and Modifiable Connectivity Patterns in Sadness: A

Multi-Band EEG Study

12:30 PM - 2:30 PM
Location: Hall E

A Remote Ultrasound Imaging Approach for Monitoring Rotator Cuff Calcific Tendinopathy

12:30 PM - 2:30 PM
Location: Hall E

Inertial-Based 3D Knee Joint Angular Kinematics Estimation: Effect of Number of Repetitions During Functional Calibration

12:30 PM - 2:30 PM
Location: Hall E

Evaluation of Pacemaker Battery Level Estimation Using Large Language Model and Remote Monitoring Historical Data

12:30 PM - 2:30 PM
Location: Hall E

Multi-View Contrastive Learning for Cell Line-specific Synthetic Lethality Prediction

12:30 PM - 2:30 PM
Location: Hall E

EEG Data Alignment across Devices Using a Neural Network

12:30 PM - 2:30 PM
Location: Hall E

Computational Design of Broadly Neutralizing scFv Antibodies Targeting the SARS-CoV-2

12:30 PM - 2:30 PM
Location: Hall E

Attribute-Aware Adversarial Domain Augmentation for Zero-Shot Medical Domain Adaptation

12:30 PM - 2:30 PM
Location: Hall E

Using Reinforcement Learning to Investigate Neural Dynamics During Motor Learning

12:30 PM - 2:30 PM
Location: Hall E

Tri-Model Integration: Advancing Breast Cancer Immunohistochemical Image Generation through Multi-Method Fusion

12:30 PM - 2:30 PM
Location: Hall E

Mapping Forearm Muscle Activity with a Single Linear HD-EMG Grid and Muscle Synergy Model During Hand-Wrist Movements

12:30 PM - 2:30 PM
Location: Hall E

Retrieval-Augmented Multimodal Depression Detection

12:30 PM - 2:30 PM
Location: Hall E

Optimal Electrode Configurations for Efficient Iontophoretic Drug Delivery in Brain Tumors of Varying Shapes

12:30 PM - 2:30 PM
Location: Hall E

Optimizing Neural Data Analysis: Determining Minimum Recording Length for Unambiguous Signal Processing

12:30 PM - 2:30 PM
Location: Hall E

AI-Based Denoising and Identification of Neuromodulation Lead Locations from Limited Intraoperative Fluoroscopy Images

12:30 PM - 2:30 PM
Location: Hall E

Gait Analysis with a Custom Instrumented Insole with Embedded Machine Learning: Feasibility Study

12:30 PM - 2:30 PM
Location: Hall E

Modelling the Relationship between Bubble CPAP Pressure, Flow, and Canister Bubbling Sounds

12:30 PM - 2:30 PM
Location: Hall E

Deep Learning Enhances the Robustness of Online HD-sEMG Decomposition against Electrode Detachment

12:30 PM - 2:30 PM
Location: Hall E

Analysis Pain-Induced EEG Delta Band Alterations in Preterm Infants: A Gestational Age Perspective

12:30 PM - 2:30 PM
Location: Hall E

SSL-CL-RUS - a Semi-Supervised Framework for Renal Ultrasound Segmentation in CKD: Combining Pseudo-Label Guided Contrastive Learning with ST++

12:30 PM - 2:30 PM
Location: Hall E

Analysis of Ion Concentrations in Astrocytes and Brain Extracellular Space Considering

Cerebral Blood Vessels

12:30 PM - 2:30 PM
Location: Hall E

Retrieval-Augmented Generation for Medical Decision-Making in Emergency Care

12:30 PM - 2:30 PM
Location: Hall E

Comparative Study of HD-EMG Electrode Setups for Smart Mechatronic Ankle-Foot Orthoses Development

12:30 PM - 2:30 PM
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Custom Monocular Calibration for Enhanced Eye-Tracking Accuracy

12:30 PM - 2:30 PM
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The Influence of Pulse Waveforms and Parallel Stimulation on Retinal Prostheses

12:30 PM - 2:30 PM
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Cross-Frequency Mutual Information for Cortico-Muscular Coupling Detection

12:30 PM - 2:30 PM
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The Effectiveness of Low-Intensity Focused Ultrasound Stimulation of the Vagus Nerve in Ischemic Stroke - A Preliminary Study Based on a Rat Model

12:30 PM - 2:30 PM
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Self-Supervised Learning through Multi-Magnification Feature Correspondence for Histopathological Image Analysis

12:30 PM - 2:30 PM
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Design and Validation of a 3D VR-Assisted Motor Imagery System

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Modulation of Islet Cells by Photostimulation

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Identification of Conduction Velocity of Bladder Afferent and Efferent Signals in the Sacral Roots of Sheep Using Cross-Correlation Methods

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Feature Tracking-Based Motility Analysis of Excised Intestinal Tissue Using Video Recordings

12:30 PM - 2:30 PM
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A Tunable, Current-Based CMOS, Technology PID Controller for Wearable Bioelectronic Devices

12:30 PM - 2:30 PM
Location: Hall E

MTID-TS: Multimodal Training with Incomplete Data Using Teacher-Student-based Strategy on Medical Domain

12:30 PM - 2:30 PM
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Electrotactile Characteristics of Rectified Random Noise Stimulation (r-tRNS) on the Forehead: A Comparison with TDCS

12:30 PM - 2:30 PM
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Computer Modeling for Epicardial Radiofrequency Ablation: Thermal Side Effect on the Lung

12:30 PM - 2:30 PM
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Complexity Analysis of EEG Signals Based on Fuzzy Entropy: Power Spectrum and Entropy Features across Different Levels of Consciousness

12:30 PM - 2:30 PM
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A Bayesian Network Approach for Understanding Causal Dependencies in Chronic Patients Medication Non-Adherence

12:30 PM - 2:30 PM
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Enhanced Instance Segmentation of Surgical Instrument Parts Using YOLO11 and GAN-Generated Occlusion Masks for Minimal Invasive Robotic Surgery

12:30 PM - 2:30 PM
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Electrophysiological Interference for Deep Brain Modulation

12:30 PM - 2:30 PM
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Electroporation Generator Using WBG Semiconductor Switches

12:30 PM - 2:30 PM
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Design of Key Performance Indicators and Experimental Validation for Reliability

Assessment of Mobile Robots

12:30 PM - 2:30 PM
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CPAP Therapy Digital Twins: A Novel Simulation Framework for Advancing the Personalized Treatment of OSA

12:30 PM - 2:30 PM
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A Novel Multi-Stage Algorithm for Real-Time Detection and Correction of Ocular Artifacts in EEG: A Calibration-Free Approach

12:30 PM - 2:30 PM
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Statistical and Machine Learning Approaches for Virtual Population Generation in In-Silico Cardiovascular Trials

12:30 PM - 2:30 PM
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Image Reconstruction Utilizing Gradient Magnetic Fields with Perturbed Angular Correlation of Gamma-Rays Via Radioactive Tracer

12:30 PM - 2:30 PM
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Cerebral Artery Classification: Integrating Synthetic Models with MRA Data

12:30 PM - 2:30 PM
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A Study on the Development of Usability Evaluation Scenarios and Indicators of Automatic Medical Device

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Electro-Sensitive Self-Assembled Peptides for Enhancing Radiofrequency Ablation of Atherosclerosis

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Identification of a Heat Transfer Model in Brain Tissue for Assessment of Physiological Characteristics During the Brain Resuscitation Treatment

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Reliable Objective Assessment of Friedreich Ataxia through Isolation Forest-Based Anomaly Detection

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Feasibility Study of Supplementary Motor Area to Primary Motor Cortex Facilitation Using Multi-Locus Transcranial Magnetic Stimulation

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Instrument-Aware Representation Learning for Robust Cross-Site Flow Cytometry Integration

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Estimating the Difficulty of Medical Classification Tasks Using 3D Image Datasets

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Development of Impedance Control for Lower-Limb Rehabilitation Device to Promote Active Muscle Training in Bedridden Users

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Non-Invasive Electro-Acoustic Stimulation System for Tinnitus Treatment

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Implementation of AI-Data Platform for Cultivating AI Semiconductor Engineers in the Medical Domain

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The Positive Effects of Synchronized 5 Hz Repetitive Transcranial Magnetic Stimulation and Motor Imagery

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Removing Motion Artifacts from Mechanomyographic Signals: An Innovative Filtering Method Applied to Human Movement Analysis

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Automated Radiomics Analysis from Multi-Modal Image Segmentation for Predicting Triple Negative Breast Cancer

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In Silico Study on the Activation Mechanisms of Chemokine Receptor CCR7 in Complex with Different Effector Proteins for the Therapeutic Peptide Drug Design

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Design of a Pediatric Haptic Robot for Upper Limb Rehabilitation

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Breast Cancer Classification in Deep Ultraviolet Fluorescence Images Using a Patch-Level Vision Transformer Framework

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Analysis and Experiment of Laserthermia for Heberdens Nodule

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Electroencephalogram Data-Based Analysis of Paroxysmal Slow Wave Events Patterns in Brain Pathologies

12:30 PM - 2:30 PM

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Clustering Aphasic Speech: A Comparative Study of Feature Extraction Techniques for Fluent and Non-Fluent Categories

12:30 PM - 2:30 PM

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Machine Learning-Based Optimization of tFUS Transducer Positioning for Targeted Visual Cortex Neuromodulation

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Point Process Analysis of Two Alternating Physiological Events: Application to Movement Bouts of Preterm Infants

12:30 PM - 2:30 PM

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Alternation of Kinematic and Kinetic Performance During Post Spinal Cord Injury Motor Restoration with Epidural Electrical Stimulation

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Hydrophilized Porous PDMS Membrane: Fabrication, Characterization, and Integration into a Soft Implantable Device for Anti-Cancer Drug Release

12:30 PM - 2:30 PM

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A Personalized and Evidence-Based Clinical Decision Support System Using Ensemble Learning

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Timefrequency Deep Metric Learning of Resting-State fNIRS Signals for Staging Alzheimers Disease

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Epileptiform Discharges and High-Frequency Oscillations (HFOs) Aid in Identifying Seizure Location

12:30 PM - 2:30 PM

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Adaptive-SWTTEO: Enhancing an Established Energy-Based Spike Detection Algorithm to Address Signal Non-Stationarity in Extracellular Recordings

12:30 PM - 2:30 PM

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A DICOM IOD Proposal for Videocapsule

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An Integrated Mechanistic Modeling and Machine Learning Approach to Predict Lesion-Specific Immunotherapy Response

12:30 PM - 2:30 PM

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Advancements in Microwave Imaging for Thermal Ablation Treatments Monitoring

12:30 PM - 2:30 PM

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Bridging Research and Practice: Identifying Barriers to Social Robots in Autism Therapy

12:30 PM - 2:30 PM

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Motor Detachable Forceps Assistant Manipulator for Sterilization

12:30 PM - 2:30 PM

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Benchmark of EEG-Based Seizure Detection Algorithms with SzCORE

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Assessment of Maternal-Fetal Bonding Using Heart Rate Variability at Three Longitudinal Time Points During Pregnancy

12:30 PM - 2:30 PM

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Exploring the Potential of Cucurbitacin Analogs As HMGB1 Inhibitors in Glioblastoma Multiforme: Interpretations from Computational Screening of Various Triterpenoids

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Flexibility of Fractional Laser in Fibrous Tissue Therapy

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HealthMap: Transforming Clinical Time-Series into Visual Representation for Predictive Modeling

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Revolutionizing Emergency Medication Management: AI-Driven Color-Coded Drug Box System for Enhanced Efficiency and Safety

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Design and Validation of a Tele-Operative Needle End-Effector for Epidural Nerve Block

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Unveiling Epileptic Networks: Motif Synchronization for Interictal Spike Localization

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Analyzing Basal Insulin Dosing As Perturbations in Compositional Glycemic Profiles for Time in Range in Type 1 Diabetes

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Longitudinal Stability of Detrended Fluctuation Analysis in Monthly Recorded EEG Signals

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Highly Transparent and Conformable Neural Electrode Arrays for Subretinal Stimulation Based on Cyclic Olefin Copolymer (COC)

12:30 PM - 2:30 PM

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Age-Related Changes in Muscle Coupling: Focus on Sarcopenic Elderly

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Signature Identification for Drug Resistance Prediction in Imbalanced Data

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Flexible Human-AI Collaboration through Cortical Prediction Errors

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ML Framework for Aggregating Individual-Level and Averaged Clinical Data

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Integration of Epilepsy Surgery and Automatic Seizure Onset Identification Algorithm Based on Seizure Patterns Using SEEG

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Electrical Characterization of Senescent Cells using Nanosecond Pulsed Electric Fields

12:30 PM - 2:30 PM

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Specifications Affecting Thermal Characteristics of Indirect Moxibustion

12:30 PM - 2:30 PM

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Integrating Intersubject Biofeedback in Hyperscanning Visual Affective Experiment: Proof of Concept and Preliminary Results on HRV Dynamics

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A Gradient Boosting Based Approach for Intrusion Detection in IoT-Enabled Healthcare Systems

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Physics-Informed Neural Networks for Fast and Accurate Deep Brain Stimulation Modeling

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Advancing DANIR: A 5-DoF MR-Safe Double-Arch Needle Insertion Robot for Abdominal Percutaneous Interventions

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Design and Implementation of a Scalable Clinical Data Warehouse for Resource-Constrained Healthcare Systems

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Physics-Informed Model of Epileptic Seizure Dynamics

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Development of a Standardised Method for Analysing Pressure Redistribution Mattresses

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Visual Working Memory in Pediatric Epilepsy Using Magnetoencephalography: Pilot Study

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Preliminary Results of a Calibration Method for Surgical Robot Allowing Seamless Tool Replacement without Full-System Recalibration

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A Novel Hardware-Efficient Ergodic Sequential Logic Model of Hematopoietic Stem Cell Population

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An Ingestible Bioprinter for Non-Invasive Gastric Tissue Repair

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Neurophysiological and Muscular Adaptations During High-Intensity Cycling: A Pilot Study on Fatigue Dynamics

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Simulation and Experimental Study of MRI-Safe Magnets for Cochlear Implants

12:30 PM - 2:30 PM

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Enhancing Reliability in COVID-19 Classification from CT Scans Using Learning to Reject

12:30 PM - 2:30 PM

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Machine Learning to Predict Individual Treatment Effect of Sodium Bicarbonate in Out-Of-Hospital Cardiac Arrests

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Basic Study of Deep Body Temperature Monitoring System Using Heat-Flux Sensors for Effect Evaluation of Icing Muscle in Sports

12:30 PM - 2:30 PM

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Enhancing the Efficiency of Hand Gesture Classification by Harnessing Muscle Synergies

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Defining Functional Brain-Heart Interplay Synergies: A Feasibility Study

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Circle Drawing Task As a Novel Evaluation Method for Upper Limb Functions in Patients with Cervical Spinal Cord Injury

12:30 PM - 2:30 PM

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Refining Sophisticated Structural Connectome Features to Enhance Machine Learning Models in the Detection of Depressive Disorders

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Unveiling Changes in Sleep-Wake Neural Activity and Behavior after a Cortical Lesion in Vivo

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CardioWave: Design and Implementation of a Portable, Accurate and Low-Cost ECG

12:30 PM - 2:30 PM

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Interictal Epileptogenic Zone Localization Using Neural Fragility in Simulated Electroencephalogram Data

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Computer-Aided Differential Diagnosis between Schizophrenia and Bipolar Disorder Using Machine Learning-Based Classification of EEG Recorded During Face Processing

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Multiparametric Intravascular Sensor Operated by Volume Conduction for Remote Patient Monitoring of Heart Failure

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Robust Dynamical Component Analysis and Initial Results of Its Application to EEG Data of Epileptic Seizures

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Parallel Self-Attention 1D Convolutional Neural Network (PSA-1DCNN) Based Lung Cancer Classification with Multi-Modal Data Integration

12:30 PM - 2:30 PM

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Estimation of Functional Electrical Stimulation (FES) Induced Muscle Forces Using Ultra-Wideband (UWB) Radar

12:30 PM - 2:30 PM

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Smart Rail-Based Acupressure Massage System for Spinal Therapy

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EEG-Induced Effective Connectivity Analysis in Major Depressive Disorder

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Quantitative Analysis of Unilateral ECG Signal Quality During Different Arm Movements

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Proportional Estimation of Biceps Muscle Fatigue Using High-Density EMG and a Bi-LSTM Network

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Electrochemical in Vivo Oxygen Sensing Using Chronically Implanted Cochlear Implants

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Optical Sensing of Electrolytes in Multi-Component Aqueous Solutions for Continuous Sweat Measurement

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Optimizing Multi-Channel Transcranial Electrical Stimulation to Improve Robustness to Electrode Displacement: A Simulation Study

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Classification of Unseen Auditory Speech from Electrocorticography by Regressing Audio Envelope Based on Deep Neural Network

12:30 PM - 2:30 PM

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Standard Data Management Platform for Sarcopenia Data Collection

12:30 PM - 2:30 PM

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Analysis of Stress and Strain in Anatomically Accurate Head Model and Physical Phantom under Different Types of Impact Forces

12:30 PM - 2:30 PM

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Identifying Crying and Screaming in Audio Recordings of Autistic Children Using Transfer Learning

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Modeling Transcranial Direct Current Simulation in Pediatric Stroke: A 3D Finite Element Study

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In-Silico Design of an 868 MHz Dielectric Parabolic Reflector Antenna Module for Brain Hyperthermia

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Web Based AI Prediction Model for Swallowing Disorder

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HRV Pattern Analysis According to Blood Glucose Trend in OGTT

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Ultrasound Neuromodulation in Cultured Neurons on Microelectrode Arrays

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Predicting Pulmonary Embolism in ICU Patients Using Machine Learning and MIMIC-IV Electronic Health Records Data

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Compressed Sensing Approach for Fast Quality Assurance of Hyperthermia Applicators

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Heart Rate Detection from Video of Unrestrained Laboratory Rat

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Cycle4DNet: A Spatiotemporal Periodic Autoencoder for Cardiac Motion Analysis

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Effects of Transcranial Alternating Current Stimulation (tACS) on Brain Activation in a Virtual Reality-Based BCI Motor Rehabilitation Program

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Electric Field Measurement in Radiative Hyperthermia Applications

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Development of EEG-Based Biomarkers for Predicting Body Composition and Blood Glucose Levels

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AI-Driven Hypernasality Detection: Benchmarking ChatGPT against Traditional Machine Learning in Pediatric Velopharyngeal Dysfunction Diagnosis

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Thermal Rehabilitation System Using Resonant Cavity Applicator

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Modulation of Mechanosensitive Retinal Ganglion Cells Using High-Frequency Focused Ultrasound

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An Audio Trimming Algorithm to Assist Cough Analysis in Ambulatory Recordings

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Revisiting the Obesity Paradox in Septic Patients with Aging and Chronic Disease: A Retrospective Study in Korea

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RF Heating System Using SMA Needle Electrodes of Various Shapes

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Development of Deep Transcranial Magnetic Stimulator Coils with Liquid-Cooling

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Rifampicin Elution from Polymer-Antibiotic Coatings under Flow

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Using Data Augmentation to Improve Optical Microphone Speech Enhancement: Clinical Validation

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Evaluating Feature Selection Methods for Radiomic Tractometry in Schizophrenia

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Computational Modeling of the Neuroplastic Effects of Direct Current Stimulation in Refractory Epilepsy

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The Snooz Toolbox: An Open-Access, Cross-Platform Solution for Sleep Data Analysis

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Multi-Omics Integrative Machine Learning-Driven Early Diagnostic and Prognostic Biomarkers of Non-Alcoholic Fatty Liver Disease (NAFLD)

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Wearable Device with Multimodal Sensor for Experimental Small Animals in Toxicity Study

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Investigating the Effects of Vibrotactile Stochastic Resonance Stimulation on Sensory and Motor Function in Stroke Survivors

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Non-Contact Blood Pressure Estimation Using Only Images

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Uncertainty-Aware Multimodal AI for Respiratory Shock Detection

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Conformable Permalloy Composite Cap for Controlling Transcranial Magnetic Stimulation Fields Near Implanted Devices

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SSPy: An Open-Source Interface for TMS-EEG Signal Processing

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Development of Interpretable Prediction Model for Obstructive Sleep Apnea Using Nocturnal Phenotypes

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Nonlinear and Time-Varying Delays in Closed-Loop DBS Systems

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Automating Heart Rate Variability Analysis for Populations

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An AI-Based Approach for Detecting Unintentional Venous Needle Dislodgement in Hemodialysis

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Vector-Based fNIRS Modelling of Cerebral Oxygenation in the Resting State During Transcranial Alternating Current Stimulation

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Mandarin Speech Reconstruction from Neck and Facial Surface Electromyography

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Auditory Stimulation of Sleep Apnea: An Update

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Supervised Learning for Surrogate Outcome Detection in Clinical Trial Protocols

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Coupling Between EEG and Lower Limb Muscle Activity During Walking in Patients with Sarcopenia

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Comparison of Neurovascular Coupling in Extremely Preterm Neonates and Full-Term Neonates with Encephalopathy

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A Computational Model of E-Cigarette Coil Degradation: Simulating Thermal and Material Dynamics and Their Impact on Health

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Effective sEMG Feature Presentation Via Contrastive Learning

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Inductive Conformal Prediction for Medical Diagnosis with Limited Training Data

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Generation of Digital Breast Phantoms and Synthetic Mammograms

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Influence of Bone-Conducted Sound on Postural Sway

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Deprethensio BCI: A Novel Brain-Computer Interface Approach Utilizing Algebraic and Geometric Structures

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Estimation of Uncertainty of Phase Shift with Parametric Bootstrap in Traumatic Brain Injury Patients

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Movement Variability in HD-EMG Hand Grasp Prediction with DL

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Analysis of Physical Fatigue Using Speech: A Preliminary Study

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Improving the Reliability of the Vascular Reactivity Index for Autoregulation Guided Management through Deep Learning Modelling

12:30 PM - 2:30 PM

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Fitting Computational Model to the RoR β Spinal Interneuron

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Federated Learning for Multi-Organ Segmentation Using Domain Generalization

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Effect of Directional Sound Using a Parametric Speaker on Reducing Postural Fluctuations

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Low-Noise, High-Gain Biopotential Amplifier for Marine Mammal Auditory Evoked Potential Tests

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The Influence of Arousal Events on Desaturation Area-Based Parameters for Predicting 3-Year Cardiovascular Mortality

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Short Latency and Low Storage for Epileptic Seizures Detection Using Hyperdimensional Computing and Binary Naive Bayes Classifier

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Sex Differences in ECG-Based Age Prediction: Towards Equitable Cardiovascular Risk Assessment

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Classification of Users Content Immersion Level Using Multimodal Biosignals

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Brain Functional Connectivity Profiles in Preclinical Alzheimers Disease

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Machine Learning-Based Prediction of Atrial Fibrillation Recurrence after Ablation Using Clinical and Electrophysiological Features

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Investigation of Algorithms for Qualitative Brachial Artery Diameter Cycle Segmentation from Ultrasound B-Mode Videos

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Machine Learning for Estimating Physical Capacity in Patients with Severe Obesity

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Quantifying Upper Extremity Movement Task-Induced Changes in Norepinephrine Levels through Pupil Diameter Measurement

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Design of Frequency Modulated Pulse Sequences for Generating Steady State Sensory Evoked Potentials

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Identification of a Six-lncRNA Signature to Accurately Predict Stage and Survival in Patients with Neuroblastoma for Precision Medicine

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Mobile Device Based Simulation for Training in the HINTS Examination for Dizziness Assessment

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Wheezing Segmentation with Deep Learning Approach for Interval Prediction

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Unsupervised Order Prediction-Based Contextual Representation Learning Anomaly Detection Network for Epilepsy Detection

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EEG Source Connectivity Analysis Reveals Working-Memory Related Load Effect on Regional Characteristics

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Neurophysiological Assessment of Teamwork in Triads Using a Multivariate EEG-Based Index

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Comparative Analysis of Feature Selection Methods for ARDS Classification in Clinical Time-Series Data

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Advancing Telerehabilitation with AI: Predicting Balance Scores from Early Sessions

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snputils: A Python Library for Processing Genetic Variation and Population Structure

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Development of Rotation-Inducing Insoles for the Lower Leg

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Improving the Generalizability of Speech-Based Dementia Detection Models Using Acoustic and Speech Landmark Features

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Evaluation of the Developmental Status of the Fetal Autonomic Nervous System During the Perinatal Period

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Multimodal Contrastive Image-EHR Pre-Training Enhances In-Hospital Deterioration Prediction

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Dual-Branch Deep Learning for Continuous Gait Cycle Estimation with Wearable IMU Sensors and Anthropometric Data

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Deep Learning Models Generalization for Predicting 14-Day Mortality in Traumatic Brain Injury Patients

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MIND: Mining INSightful Patterns of Dementia from Large-Scale Nationwide Clinical Database for Early Assessment

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Factors Affecting Muscle Coactivation of Athletes: A Preliminary Study of Professional Rock Climbers

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Generalization Capabilities of Self-Supervised Pre-Training Frameworks in Chest X-Ray Disease Classification

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Investigating Brain Connectivity Patterns in Varying Degrees of Bimanual Task Asymmetry

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EEG-Based Syllable-Level Voice Activity Detection

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EEG-Based Classification of Driver Error States Using Convolutional Neural Networks

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Improving Speech Recognition for Individuals with Speech Impairments: A Korean Language Approach

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Effect of Pulse Palpation by Nurses on Patient's Motivation

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Development of a Low-Cost Gustatory Stimulator for Measuring P300 in Event-Related Potentials

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Neural Dynamics of Prosocial Decision Making in Gift-Giving Using Functional Near-Infrared Spectroscopy

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Prefrontal Cortex Activation Associated with Fine Motor Skills in Young Children : An fNIRS Study

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Location: Hall E

A Comparison of Overground and Treadmill Walking Using Mobile Eeg

12:30 PM - 2:30 PM

Location: Hall E

Voice-Controlled Dual-Site Functional Electrical Stimulation Enables Tenodesis Grasping

12:30 PM - 2:30 PM

	<p>Location: Hall E</p> <p>Preliminary Comparison of Inverse Dynamics and Quadratic Programming control for Motion Tracking in Digital Human Models</p> <p>12:30 PM - 2:30 PM</p> <p>Location: Hall E</p> <p>Online Sequential EEG Emotion Recognition with Prototypical Alignment Based Transfer Model</p> <p>12:30 PM - 2:30 PM</p> <p>Location: Hall E</p> <p>Rapid Point-Of-Care Sterilization of Personal Protective Equipment for Frontline Healthcare Workers</p> <p>12:30 PM - 2:30 PM</p> <p>Location: Hall E</p> <p>Reducing Muscle Fatigue with Kilohertz Stimulation: Temporal and Spectral Analysis of Finger Forces</p> <p>12:30 PM - 2:30 PM</p> <p>Location: Hall E</p> <p>Quantitative Brain Tumor Detection Using Miniature Fluorescence Sensor: Key Design Features</p> <p>12:30 PM - 2:30 PM</p> <p>Location: Hall E</p>
12:30 PM - 1:30 PM	Lunch
12:30 PM - 1:30 PM	<p>Demo and Innovation Fair</p> <p>Location: Hall E</p>
1:00 PM - 1:30 PM	<p>Hybrid solutions with Robotics and Electrical Stimulation in Neurorehabilitation</p> <p>Location: Aud 12</p> <p>Keynote Speaker: Alessandra Pedrocchi</p>
1:00 PM - 1:30 PM	<p>Ultra-low-field MRI at 0.05 Tesla: A Computing-powered Future?</p> <p>Location: Aud 10</p> <p>Keynote Speaker: Ed Wu</p>
1:30 PM - 3:30 PM	<p>Signal Processing and Models in Brain-computer Interfaces 1</p> <p>Location: D3 - Silent1</p> <p>Harmonic Component Analysis: A Novel Training-Free and Asynchronous BCI-Classification Method</p> <p>1:30 PM - 1:45 PM</p> <p>Location: D3 - Silent1</p> <p>Decoding Human Attentive States from Spatial-Temporal EEG Patches Using Transformers</p> <p>1:45 PM - 2:00 PM</p> <p>Location: D3 - Silent1</p> <p>EIMNet: An EEG and iEEG-Fused Interactive Modality Network for Accurate Memory State Prediction During Working Memory Task</p> <p>2:00 PM - 2:15 PM</p> <p>Location: D3 - Silent1</p> <p>A Spatio-Spectral Analysis of Decoding Imagined Speech from the Idle State</p> <p>2:15 PM - 2:30 PM</p> <p>Location: D3 - Silent1</p> <p>Strengths & Weaknesses of RANSAC Applied to Epidural & Intracortical Recordings</p> <p>2:30 PM - 2:45 PM</p> <p>Location: D3 - Silent1</p> <p>Validation of a Novel Protocol for Whole-Sentence Imagined Speech Acquisition: Advancing Brain-Computer Interface Applications</p> <p>2:45 PM - 3:00 PM</p> <p>Location: D3 - Silent1</p> <p>Enhancing EEG-Based Emotion Classification by Refining the Spatial Precision of Brain Activity</p> <p>3:00 PM - 3:15 PM</p> <p>Location: D3 - Silent1</p> <p>Towards the Correction of Covariate Shift in EEG-Based Passive Brain-Computer Interfaces for Out-Of-Lab Applications</p> <p>3:15 PM - 3:30 PM</p> <p>Location: D3 - Silent1</p>

1:30 PM - 3:30 PM

Signal Processing for Blood Pressure Analysis

Location: D3 - Silent2

SO-MoE: A Novel Self-Organizing Mixture of Experts Framework for Cuffless Blood Pressure Measurement

1:30 PM - 1:45 PM

Location: D3 - Silent2

Multi-Scale Convolutional Attention Enhanced Residual Network for Cuff-Less Blood Pressure Prediction

1:45 PM - 2:00 PM

Location: D3 - Silent2

Self-Supervised Learning with Demographic Information for Cuffless Blood Pressure Estimation

2:00 PM - 2:15 PM

Location: D3 - Silent2

Transformer vs. Manual Feature Engineering of Arterial Waveforms for Forecasting Hemodynamic Responses to Combined G-Force and Hemorrhage

2:15 PM - 2:30 PM

Location: D3 - Silent2

On-Device, Continuous, Cuffless, and Accelerometer-Based Blood Pressure Monitoring

2:30 PM - 2:45 PM

Location: D3 - Silent2

A Novel Framework for Real-Time ECG and Blood Pressure Signal Analysis: Enhancing Accuracy and Interaction through Dynamic Quality Evaluation

2:45 PM - 3:00 PM

Location: D3 - Silent2

A Stratified Model for Enhanced Cuffless Blood Pressure Estimation Using Hypertension History

3:00 PM - 3:15 PM

Location: D3 - Silent2

Finetuning and Quantization of EEG-Based Foundational BioSignal Models on ECG and PPG Data for Blood Pressure Estimation

3:15 PM - 3:30 PM

Location: D3 - Silent2

1:30 PM - 3:30 PM

Signal Processing in Electromyographic Signals

Location: D3 - Silent3

MS-ResSNN: A Multi-Scale Residual Spiking Neural Network for Electromyography Pattern Recognition

1:30 PM - 1:45 PM

Location: D3 - Silent3

IEMG-Based Diagnosis of ALS and Myopathy Using 1D-CNN

1:45 PM - 2:00 PM

Location: D3 - Silent3

Electromyography Based Gesture Recognition Robust to Changes in Wearing Position

2:00 PM - 2:15 PM

Location: D3 - Silent3

A Novel Non-Euclidean Adaptive Descriptor for Limb Motion Intent Decoding in EMG-Pattern Recognition System

2:15 PM - 2:30 PM

Location: D3 - Silent3

Dynamic Graph Tranformer-Convolutional Network for Multi-Channel EMG Gesture Recognition

2:30 PM - 2:45 PM

Location: D3 - Silent3

Gaussian-Laplacian Mixture-Enhanced AGLR for Accurate EMG Onset Detection

2:45 PM - 3:00 PM

Location: D3 - Silent3

The Fifth Main Dynamic Factor: Skin Temperature and Its Effects on EMG-Based Gesture Recognition

3:00 PM - 3:15 PM

Location: D3 - Silent3

A Novel Protocol to Investigate the Monoaminergic Relationship between Descending Nociceptive and Motor Unit Neuromodulation

3:15 PM - 3:30 PM

Location: D3 - Silent3

1:30 PM - 3:30 PM

IoMT for remote monitoring

Location: D2

Contactless Respiration Monitoring System Based on Load under the Bed Legs Considering Postural Changes During Sleep

1:30 PM - 1:45 PM

Location: D2

Smartphone Video Hand Gesture Analysis for Psoriatic Arthritis Assessment

1:45 PM - 2:00 PM

Location: D2

Smartphone Typing Dynamics for Assessing Hand Function in Psoriatic Arthritis: A Proof-Of-Concept Study

2:00 PM - 2:15 PM

Location: D2

Smartphone Dual-Camera Based Blood Pressure Screening Using Pulse Transit Time between Ear and Finger

2:15 PM - 2:30 PM

Location: D2

Your Night's Watch: Leveraging Mi-Band-3 Smartwatches and Machine Learning for Detecting Nocturnal Asthma Attacks

2:30 PM - 2:45 PM

Location: D2

A Pilot Study: Automatically Monitoring the Physical Dysfunction of Idiopathic REM Sleep Behaviour Disorder with Wearables and Deep Learning

2:45 PM - 3:00 PM

Location: D2

Transformer Neural Network for Estimating Tremor Severity in Parkinson's Disease During Daily Living Activities

3:00 PM - 3:15 PM

Location: D2

Validating Automated Assessment Tests with Depth Sensors in Older Adults

3:15 PM - 3:30 PM

Location: D2

1:30 PM - 3:30 PM

Advancing signal acquisition and measurement

Location: D5

Accurate Opening Detection of Heart Aortic Valve for Non-Invasive Continuous Blood Pressure Detection

1:30 PM - 1:45 PM

Location: D5

Enhanced SpO2 and Heart Rate Estimation from Smartphone Facial Videos with Dynamic Selection of Optimal Region of Interest

1:45 PM - 2:00 PM

Location: D5

Multi-Task Deep Learning Approach for Contactless Simultaneous Heart Rate and Oxygen Saturation Estimation

2:00 PM - 2:15 PM

Location: D5

Adapting 12-Lead ECG AI Model to 1-Lead Smart Watches for Diagnosis in Clinical Heart Failure Patients

2:15 PM - 2:30 PM

Location: D5

Non-Invasive Fetal Blood pH Estimation for Enhanced Intrapartum Monitoring Using Near-Infrared Spectroscopy

2:30 PM - 2:45 PM

Location: D5

Unconstrained Sleep Staging Based on Contextual Scalograms Using Piezoelectric Film Sensors

2:45 PM - 3:00 PM

Location: D5

Simulation, Design and Prototyping of a Diaphragm for the Acquisition of Lung Sounds

3:00 PM - 3:15 PM

Location: D5

GlucoNet: A Hybrid Learning Methodology for Non-Invasive Blood Glucose Estimation from

3:15 PM - 3:30 PM

Location: D5

1:30 PM - 3:30 PM

Image classification models, Image synthesis for reconstruction

Location: Aud 15

MedFMIT: A Foundation Model-Driven Multimodal Fusion Method for Image-Text Disease Diagnosis

1:30 PM - 1:45 PM

Location: Aud 15

Multimodal Generative Modeling for DaT Scan Reconstruction in Parkinson's Disease

1:45 PM - 2:00 PM

Location: Aud 15

A Dual-Stream Mamba with Contrastive Representation for Multimodal Deformable Registration

2:00 PM - 2:15 PM

Location: Aud 15

Real-Time 3D Ultrasound Reconstruction Using U2-Net Segmentation for Cardiovascular Interventional Surgery

2:15 PM - 2:30 PM

Location: Aud 15

LDPM: Towards Undersampled MRI Reconstruction with MR-VAE and Latent Diffusion Prior

2:30 PM - 2:45 PM

Location: Aud 15

Modeling Subcutaneous Fat Improves Skull Segmentation for Individualized Volume Conductor Head Models

2:45 PM - 3:00 PM

Location: Aud 15

Normative Modeling of Choroid Plexus Volume across the Adult Lifespan: Validation in Multiple Sclerosis and Depression

3:00 PM - 3:15 PM

Location: Aud 15

Enhancing Peripheral Nerve Blocks: Real-Time Ultrasound Guidance for Nerve Detection and Needle Placement

3:15 PM - 3:30 PM

Location: Aud 15

1:30 PM - 3:30 PM

Neural signal processing 1

Location: Aud 10

Effect of Electrode Reduction on the Error-Related Potential Detection During the Start of the Gait

1:30 PM - 1:45 PM

Location: Aud 10

Physiologically Interpretable DNN Using Blink-Related Brain Activity Solely from an EEG Device in Mental Fatigue Recognition

1:45 PM - 2:00 PM

Location: Aud 10

Classifying Neurodegenerative Diseases from Selected Temporal EEG Electrodes: Towards Ear-EEG Applications

2:00 PM - 2:15 PM

Location: Aud 10

EEG-based Auditory Attention Switch Detection with Multi-Scale Gated Attention and Multi-Task Learning based Hierarchical Spatiotemporal Networks

2:15 PM - 2:30 PM

Location: Aud 10

A Biophysical-Model-Informed Source Separation Framework for EMG Decomposition

2:30 PM - 2:45 PM

Location: Aud 10

Foresee: A Modular and Open Framework to Explore Integrated Processing on Brain-Computer Interfaces

2:45 PM - 3:00 PM

Location: Aud 10

High-Speed Neural Signal Inferencing for Handwritten Character Recognition on a Portable Hardware Device

3:00 PM - 3:15 PM

Location: Aud 10

Automatically Revealing Multi-Domain EEG Signatures Related to Motor Imagery Using a

3:15 PM - 3:30 PM

Location: Aud 10

1:30 PM - 3:30 PM

Neural stimulation 1

Location: Aud 11

Optogenetic Stimulation of Inner Retinal Neurons Restores Retinal Computations in a Virtual Degenerated Human Retina

1:30 PM - 1:45 PM

Location: Aud 11

Effect of Electrotactile Stimulation on Local Peripheral Hemodynamics

1:45 PM - 2:00 PM

Location: Aud 11

Preliminary Study of Steerable Pulsed Transcranial Electrical Stimulation (TES) of Motor Cortex in Humans

2:00 PM - 2:15 PM

Location: Aud 11

Evaluating Thalamic Biomarkers for Closed-Loop Deep Brain Stimulation in Essential Tremor*

2:15 PM - 2:30 PM

Location: Aud 11

Optimizing Sample Size and Statistical Methods for Probabilistic Sweet Spot Mapping in Deep Brain Stimulation

2:30 PM - 2:45 PM

Location: Aud 11

Mixed Integer Linear Programming for Active Contact Selection in Deep Brain Stimulation

2:45 PM - 3:00 PM

Location: Aud 11

Periodic and Aperiodic Neural Responses to Transcranial Focused Ultrasound Stimulation: An EEG Investigation

3:00 PM - 3:15 PM

Location: Aud 11

Modulation of Human Brain Functional Connectivity with Transcranial Focused Ultrasound Stimulation

3:15 PM - 3:30 PM

Location: Aud 11

1:30 PM - 3:30 PM

Human Activity Monitoring

Location: Aud 12

Hybrid Human Model for Time of Hike Prediction

1:30 PM - 1:45 PM

Location: Aud 12

An Analysis of COVID-19 Recovery Duration: Smartwatch Activity and Self-Report

1:45 PM - 2:00 PM

Location: Aud 12

Skeleton-Based Intake Gesture Detection with Spatial-Temporal Graph Convolutional Networks

2:00 PM - 2:15 PM

Location: Aud 12

Fusing IoT Wearable and Object Motion Sensors for Enhanced Activity Recognition in Smart Homes

2:15 PM - 2:30 PM

Location: Aud 12

Fluidity As a Measure of Movement Quality

2:30 PM - 2:45 PM

Location: Aud 12

Benchmarking Open-Source Step Counting Algorithms for Wrist-Worn Devices

2:45 PM - 3:00 PM

Location: Aud 12

Estimation of Food Intake Quantity Using Inertial Signals from Smartwatches

3:00 PM - 3:15 PM

Location: Aud 12

Discriminating and Measuring Activities of Daily Living

3:15 PM - 3:30 PM

Location: Aud 12

1:30 PM - 3:30 PM

AI advances in disease prediction

Location: B3 M1-2

Quantifying Respiratory Patterns: Can Features from Wearable-Derived Respiratory Signals Reflect CAT Scores in COPD Patients?

1:30 PM - 1:45 PM

Location: B3 M1-2

AI-Enhanced Pulmonary Auscultation for Heart Failure Detection

1:45 PM - 2:00 PM

Location: B3 M1-2

Detection of Amyotrophic Lateral Sclerosis with Computer Audition: An Impact Analysis of Different Speech Tasks

2:00 PM - 2:15 PM

Location: B3 M1-2

Continuous Cardiac Arrest Prediction in ICU Using PPG Foundation Model

2:30 PM - 2:45 PM

Location: B3 M1-2

A Deep Learning Approach to Grading Neonatal Hypoxic-Ischemic Encephalopathy Using ECG Spectrograms

2:45 PM - 3:00 PM

Location: B3 M1-2

Cardiorespiratory Correlation Coefficient Matrices for CNN-Based Sleep Apnea Detection

3:00 PM - 3:15 PM

Location: B3 M1-2

EEG Image Transformer for Harmful Brain Activity Classification

3:15 PM - 3:30 PM

Location: B3 M1-2

1:30 PM - 3:30 PM

Neurological disorders 1

Location: B3 M3-4

Assessing Short and Medium-Term Fluctuations of EEG Spectral Content in Minimally Conscious State Patients

1:30 PM - 1:45 PM

Location: B3 M3-4

Impact of Wrist and Finger Extension on Passive Joint Torques and Their Association with Forearm Flexor Muscle Structure in Hemiparetic Cerebral Palsy: Early Findings

1:45 PM - 2:00 PM

Location: B3 M3-4

Neural Dynamics in Imagined Speech: A Spatiotemporal Analysis Based on EEG Source Localization and Functional Connectivity

2:00 PM - 2:15 PM

Location: B3 M3-4

Transformers Predict Hypoxia-Ischemia Timing in Term Fetal Sheep EEG in the Key 2-Hour Window Post-Insult

2:15 PM - 2:30 PM

Location: B3 M3-4

Decoding Attention through EEG: Paving the Way for BCI Applications in Attention-Related Disorders

2:30 PM - 2:45 PM

Location: B3 M3-4

AI-Driven SEEG Channel Ranking for Epileptogenic Zone Localization

2:45 PM - 3:00 PM

Location: B3 M3-4

Neural and Vascular Dynamics after Cortical Photothrombotic Stroke in Non-Human Primates

3:00 PM - 3:15 PM

Location: B3 M3-4

Development of Supine-Use Wearable Cyborg for Treatment of Neurogenic Bowel Dysfunction after Spinal Cord Injury

3:15 PM - 3:30 PM

Location: B3 M3-4

1:30 PM - 3:30 PM

Biomedical Imaging Technology: New Applications

Location: B3 M5-6

Mapping the Developmental Trajectory of Functional Brain Networks in Early Infancy: Insights into Typical Maturation

1:30 PM - 1:45 PM

Location: B3 M5-6

An Affordable Smartphone-Based Fundus Imaging Device for Retinal Examination

1:45 PM - 2:00 PM

Location: B3 M5-6

Sequential Endoscopic-Image 3D Reconstruction Using Structured-Light and Neural SDF

2:00 PM - 2:15 PM

Location: B3 M5-6

Feasibility Study on Bone Mineral Density Measurement Based on Dual-Layer Flat Panel Detector

2:15 PM - 2:30 PM

Location: B3 M5-6

Advancing Generalisable Neural Network-Based PET Quantification: A Multicenter [11C]PBR28 Study

2:30 PM - 2:45 PM

Location: B3 M5-6

Structural Guidance in Stacked Generative Diffusion Model: Synthesizing Head and Neck CT from MRI in Radiotherapy Planning

2:45 PM - 3:00 PM

Location: B3 M5-6

Evaluation of Intra-Articular Knee Injuries Using Infrared Thermography in Adult Military Personnel of the Brazilian Army

3:00 PM - 3:15 PM

Location: B3 M5-6

Breast Cancer Detection and Sub-typing Using Subtraction of Temporally Sequential Mammograms and Machine Learning: Assessment of Invasiveness and Tumor Grade

3:15 PM - 3:30 PM

Location: B3 M5-6

1:30 PM - 3:30 PM

Image-guided & Minimally Invasive Therapies

Location: B3 M7-8

Patient-Specific Depth Error Correction in Dual-Sensor System for Image-Guided Minimally Invasive Facial Osteotomy

1:30 PM - 1:45 PM

Location: B3 M7-8

Dynamic Modeling of a Magnetic Video Capsule for Enhanced Navigation in the Gastrointestinal Tract

1:45 PM - 2:00 PM

Location: B3 M7-8

Real-Time Monitoring of Thermal Outcomes in Irreversible Electroporation Therapy Using Fiber Bragg Grating Sensors

2:00 PM - 2:15 PM

Location: B3 M7-8

A Synthetic Phantom for Investigating High Intensity Focused Ultrasound Treatment Effects

2:15 PM - 2:30 PM

Location: B3 M7-8

Thermoelectric Decoupling for Electric Field Therapy in Glioblastoma

2:30 PM - 2:45 PM

Location: B3 M7-8

Towards a Sensor System for Quantitative Fluorescence Detection in Glioma Surgery

2:45 PM - 3:00 PM

Location: B3 M7-8

Design and Development of a Transillumination-Based Intraoral Imaging Probe for Dental Implant Localization

3:00 PM - 3:15 PM

Location: B3 M7-8

Porcine Training Models for Image-Guided Transoral Robotic Surgery

3:15 PM - 3:30 PM

Location: B3 M7-8

1:30 PM - 3:30 PM

Neuro-rehabilitation technologies for motor impaired populations

Location: B4 M1-2

Integration of a virtual reality system with a FES-assisted trike for rehabilitation of individuals with spinal cord injury

1:30 PM - 1:45 PM

Location: B4 M1-2

Design and Preliminary Evaluation of a Torso Stabiliser for Individuals with Spinal Cord Injury

1:45 PM - 2:00 PM

Location: B4 M1-2

Attention-Based Deep Sequential Models for Adhesive Capsulitis Classification Using a Single Azure Kinect-D Camera

2:00 PM - 2:15 PM

Location: B4 M1-2

Examination of Robotically Collected Reach to Place Kinematics in Persons with Subacute and Chronic Stroke

2:15 PM - 2:30 PM

Location: B4 M1-2

A Low-Profile High-Density Electromyography Neckband for Recording Neck Muscle Activity

2:30 PM - 2:45 PM

Location: B4 M1-2

Predicting Motor Intent from Residual Neck Muscle Activity in Individuals with Neck Weakness from ALS

2:45 PM - 3:00 PM

Location: B4 M1-2

Wrist Range of Motion Variability for Adaptive Exoskeleton Design: A Study on Users with and without SCI or ALS

3:00 PM - 3:15 PM

Location: B4 M1-2

Evaluation of Targeted Robotic Balance Training in Chronic TBI

3:15 PM - 3:30 PM

Location: B4 M1-2

1:30 PM - 3:30 PM

Image segmentation techniques, Deep/machine learning for feature extraction

Location: B4 M3

Improving Ultrasound Image Segmentation in Data-Scarce Scenarios Using Self-Supervised Learning with Phantom Data Pre-Training

1:30 PM - 1:45 PM

Location: B4 M3

Automated Measurement of Eczema Severity with Self-Supervised Learning

1:45 PM - 2:00 PM

Location: B4 M3

A Radiomics-Based Machine Learning Model to Predict Total Knee Arthroplasty Failure from Plain Radiographs

2:00 PM - 2:15 PM

Location: B4 M3

Self-Supervised Pre-Training with Intensity Guided Masking for Enhanced Aorta Segmentation in CT

2:15 PM - 2:30 PM

Location: B4 M3

CM-UNet: A Self-Supervised Learning-Based Model for Coronary Artery Segmentation in X-Ray Angiography

2:30 PM - 2:45 PM

Location: B4 M3

Learned K-Space Partitioning for Optimized Self-Supervised MRI Reconstruction

2:45 PM - 3:00 PM

Location: B4 M3

LPD-Net: A Lightweight and Efficient Deep Learning Model for Accurate Colorectal Polyp Segmentation

3:00 PM - 3:15 PM

Location: B4 M3

A General Pipeline for Glomerulus Whole-Slide Image Segmentation

3:15 PM - 3:30 PM

Location: B4 M3

1:30 PM - 3:30 PM

Novel Sensing and Applications 1

Location: B4 M4

Task-Space Domain Adaptation for Cross-Scene Infant Cry Detection

1:30 PM - 1:45 PM

Location: B4 M4

Portable System for Transient Response of Ultrathin Organic Electrochemical Transistor Arrays

1:45 PM - 2:00 PM

Location: B4 M4

Fabrication and Characterization of Plateau-Structured Electrodes for Retinal Prostheses with Improved Stimulation Selectivity

2:00 PM - 2:15 PM

Location: B4 M4

DotSense: A 3D-Printed Refreshable Text-To-Braille Translator Device

2:15 PM - 2:30 PM

Location: B4 M4

Pooling Assessment of Homing Pigeons During Urban and Extra-Urban Flights: An Instrumental Approach

2:30 PM - 2:45 PM

Location: B4 M4

In-Lab Evaluation of New Tattoo Skin Electrodes for Measuring Masticatory Electromyographic Activity

2:45 PM - 3:00 PM

Location: B4 M4

MXene-Based Textile-Integrated Dry Electrodes for Surface Electromyography (sEMG)

3:00 PM - 3:15 PM

Location: B4 M4

Multi-Sensors in a Single Knit for Real World Shoulder Joint Motion Sensing

3:15 PM - 3:30 PM

Location: B4 M4

3:30 PM - 4:00 PM

Break

4:00 PM - 6:00 PM

Signal Processing and Models in Brain-computer Interfaces 2

Location: D3 - Silent1

Regularization SAME Method Can Enhance the Performance of SSVEP-BCI with Very Weak Stimulation

4:00 PM - 4:15 PM

Location: D3 - Silent1

RISE-iEEG: Robust to Inter-Subject Electrodes Implantation Variability iEEG Classifier

4:15 PM - 4:30 PM

Location: D3 - Silent1

A Multi-Band Self-Attention Network for Motor Imagery Classification

4:30 PM - 4:45 PM

Location: D3 - Silent1

Impact of Latency Jitter Correction on Offline P300-Based Classification: A Preliminary Study for BCI Applications in MCS Patients

4:45 PM - 5:00 PM

Location: D3 - Silent1

EEG-Translator: A Cross-Modality Framework for Subject-Specific EEG and Voice Reconstruction from Imagined Speech

5:00 PM - 5:15 PM

Location: D3 - Silent1

RSCNet: A Rhythmic Supervised Contrastive Network for Motor Imagery EEG Decoding

5:15 PM - 5:30 PM

Location: D3 - Silent1

Signal Extension with SeU-Net for

5:30 PM - 5:45 PM

Location: D3 - Silent1

EEG Features and Suitable Decoding Algorithm of RSVP-Based Brain-Computer Interface in Continuous Scenes

5:45 PM - 6:00 PM

Location: D3 - Silent1

4:00 PM - 6:00 PM

Signal Processing and Classification for Emotion Recognition

Location: D3 - Silent2

End-To-End Acoustic-Linguistic Emotion and Intent Recognition Enhanced by Semi-Supervised Learning

4:00 PM - 4:15 PM

Location: D3 - Silent2

Multimodal Emotion Recognition from EEG and ECG Signals Via Parallel Fusion of Graph Convolution and LSTMs

4:15 PM - 4:30 PM

Location: D3 - Silent2

EEG Insights into Visual Attention and Affective Prosody Processing in Children with Autism Spectrum Disorder: Examining the Theta/Alpha Ratio*

4:30 PM - 4:45 PM

Location: D3 - Silent2

Identifying of Different Emotional Stimulation Modes from High-Density Frontal EEG for Emotion Recognition

4:45 PM - 5:00 PM

Location: D3 - Silent2

Profile of Mood States 2nd Edition-Based Emotion Intensity Estimation by Electroencephalogram and Heart Rate Variability with Support Vector Machines

5:00 PM - 5:15 PM

Location: D3 - Silent2

Fine-Tuning a Pretrained CNN Combined with Self-Attention for Speech Emotion Recognition

5:15 PM - 5:30 PM

Location: D3 - Silent2

Evaluation of Autonomic Responses to the Urban Environment through Traditional Methodologies and Autoencoding Networks

5:30 PM - 5:45 PM

Location: D3 - Silent2

Pupillometry Analysis of Emotional Responses to Visual Stimuli

5:45 PM - 6:00 PM

Location: D3 - Silent2

4:00 PM - 6:00 PM

Signal Processing and Models for Movement

Location: D3 - Silent3

Freezing of Gait Detection and Prediction Based on a Dilated Temporal Encoder Approach

4:00 PM - 4:15 PM

Location: D3 - Silent3

Multimodal Non-Contact Sensing of Respiration and Movement in Neonates

4:15 PM - 4:30 PM

Location: D3 - Silent3

Objective Assessment of Friedreich Ataxia in Children: Accounting for Developmental Deficits

4:30 PM - 4:45 PM

Location: D3 - Silent3

Decoding Backward Walking Neuromechanics: An Integrated Linear and Fractal EMG-Kinematic Analysis Revealing Therapeutic Potential from Normative Gait Signatures

4:45 PM - 5:00 PM

Location: D3 - Silent3

Entrainment of Motoneuron Firing by Deep Brain Stimulation

5:00 PM - 5:15 PM

Location: D3 - Silent3

Evaluating Multi-Sensor Placement and Neural Network Architectures for Physical Activity Level Classification

5:15 PM - 5:30 PM

Location: D3 - Silent3

In-The-Wild Detection of Intermittent Parkinsonian Tremor: A Federated, Self-Supervised Learning Approach Using Attention-Based Multiple Instance Learning

5:30 PM - 5:45 PM

Location: D3 - Silent3

Frequency-Aware Masked Autoencoders for Human Activity Recognition Using Accelerometers

5:45 PM - 6:00 PM

Location: D3 - Silent3

4:00 PM - 6:00 PM

Cancer diagnosis and prognosis

Location: D2

Computational Analysis of Voice As Digital Biomarkers for Clinical Assessment for Distress in Female Cancer Patients

4:00 PM - 4:15 PM

Location: D2

LPC-SYS: AI-Powered Laryngo-Pharyngeal Cancer Diagnosing System

4:15 PM - 4:30 PM

Location: D2

Robust Machine Learning-Driven Drug Repositioning Pipeline for Classical Subtype of Pancreatic Ductal Adenocarcinoma

4:30 PM - 4:45 PM

Location: D2

A Novel Features-Driven Augmentation of DNA Methylation Microarrays to Enhance Meningioma Brain Tumors Classification Using Transformer Models

4:45 PM - 5:00 PM

Location: D2

Tumor Margin Estimation through Simulated Impedivity Mappings Using a Multielectrode Sensor Array

5:00 PM - 5:15 PM

Location: D2

Single-Scan Machine Learning Prediction of Meningioma Tumor Growth Risk and Progression Using Neurosurgeon-Evaluated MRI and CT Scan Features

5:15 PM - 5:30 PM

Location: D2

Non-invasive Lung Cancer Diagnosis and Prognosis Through Multimodal Clinical Data

5:30 PM - 5:45 PM

Location: D2

Multiphysical Tumor Tissue Modeling for Improved Multimodal Sensor-Based Diagnostics

5:45 PM - 6:00 PM

Location: D2

4:00 PM - 6:00 PM

Improving ML approaches and robustness

Location: D5

Preliminary Validation of a Cursive Handwriting Reconstruction Algorithm from a Sensorized Ink Pen

4:00 PM - 4:15 PM

Location: D5

Accelerating Facial Anomaly Appraisal: A Knowledge Distillation Approach

4:15 PM - 4:30 PM

Location: D5

SALTS: Streamlined Adaptive Learning for Sensors Time Series

4:30 PM - 4:45 PM

Location: D5

Investigating the Synergy of Variational Information Bottleneck and Iterative Transformer in a Hybrid Bottleneck Framework for Disease Prediction: An Ablation Study

4:45 PM - 5:00 PM

Location: D5

Impact of Dimensionality on Medication Adherence Prediction: Assessing Accuracy and Computational Efficiency

5:00 PM - 5:15 PM

Location: D5

Towards Robust Seizure Type Classification Via Curriculum Learning Paradigms

5:00 PM - 5:15 PM

Location: D5

Maximizing Sample Utilization in CKD Classification: Fusion and Alignment of Locally Trained Models with a Global Model

5:15 PM - 5:30 PM

Location: D5

Navigating Severe Class Imbalance in Population Cohort Data

5:45 PM - 6:00 PM

Location: D5

4:00 PM - 6:00 PM

Neuroimaging, Image segmentation techniques

Location: Aud 15

Hierarchical Multi-Scale Feature Fusion Network for Multi-Center Major Depressive Disorder Classification with T1-Weighted MRI

4:00 PM - 4:15 PM

Location: Aud 15

Fast Multi-Organ Fine Segmentation in CT Images with Hierarchical Sparse Sampling and Residual Transformer

4:15 PM - 4:30 PM

Location: Aud 15

Medical Image Registration with Multi-Dilated Convolution and Quintuple Attention

4:30 PM - 4:45 PM

Location: Aud 15

MFAN: Multi-Scale Feature Aggregation Network for Brain MRI Image Super-Resolution

4:45 PM - 5:00 PM

Location: Aud 15

Multi-Scale Attention Network for Myocardial Infarction Transmurality Classification in Late Gadolinium Enhancement CMR

5:00 PM - 5:15 PM

Location: Aud 15

Breast MRI and Mammography Registration Based on Breast Biomechanical FEM and Edge-Guided Unsupervised Registration Network

5:15 PM - 5:30 PM

Location: Aud 15

Comparative Study on Medical Hyperspectral Images Segmentation Using Advanced Deep Learning Techniques

5:30 PM - 5:45 PM

Location: Aud 15

Decoding Diagnosis: AI Explainability for Enhanced Skin Cancer Detection

5:45 PM - 6:00 PM

Location: Aud 15

4:00 PM - 6:00 PM

Neural signal processing-2

Location: Aud 10

Design of an Asynchronous BMI with Interpretable Neural Networks for Exoskeleton Control: A Proof of Concept on Data Evolution and Scalability Over One Week

4:15 PM - 4:30 PM

Location: Aud 10

Combining Wrist and Hand Gestures to Increase the Number of Classes in Myoelectric Control

4:30 PM - 4:45 PM

Location: Aud 10

Temporal Variation in the Acoustic Dynamic Range Is a Confounding Factor in EEG-Based Tracking of Absolute Auditory Attention to Speech

4:45 PM - 5:00 PM

Location: Aud 10

Enhancing Cross-Subject Auditory Attention Detection with Contrastive Learning for EEG Feature Refinement

5:00 PM - 5:15 PM

Location: Aud 10

Motor-Sensory Coupled Learning for Motor Imagery Decoding

5:15 PM - 5:30 PM

Location: Aud 10

Neural and Behavioral Changes in Older Adults from Auditory-Cognitive Training

5:30 PM - 5:45 PM

Location: Aud 10

Deep Neural Encoder-Decoder Model to Relate fMRI Brain Activity with Naturalistic Stimuli

5:45 PM - 6:00 PM

Location: Aud 10

4:00 PM - 6:00 PM

Neural stimulation-2

Location: Aud 11

Inhibitory Effects of Individualized Transcranial Alternating Current Stimulation on Motor Imagery and Interhemispheric Symmetry: Implications for Stroke Rehabilitation

4:00 PM - 4:15 PM

Location: Aud 11

A Real-Time Phase-Dependent Closed-Loop Neuromodulation System for Direct Cortical Stimulation

4:15 PM - 4:30 PM

Location: Aud 11

Modulation of Nonlinear Neural Dynamics for Closed-Loop Deep Brain Stimulation Systems

4:30 PM - 4:45 PM

Location: Aud 11

Enhanced Temporal Interference Stimulation Modeling through Magnetic Resonance Conductivity Tensor Imaging

4:45 PM - 5:00 PM

Location: Aud 11

Gaussian Process-Based Surrogate Models for Optimizing Electrode Configurations in HD-tDCS

5:00 PM - 5:15 PM

Location: Aud 11

EEG Responses to Transcranial Magnetic Stimulation with Different Intensities Over the Motor Cortex

5:15 PM - 5:30 PM

Location: Aud 11

Non-Invasive Regulation of Body Weight and Metabolism by Chronic Low-Intensity Focused Ultrasound Stimulation of Vagus Nerve

5:30 PM - 5:45 PM

Location: Aud 11

Noninvasive Detection of Deep Brain Stimulation Current Field Distribution of Coma Arousal Based on Acoustoelectric Signal

5:45 PM - 6:00 PM

Location: Aud 11

4:00 PM - 6:00 PM

Physiological Sensing

Location: Aud 12

Enabling Automatic Monitoring of Fluid Intake and Medical Adherence by Human Activities Recognition from a Wrist-Mounted MIMU Sensor

4:00 PM - 4:15 PM

Location: Aud 12

Optimization of Pressing Parameters for 3D Perfluoroalkoxy (PFA) Electrode Fabrication

4:15 PM - 4:30 PM

Location: Aud 12

An Analog Front-End for Bladder Ultrasound Monitoring: Achieving 75% Reduction in RX Power Consumption through Power Gating for Intra-Image Sparsity

4:30 PM - 4:45 PM

Location: Aud 12

Fabry-Pérot Interferometer Hydrogel-Based Sensor for Continuous pH Monitoring in Diabetic Foot Ulcers

4:45 PM - 5:00 PM

Location: Aud 12

Denoising Physiological Signals: Assessment, Techniques, and Wearable Implementation

5:00 PM - 5:15 PM

Location: Aud 12

Wireless, Modular, and Implantable Sensor Platform for Real-time Health Monitoring

5:15 PM - 5:30 PM

Location: Aud 12

Automatic Dual-Exposure for Illumination-Robust Remote Physiological Monitoring

5:30 PM - 5:45 PM

Location: Aud 12

Benchmark Assessment and Real-World Demonstration of a Multi-Modal Wearable Health Patch

5:45 PM - 6:00 PM

Location: Aud 12

4:00 PM - 6:00 PM

Health risk evaluation and modeling

Location: B3 M1-2

A New Geospatial Index for Territorial Risk Stratification of Out-of-Hospital Cardiac Arrest During Heat Days

4:00 PM - 4:15 PM

Location: B3 M1-2

Graph-Neural-Network Based Models for Improved Short-Term Forecasts of Respiratory Syncytial Virus Infections

4:15 PM - 4:30 PM

Location: B3 M1-2

Consistent Ovulation Window Prediction Based on Physiological Temporal Variability Patterns from Wearable Devices

4:30 PM - 4:45 PM

Location: B3 M1-2

Using mmWave Radar and Deep Learning to Classify Caregiver Activities for Infection Prevention

4:45 PM - 5:00 PM

Location: B3 M1-2

Can Short-Term Exposure to Air Pollution Trigger Acute Health Effects in a Region with Low Pollutant Concentrations?

5:00 PM - 5:15 PM

Location: B3 M1-2

AI-Powered Detection of Eye Rubbing Behavior for Keratoconus Analysis Using Wearable Devices

5:15 PM - 5:30 PM

Location: B3 M1-2

Machine Learning to Improve the Access to the Clinical Pathway for Children with Specific Learning Disabilities

5:45 PM - 6:00 PM

Location: B3 M1-2

4:00 PM - 6:00 PM

Neurological disorders-2

Location: B3 M3-4

HiPSC-Derived Neuronal Networks on Micro-Electrode Arrays: A Functional Model of the Ischemic Penumbra

4:00 PM - 4:15 PM

Location: B3 M3-4

Combined Anomaly Features and Interictal Epileptiform Discharges for Effective Seizure Onset Zone Localization

4:15 PM - 4:30 PM

Location: B3 M3-4

A Wearable Neuromonitoring Platform to Map Motor and Neural Biomarkers of Gait Dysfunction in People with Parkinson's Disease across Daily Life

4:30 PM - 4:45 PM

Location: B3 M3-4

PROBING PERCEPTUAL DECISION MAKING IN CERVICAL DYSTONIA: EMPLOYMENT OF A NOVEL PARADIGM INTEGRATING BEHAVIOURAL AND NEURONAL MEASURES

4:45 PM - 5:00 PM

Location: B3 M3-4

Dose-Dependent Regional Synchronicity Changes Using Weighted Phase Lag Index: Towards Optimizing Vagus Nerve Stimulation Titration Process

5:00 PM - 5:15 PM

Location: B3 M3-4

Assessing Digital Crutch-Assisted Walking in People with Parkinson's Disease: An Exploratory Study

5:15 PM - 5:30 PM

Location: B3 M3-4

Validation of a Smartphone-Based Tremor Measurement Tool for Parkinson's Disease

5:30 PM - 5:45 PM

Location: B3 M3-4

Investigating the Impact of Cerebral vs Peripheral Visual Issues on Emotion Recognition Using a New Silicone-Based Face Mask Prototype

5:45 PM - 6:00 PM

Location: B3 M3-4

4:00 PM - 6:00 PM

Magnetic Particle Imaging

Location: B3 M5-6

Design of Magnetic Flux Concentrators for NV-Diamond Magnetoencephalography

4:00 PM - 4:15 PM

Location: B3 M5-6

Fetal Movement Assessment Using Optically Pumped Magnetometers from Multisensor Magnetocardiographic Recordings

4:15 PM - 4:30 PM

Location: B3 M5-6

Fast Construction of System Matrix for Narrowband Magnetic Particle Imaging Based on PSF Estimation

4:30 PM - 4:45 PM

Location: B3 M5-6

Triphase Focus MagRing-MPI: An All-Electric Scanner for Human-Scale Magnetic Particle Imaging

4:45 PM - 5:00 PM

Location: B3 M5-6

Feasibility of Using Ultrasmall Magnetoferritin Particles for Magnetic Particle Imaging

5:00 PM - 5:15 PM

Location: B3 M5-6

Position-Prior-Guided Network for System Matrix Super-Resolution in Magnetic Particle Imaging

5:15 PM - 5:30 PM

Location: B3 M5-6

Single-Sided Magnetic Particle Imaging Based on Magnetic Field

5:30 PM - 5:45 PM

Location: B3 M5-6

Preliminary Results of in Vivo Temperature Imaging Based on Harmonic Phase on MPS/MPI Dual-Mode System

5:45 PM - 6:00 PM

Location: B3 M5-6

4:00 PM - 6:00 PM

Point of Care & Portable Diagnostic Devices

Location: B3 M7-8

A Device for Automatic Punch Biopsy and Simultaneous Wound Closure

4:00 PM - 4:15 PM

Location: B3 M7-8

Demonstration of a Si₃N₄ Microring Resonator-Based Aptasensor for Human Urokinase-Type Plasminogen Activator (uPA) Detection in Point-Of-Care Diagnostics

4:15 PM - 4:30 PM

Location: B3 M7-8

Short Time Blood Pressure Estimation Using RGB-NIR Camera

4:30 PM - 4:45 PM

Location: B3 M7-8

Bioengineered Fluorescent Sensors for Dynamic Oxygen and Lactate Monitoring in Cellular Microenvironments

4:45 PM - 5:00 PM

Location: B3 M7-8

Revolutionizing Chronic Kidney Disease Diagnosis Using Molecularly Imprinted Polymer-Integrated MEMS Diagnostic Technology for Precision Point-Of-Care Detection and Management

5:00 PM - 5:15 PM

Location: B3 M7-8

Integrating Diagnosis and Treatment of Obstructive Sleep Apnea in Pregnancy: A Low-Cost, Home-Based Proposed Solution to Reduce Clinical Burden

5:15 PM - 5:30 PM

Location: B3 M7-8

On-Chip Nanoplasmonic RT-RPA

5:30 PM - 5:45 PM

Location: B3 M7-8

Neonatal jaundice screening with variable screening thresholds using a smartphone and a transcutaneous bilirubinometer

5:45 PM - 6:00 PM

Location: B3 M7-8

4:00 PM - 6:00 PM

Vision and Virtual Reality in Rehabilitation Medicine

Location: B4 M1-2

Simulating Public Transport Instability: A Novel VR and Stewart Platform-Based Balance Training Approach

4:00 PM - 4:15 PM

Location: B4 M1-2

Investigation of Audio Controlled Edge Semantic Segmentation System for Visually Impaired People

4:15 PM - 4:30 PM

Location: B4 M1-2

SONIA: A Real-Time Automated Framework for Sonification of Navigation and Interactive Activities for Children with Visual Impairment

4:30 PM - 4:45 PM

Location: B4 M1-2

Integrating Virtual Reality into OSCE Training: A Novel Simulation Tool for Canadian Medical Education

4:45 PM - 5:00 PM

Location: B4 M1-2

Design of a Mobile Tool for Quantitative Analysis of Visual Processing in Reading and Dyslexia Assessment Using Eye-Tracking

5:00 PM - 5:15 PM

Location: B4 M1-2

Adaptive Vision Transformer for Enhanced Perception in Visual Prostheses

5:15 PM - 5:30 PM

Location: B4 M1-2

Spatial Features-Based Slip Detection in Neuromorphic Vision Tactile Sensors

5:30 PM - 5:45 PM

Location: B4 M1-2

Pneumatic Soft Actuator Capable of Visuo-Tactile Sensing Toward an in Vitro Tongue Simulator

5:45 PM - 6:00 PM

Location: B4 M1-2

4:00 PM - 6:00 PM

Deep/machine learning for feature extraction, Cardiac imaging classification

Location: B4 M3

Just Go with the Optical Flow: Enhanced Axon Tracing by Modeling Fiber Connections as Motion

4:00 PM - 4:15 PM

Location: B4 M3

Utilizing Weighted Spatio-Temporal Information for Automated Transthoracic Echocardiography View Classification

4:15 PM - 4:30 PM

Location: B4 M3

Identification of Spatio-Temporal Features in Volumetric Task-Based fMRI Data Using 3D Variational Autoencoder

4:30 PM - 4:45 PM

Location: B4 M3

Motion-Aware Spatio-Temporal Fusion Memory Network for Semi-Supervised Echocardiography Video Segmentation

4:45 PM - 5:00 PM

Location: B4 M3

Automatic Segmentation of the Left Ventricle Through the Cardiac Cycle in Pediatric Echocardiography Videos Using SegFormer Architecture

5:00 PM - 5:15 PM

Location: B4 M3

Enhancing Segmentation Accuracy of the Common Iliac Vein in OLIF51 Surgery in Intraoperative Endoscopic Video through Gamma Correction: A Deep Learning Approach

5:15 PM - 5:30 PM

Location: B4 M3

Structure Aware Diffusion Models for Enhanced Cardiac Motion Estimation in Echocardiography

5:30 PM - 5:45 PM

Location: B4 M3

4:00 PM - 6:00 PM

Novel Sensing and Applications 2

Location: B4 M4

Towards Next-Generation Myoelectric Prostheses: 3D-Printed Electrode Arrays for Gesture Recognition

4:00 PM - 4:15 PM

Location: B4 M4

SmartTex - a DIY Textile-Based Multi-Modal Sensing System for Non-Invasive Health Monitoring Applications

4:15 PM - 4:30 PM

Location: B4 M4

Evaluation of Dry Printed Electrodes for Effective and Safe Transcutaneous Electrical Stimulation

4:30 PM - 4:45 PM

Location: B4 M4

Integration of Electrocardiogram and Skin Conductivity Sensors in Virtual Reality Controllers: An Open-Source Prototype and Signal Quality Analysis

4:45 PM - 5:00 PM

Location: B4 M4

WeSync(BLE): A Reference Synchronization Architecture of Multiple Wearable BLE-Based Biomedical Devices

5:00 PM - 5:15 PM

Location: B4 M4

A Biocompatible Microfluidic Sensor for Intraocular Pressure Monitoring

5:15 PM - 5:30 PM

Location: B4 M4

Intermittent Neuromorphic Wearable Systems

5:30 PM - 5:45 PM

Location: B4 M4

Developing Accessible Assistive Technology for the Deaf and Hard of Hearing by Deploying a Fine-Tuned Deep Neural Network to the Web

5:45 PM - 6:00 PM

Location: B4 M4