

2025 IEEE 38th International Symposium on Computer-Based Medical Systems (CBMS 2025)

**Madrid, Spain
18-20 June 2025**

Pages 1-495



**IEEE Catalog Number: CFP25CBM-POD
ISBN: 979-8-3315-2611-5**

**Copyright © 2025 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved**

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP25CBM-POD
ISBN (Print-On-Demand):	979-8-3315-2611-5
ISBN (Online):	979-8-3315-2610-8
ISSN:	2372-918X

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

2025 IEEE 38th International Symposium on Computer- Based Medical Systems (CBMS) **CBMS 2025**

Table of Contents

Welcome Message	xxxvii
Organizing Committee	xxxix
Program Committee	xl
Special Tracks	xlvi
Keynote Speakers	xlix
Sponsors	1

Special Track on Generative Artificial Intelligence for Biomedical Applications (GAI4BA) I

GANs and Fine-Tuning through Transfer Learning for the Generation of Electronic Health Records on Chronic Kidney Diseases	1
<i>Lucas Schurer (Univ. Federal de Santa Maria, Brazil), Joaquim V. C. Assunção (Univ. Federal de Santa Maria, Brazil), Isabel C. Reinheimer (Pontifícia Univ. Católica do Rio Grande do Sul, Brazil), Carlos E. Poli-de-Figueiredo (Pontifícia Univ. Católica do Rio Grande do Sul, Brazil), and Luis A. L. Silva (Univ. Federal de Santa Maria, Brazil)</i>	
Synthetic Data Generation for Physical Activity in Wearable Devices: A Multivariate Time Series Approach	9
<i>Rodrigo Martín Gómez del Moral Herranz (Universidad Politécnica de Madrid, Spain), Adrián Barba Beltrán (Universidad Politécnica de Madrid, Spain), Miguel Rujas (Universidad Politécnica de Madrid, Spain), Beatriz Merino-Barbancho (Universidad Politécnica de Madrid, Spain), Maria Teresa Arredondo (Universidad Politécnica de Madrid, Spain), Maria Fernanda Cabrera-Umpierrez (Universidad Politécnica de Madrid, Spain), and Giuseppe Fico (Universidad Politécnica de Madrid, Spain)</i>	
Harnessing Generative LLMs to Detect and Explain Suicidal Ideation in Brazilian Portuguese Texts	15
<i>João Pedro C. Azevedo (Federal University of Maranhão, Brazil), Adonias C. de Oliveira (Parnaíba Delta Federal University, Brazil), Francisco Silva (Federal University of Maranhão, Brazil), Luciano Coutinho (Federal University of Maranhão, Brazil), and Ariel Soares Teles (Federal Institute of Maranhão, Brazil; Federal University of Maranhão, Brazil; Parnaíba Delta Federal University, Brazil)</i>	

Abbreviation Identification and Disambiguation in Real-World Clinical Narratives	21
<i>Joao Pedro Joaquim (PUCPR, France), Isabela Fontes de Araújo (Pontifícia Universidade Católica do Paraná, France), and Claudia Moro (Pontifícia Universidade Católica do Paraná, France)</i>	
Generative Adversarial Networks for Synthetic Longitudinal Electronic Health Records	
Enabling Cardiovascular Digital Twins	25
<i>Amanda Bertgren (Umeå University, Sweden), Fredrik Öhberg (Umeå University, Sweden), Paolo Soda (Umeå University, Sweden; Università Campus Biomedico di Roma, Italy), Ulf Näslund (Umeå University, Sweden), Patrik Wennberg (Umeå University, Sweden), and Christer Grönlund (Umeå University, Sweden)</i>	

Main Track: Medical Image Segmentation I

Towards Automated Placental Screening: Instance Segmentation in Clinical Images	29
<i>Bibiana Quatrin Tiellet da Silva (Federal University of Santa Catarina, Brasil), Beatriz Silva Lopes (Federal University of Santa Catarina, Brasil), Luis Otávio Santos (Federal University of Santa Catarina, Brasil), Rodrigo de Paula e Silva Ribeiro (Federal University of Santa Catarina, Brasil), and Aldo von Wangenheim (Federal University of Santa Catarina, Brasil)</i>	
MedSegDiffNCA: Diffusion Models with Neural Cellular Automata for Skin Lesion Segmentation..	35
<i>Avni Mittal (Indian Institute of Technology Mandi, India), John Kalkhof (Technische Universität Darmstadt, Germany), Anirban Mukhopadhyay (Technische Universität Darmstadt, Germany), and Arnav Bhavsar (Indian Institute of Technology Mandi, India)</i>	
Automatic Prompt Generation for Zero-Shot Single Object Frame Segmentation in Videos using Classification Models: A Polyp Case Study	41
<i>Hanna Borgli (Simula & University of Oslo, Norway), Michael Riegler (Simula, Norway), Håkon Kvale Stensland (Simula & University of Oslo, Norway), and Pål Halvorsen (SimulaMet & OsloMet, Norway)</i>	
Unsupervised Fuzzy C-Means-Based Approach for Automatic Breast Tumor Segmentation in DCE-MRI	49
<i>Paula Puerta González (University of Oviedo, Spain), Pablo García Marcos (University of Oviedo, Spain), Sara Fernández Arias (University of Oviedo, Spain), Rebeca Oliveira Suárez (University of Oviedo, Spain), Guillermo Lorenzo (University of A Coruña, Spain), Héctor Gómez (Purdue University, USA), Covadonga del Camino (Oviedo Central University Hospital (HUCA), Spain), José R. Villar (University of Oviedo, Spain), Ángel Rio-Alvarez (University of Oviedo, Spain), and Víctor M. González (University of Oviedo, Spain)</i>	
A Novel F-Net Model for Robust Breast Tumor Segmentation via Transfer Learning	53
<i>Khushboo Munir (King Fahd University of Petroleum and Minerals, Saudi Arabia), Ammar Alsheghri (King Fahd University of Petroleum and Minerals, Saudi Arabia), and Abdullah F. Al-Battal (King Fahd University of Petroleum and Minerals, Saudi Arabia)</i>	

Main Track: Unsupervised and Semi-Supervised Learning with Biomedical Data

Intra-Subject Clustering of ECG Heartbeats from Wearable Devices using Deep Learning and Feature Engineering	57
<i>Federico Digiacomo (Politecnico di Torino, Italy), Gabriella Olmo (Politecnico di Torino, Italy), and Alessandro Gumiero (STMicroelectronics, Italy)</i>	
ICU-TSB: A Benchmark for Temporal Patient Representation Learning for Unsupervised Stratification into Patient Cohorts	65
<i>Dimitrios Proios (University of Geneva, Switzerland), Alban Bornet (University of Geneva, Switzerland), Anthony Yazdani (University of Geneva, Switzerland), José F Rodrigues (University of Sao Paulo, Brazil), and Douglas Teodoro (University of Geneva, Switzerland)</i>	
A Comparative Analysis of Clustering Methods for Identifying Patient Subgroups in Chronic Kidney Disease using Feature Engineering	71
<i>Nichalini Kandasamy (University of Westminster, United Kingdom), Artie Basukoski (University of Westminster, United Kingdom), and Thierry Chausselet (University of Westminster, United Kingdom)</i>	
A Comprehensive Framework for Unsupervised Deep Analysis of Tissue Bioarchitecture	77
<i>Florian Robert (Univ. of Bordeaux, France), Alexia Calovoulos (Univ. of Bordeaux, France), Laurent Facq (Univ. of Bordeaux, France), Fanny Decoeur (Univ. of Bordeaux, France), Etienne Gontier (Univ. of Bordeaux, France), Christophe F. Grosset (Univ. of Bordeaux, France), and Baudouin Denis de Senneville (Univ. of Bordeaux, France)</i>	
Semi-Supervised Frameworks for Predicting Fear of Cancer Recurrence using Reimbursement Data	81
<i>Mamoudou Koume (Aix-Marseille University, France), Lorène Seguin (Aix-Marseille University, France), Anne-Déborah Bouhnik (Aix-Marseille University, France), and Raquel Urena (Aix-Marseille Univ, France)</i>	

Main Track: AI for Clinical Data

A Comparative Analysis of AI-Based Solutions for Clinical Documentation	85
<i>Luís Carlos Afonso (University of Aveiro, Portugal), João Rafael Almeida (University of Aveiro, Portugal), and José Luís Oliveira (University of Aveiro, Portugal)</i>	
An Embedding-Based Method for Processing Medical Audio into Structured Reports	91
<i>Luís Carlos Afonso (University of Aveiro, Portugal), Carolina Gonçalves (University of Lisbon & Management of the National Telehealth Center, Portugal), Catarina Sousa (Pediatrics Service of the Local Health Unit Póvoa de Varzim and Vila do Conde (ULSPVVC), Portugal), and José Luís Oliveira (University of Aveiro, Portugal)</i>	

Fine-Tuning Transformer Models for Structuring Spanish Psychiatric Clinical Notes	97
<i>Sergio Rubio-Martín (Universidad de León, Spain), Arturo Crespo-Álvarez (Universidad de León, Spain), María Teresa García-Ordás (Universidad de León, Spain), Antonio Serrano-García (Complejo Asistencial Universitario de León (CAULE), Spain), Clara Margarita Franch-Pato (Complejo Asistencial Universitario de León (CAULE), Spain), and José Alberto Benítez-Andrades (Universidad de León, Spain)</i>	
ICD Code Assignment from Clinical Text: Impact of Document Composition	103
<i>Julián Prieto-Velasco (IRYCIS, Spain), Miguel-Ángel Sicilia (Universidad de Alcalá, Spain; IRYCIS, Spain), and Elena García Barriocanal (Universidad de Alcalá, Spain; IRYCIS, Spain)</i>	
Is Fine-Tuning Useful in EHR-Based Prediction Models? A Use Case on Mortality Prediction with Longitudinal Data from Spanish (SIDIAP) and UK (CPRD) Populations Aged Over 65 Years .	107
<i>Lucía A. Carrasco-Ribelles (Fundació Institut Universitari per a la Recerca a l'Atenció Primària de Salut Jordi Gol i Gurina (IDIAPJGol), Spain; Universitat Politècnica de Catalunya (UPC), Spain), Margarita Cabrera-Bean (Universitat Politècnica de Catalunya (UPC), Spain), Albert Prats-Urbe (University of Oxford, United Kingdom), Sara Khalid (University of Oxford, United Kingdom), and Concepción Violán (IDIAPJGol, Spain)</i>	

Poster's Presentations

RadGen: A Cross-Modal Fusion System for Automated Radiology Report Generation	111
<i>Qianhao Han (The Bishop Strachan School, Canada), Daniel Ding (Upper Canada College, Canada), Junyi Liu (TechArena Canada Inc., Canada), Zengchang Qin (TechArena Canada Inc., Canada), and Zheng Zheng (Northeastern University, Canada)</i>	
Infrared Breast Image Segmentation using Deep Neural Networks on Thermographic Images	113
<i>Tiago da Silva e Souza Pinto (Federal University of Uberlândia, Brazil), Renata dos Santos Melo (Federal University of Uberlândia, Brazil), Paulo Vitor Costa Silva (Federal University of Uberlândia, Brazil), André Ricardo Backes (Federal University of Sao Carlos, Brazil), and Henrique Coelho Fernandes (Federal University of Uberlândia, Brazil)</i>	
Mammography Classification: How Useful is Machine Learning? A Radiomics Study and Future Perspectives	119
<i>Nicolò Lauciello (University of Palermo, Italy; National Research Council (IBSBC-CNR), Italy), Eleonora Giovagnoli (Sapienza University of Rome, Italy), Giovanni Pasini (Sapienza University of Rome, Italy), Fabiano Bini (Sapienza University of Rome, Italy), Franco Marinozzi (Sapienza University of Rome, Italy), Giorgio Russo (National Research Council (IBSBC-CNR), Italy), and Alessandro Stefano (National Research Council (IBSBC-CNR), Italy)</i>	

COMputational Models FOR Patient Stratification in Urologic Cancers – Creating Robust and Trustworthy Multimodal AI for Health Care	121
<i>Antonios Billis (Aristotle University of Thessaloniki, Greece), Alessa Hering (Radboud University Medical Center, The Netherlands), Lili Jiang (Umeå University, Sweden), Cora Meyer (Office GmbH, Germany), Lisa Adams (Technical University Munich, Germany), Renato Cuocolo (University of Salerno, Italy), Alexander Löser (Berliner Hochschule für Technik, Germany), Jawed Nawabi (Charité University Hospital, Germany), and Keno Bressemer (Technical University Munich, Germany)</i>	
ChestXsim: An Open-Source Framework for Realistic Chest X-ray Tomosynthesis Simulations	123
<i>Blanca Hermosilla (Universidad Carlos III de Madrid, Spain), Antonio Lorente-Mur (Instituto de Investigación Sanitaria Gregorio, Spain), Carlos F. Del Cerro (Universidad Carlos III de Madrid, Spain), Manuel Desco (Universidad Carlos III de Madrid, Spain), and Monica Abella (Universidad Carlos III de Madrid, Spain)</i>	
An Immersive Annotation Tool for Movement Quality Assessment with 3D Visualization	125
<i>Ikram Kourbane (IMT Atlantique, France), Panagiotis Papadakis (IMT Atlantique, France), and Mihai Andries (IMT Atlantique, France)</i>	

Special Track on Generative Artificial Intelligence for Biomedical Applications (GAI4BA) II

Swin Transformer Applied to Breast MRI Super-Resolution in a Cross-Cohort Dataset	127
<i>Pedro Sousa (INESC TEC, Portugal), Henrique Sousa (INESC TEC, Portugal), Tania Pereira (University of Coimbra, Portugal; INESC TEC, Portugal), Eva Batista (Champalimaud Foundation, Portugal), Pedro Gouveia (Champalimaud Foundation, Portugal), and Hélder P. Oliveira (University of Porto, Portugal; INESC TEC, Portugal)</i>	
Investigating Transformer-Based GANs for Realistic ECG Time-Series Data Generation	133
<i>Gabriel B. Moro (Univ. Federal de Santa Maria, Brazil), Joaquim V. C. Assunção (Univ. Federal de Santa Maria, Brazil), Isabel C. Reinheimer (Pontificia Univ. Católica do Rio Grande do Sul, Brazil), Carlos E. Poli-de-Figueiredo (Pontificia Univ. Católica do Rio Grande do Sul, Brazil), and Luis A. L. Silva (Univ. Federal de Santa Maria, Brazil)</i>	
Lesion-Aware Generative Artificial Intelligence for Virtual Contrast-Enhanced Mammography in Breast Cancer	141
<i>Aurora Rofena (University Campus Bio-Medico of Rome, Italy), Arianna Manchia (University Campus Bio-Medico of Rome, Italy), Claudia Lucia Piccolo (Fondazione Policlinico Campus Bio-Medico, Italy), Bruno Beomonte Zobel (Fondazione Policlinico Campus Bio-Medico, Italy; Università Campus Bio-Medico di Roma, Italy), Paolo Soda (University Campus Bio-Medico of Rome, Italy; Umeå University, Sweden), and Valerio Guarrasi (University Campus Bio-Medico of Rome, Italy)</i>	
Accelerating Drug Repurposing with AI: The Role of Large Language Models in Hypothesis Validation	147
<i>Iratxe Zunzunegui Sanz (Universidad Politécnica de Madrid, Madrid), Belén Otero-Carrasco (Universidad Politécnica de Madrid, Madrid), and Alejandro Rodríguez-González (Universidad Politécnica de Madrid, Madrid)</i>	

Main Track: Medical Image Segmentation II

Nuclear Segmentation in Histological Images using Multiple Attention System Mixing	154
<i>Gabriel G. Crepaldi (Federal University of Uberlândia (UFU)), Domingos L. L. de Oliveira (Science and Technology of São Paulo (IFSP); Federal University of Uberlândia (UFU)), Thaina A. A. Tosta (Federal University of São Paulo (UNIFESP)), Leandro A. Neves (São Paulo State University (UNESP)), Adriano B. Silva (Federal University of Uberlândia (UFU)), Alessandro S. Martins (Federal Institute of Triângulo Mineiro), and Marcelo Z. do Nascimento (Federal University of Uberlândia (UFU))</i>	
Automating Tissue Segmentation and Quantification for Wound Healing Assessment	160
<i>Rafaela Carvalho (Fraunhofer Portugal AICOS, Portugal), Ana Filipa Sampaio (Fraunhofer Portugal AICOS, Portugal), and Maria João M. Vasconcelos (Fraunhofer Portugal AICOS, Portugal)</i>	
Adapting a Segmentation Foundation Model for Medical Image Classification	167
<i>Pengfei Gu (University of Texas Rio Grande Valley, USA), Haoteng Tang (University of Texas Rio Grande Valley, USA), Islam A. Ebeid (Texas Woman's University, USA), Jose A. Nunez (University of Texas Rio Grande Valley, USA), Fabian Vazquez (University of Texas Rio Grande Valley, USA), Diego Adame (University of Texas Rio Grande Valley, USA), Marcus Zhan (Sewickley Academy, USA), Huimin Li (The University of Texas at Dallas, USA), Bin Fu (University of Texas Rio Grande Valley, USA), and Danny Z. Chen (University of Notre Dame, USA)</i>	
From Aneurysms to Dissections: A Transfer Learning Approach for CTA Segmentation	173
<i>Marco Magliocco (University of Genoa, Italy), Curzio Basso (Camelot Biomedical Systems, Italy), Alice Fantazzini (Camelot Biomedical Systems, Italy), Michele Conti (University of Pavia, Italy), Giuseppe Cittadini (IRCCS Ospedale Policlinico San Martino, Italy), and Giovanni Spinella (University of Genoa, Italy)</i>	
Dual-Encoder UNet with Graph-Derived Features for Automated Cerebrovascular Segmentation in TOF-MRA	177
<i>Jae Eun Ko (Dongguk University, South Korea), Jin Young Sung (Dongguk University, South Korea), Junghoon Lee (Johns Hopkins University, USA), Daehwan Ko (Dongguk University, South Korea), Ji Yean Kwon (Dongguk University, South Korea), and Sung Min Kim (Dongguk University, South Korea)</i>	

Main Track: Smart Monitoring and Imaging in Healthcare

Are PAT-Based Models Suitable for Continuous Blood Pressure Monitoring in Ambulatory Settings?	181
<i>Ana Cisnal (University of Valladolid, Spain), Diego Paez-Granados (ETH Zurich and Swiss Paraplegic Research (SPF), Switzerland), Javier Pérez-Turiel (University of Valladolid, Spain), and Juan Carlos Fraile (University of Valladolid, Spain)</i>	

Evaluating Hemodynamic Responses in the Action Observation Network: An fNIRS Study on Motor Task Type and Stimulus Duration	187
<i>Edgar R. González-Campos (Instituto Nacional de Astrofísica Óptica y Electrónica, Mexico), Carlos A. Reyes-García (Instituto Nacional de Astrofísica Óptica y Electrónica, Mexico), and Alejandro A. Torres-García (Instituto Nacional de Astrofísica Óptica y Electrónica, Mexico)</i>	
Interactive Method for Publishing Tabular Data with Privacy Preservation	193
<i>Bruno R. S. Moraes (Federal University of Maranhão, Brazil), Josenildo C. Silva (Federal Institute of Maranhão, Brazil), Ariel S. Teles (Federal Institute of Maranhão, Brazil), Antonio A. B. Júnior (Federal University of Maranhão, Brazil), Francisco J. S. Silva e Silva (Federal University of Maranhão, Brazil), and Luciano R. Coutinho (Federal University of Maranhão, Brazil)</i>	
Automatic Detection of Pleural Plaques Presence in Asbestos-Exposed Individuals	200
<i>Yannis Petitpas (Univ. of Bordeaux, France), Ilyes Ben Lala (INSERM, France), Fabien Baldacci (Univ. Bordeaux, France), Gaël Dournes (INSERM, France), Jean Claude Pairon (INSERM, France; Université Paris-Est Créteil, France; Institut Santé-Travail Paris-Est, France; Institut Interuniversitaire de Médecine du Travail de Paris-Ile de France, France), and Baudouin Denis de Senneville (Univ. of Bordeaux, France)</i>	
Bridging Precision and Efficiency: AI-Driven Segmentation and Orientation Correction for Enhanced Protocol Adherence in Teledermatology	204
<i>Rodrigo P. S. Ribeiro (Federal University of Santa Catarina, Brasil), Aldo von Wangenheim (Federal University of Santa Catarina, Brasil), Luís O. Santos (Federal University of Santa Catarina, Brasil), Daniel H. Nunes (Federal University of Santa Catarina, Brasil), Bibiana Q. Tiellet (Federal University of Santa Catarina, Brasil), Douglas J. D. Macedo (Federal University of Santa Catarina, Brasil), and Beatriz S. Lopes (Federal University of Santa Catarina, Brasil)</i>	

Main Track: NLP and Pattern Learning in Health

Active Learning in Biomedical Text Classification using a Bag-of-Regular-Expressions Approach	208
<i>Christopher A. Flores (Universidad del Bío-Bío, Chile) and Rodrigo Verschae (Universidad de O'Higgins, Chile)</i>	
A Step Forward for Medical LLMs in Brazilian Portuguese: Establishing a Benchmark and a Strong Baseline	214
<i>Gabriel Lino Garcia (São Paulo State University (UNESP), Brazil), João Renato Ribeiro Manesco (São Paulo State University (UNESP), Brazil), Pedro Henrique Paiola (São Paulo State University (UNESP), Brazil), Pedro Henrique Crespan Ribeiro (São Paulo State University (UNESP), Brazil), Ana Lara Alves Garcia (São Paulo State University (UNESP), Brazil), and João Paulo Papa (São Paulo State University (UNESP), Brazil)</i>	

Automated Coding of French Emergency Calls using BERT	220
<i>Samuel Lebot (University of Strasbourg, France), Joris Muller (Strasbourg University Hospital, France), Sébastien Harscoat (Strasbourg University Hospital, France), Delphine Bernhard (University of Strasbourg, France), Germain Forestier (University of Haute-Alsace, France), and Cédric Wemmert (University of Strasbourg, France)</i>	
Handwriting-Based Classification of Hepatic Encephalopathy using Nonlinear Complexity Features	226
<i>Katarína Demčáková (Technical university of Košice, Slovakia), Peter Drotár (Technical university of Košice, Slovakia), Máté Hireš (Technical university of Košice, Slovakia), Jakub Gazda (University of Pavol Jozef Safarik, Slovakia), and Peter Jarčuška (University of Pavol Jozef Safarik, Slovakia)</i>	

Special Track on Network Medicine (NM) I

High-Performance Computing-Driven Gene Co-Expression Network Analysis for Biomarkers Discovery in Soft Tissue Sarcomas	234
<i>Marc Ríos Cadenas (Universidad Pablo de Olavide, Spain), Aurelio López-Fernández (University of Seville, Spain), Francisco A. Gómez-Vela (Universidad Pablo de Olavide, Spain), Juan A. Ortega (University of Seville, Spain), and Inmaculada Rincón Pérez (University Hospital Virgen del Rocío, Spain)</i>	
Decoding Cell-Type-Specific Alterations in Alzheimer's Disease through scRNA-seq and Network Analysis	240
<i>Andrea Álvarez-Pérez (Universidad Politécnica de Madrid, Spain), Lucía Prieto-Santamaría (Universidad Politécnica de Madrid, Spain), and Alejandro Rodríguez-González (Universidad Politécnica de Madrid, Spain)</i>	
Prioritization of Potential Drugs Through Pathway-Based Drug Repurposing and Network Proximity Analysis	246
<i>Belén Otero-Carrasco (Universidad Politécnica de Madrid, Spain), Lucía Prieto-Santamaría (Universidad Politécnica de Madrid, Spain), and Alejandro Rodríguez-González (Universidad Politécnica de Madrid, Spain)</i>	
Benchmarking Docking Tools on Experimental and Artificial Intelligence-Predicted Protein Structures	252
<i>Paloma Tejera-Nevado (Universidad Politécnica de Madrid, Spain), Nathan Junod (Universidad Politécnica de Madrid, Spain), Elizabeth Hyunjin Kwon (Universidad Politécnica de Madrid, Spain), Lucía Prieto-Santamaría (Universidad Politécnica de Madrid, Spain), and Alejandro Rodríguez-González (Universidad Politécnica de Madrid, Spain)</i>	

Main Track: Medical Image Segmentation III

Topo-VM-UNetV2: Encoding Topology into Vision Mamba UNet for Polyp Segmentation	258
<i>Diego Adame (University of Texas Rio Grande Valley, USA), Jose A. Nunez (University of Texas Rio Grande Valley, USA), Fabian Vazquez (University of Texas Rio Grande Valley, USA), Nayeli Gurrola (University of Texas Rio Grande Valley, USA), Huimin Li (The University of Texas at Dallas, USA), Haoteng Tang (University of Texas Rio Grande Valley, USA), Bin Fu (University of Texas Rio Grande Valley, USA), and Pengfei Gu (University of Texas Rio Grande Valley, USA)</i>	
Improving U-Net with Attention Mechanism for Medical Image Segmentation Applications	264
<i>Eduardo S. Honorato (University of São Paulo (USP), Brazil), Mariana Aya S. Uchida (University of São Paulo (USP), Brazil), Agma J. M. Traina (University of São Paulo (USP), Brazil), and Denis F. Wolf (University of São Paulo (USP), Brazil)</i>	
Transformative Deep Learning Modular Segmentation for Dental Panoramic Radiographs	270
<i>José Andery Carneiro (PPGCA-DCM-FFCLRP-USP, Brazil), Breno Guerra Zancan (PPGCA-DCM-FFCLRP-USP, Brazil), Camila Tirapelli (FORP-USP, Brazil), Camila Porto Capel (FORP-USP, Brazil), Eliana Dantas Costa (FORP-USP, Brazil), Hugo Gaêta-Araujo (FORP-USP, Brazil), José Augusto Baranauskas (PPGCA-DCM-FFCLRP-USP, Brazil), and Alessandra Alaniz Macedo (PPGCA-DCM-FFCLRP-USP, Brazil)</i>	
3D Semantic Cell Segmentation via Propagation of 2D Results and Integration of Intercellular Priors	276
<i>Florian Robert (Univ. of Bordeaux, France), Alexia Calovoulos (Univ. of Bordeaux, France), Laurent Facq (Univ. of Bordeaux, France), Fanny Decoeur (Univ. of Bordeaux, France), Etienne Gontier (Univ. of Bordeaux, France), Christophe F. Grosset (Univ. of Bordeaux, France), and Baudouin Denis de Senneville (Univ. of Bordeaux, France)</i>	
Deep Learning Approach for Aortic Valve Localization, Detection and Segmentation in Computed Tomography Volumes	280
<i>Rubén Omar Azuara-Domínguez (Universidad Nacional Autónoma de México, Mexico), Jimena Olveres (Universidad Nacional Autónoma de México, Mexico), Boris Escalante-Ramírez (Universidad Nacional Autónoma de México, Mexico), and Enrique Vallejo (Centro Médico ABC, México)</i>	

Main Track: AI in Cancer Diagnosis and Prediction

AI-Driven Survival Prediction in Pancreatic Cancer	284
<i>Sergio Rubio-Martín (Universidad de León, Spain), María Teresa García-Ordás (Universidad de León, Spain), David Corral-Fontecha (Complejo Asistencial Universitario de León (CAULE), Spain), Laura López-González (Complejo Asistencial Universitario de León (CAULE), Spain), Gonzalo Alonso-Oláiz (Universidad de León, Spain), Arturo Crespo-Alvaro (Universidad de León, Spain), and José Alberto Benítez-Andrades (Universidad de León, Spain)</i>	

A Hybrid Quantum-Classical Model for Breast Cancer Diagnosis with Quanvolutions	290
<i>Yasmin Rodrigues Sobrinho (São Paulo State University (UNESP), Brazil), Enzo Gabriel Batista Soares (São Paulo State University (UNESP), Brazil), João Renato Ribeiro Manesco (São Paulo State University (UNESP), Brazil), Jawaher Al-Tuweity (São Paulo State University (UNESP), Brazil), Rafael Gonçalves Pires (São Paulo State University (UNESP), Brazil), and João Paulo Papa (São Paulo State University (UNESP), Brazil)</i>	
Fusion of Vision and Text Features for Breast Cancer Classification using a Few-Shot Approach	297
<i>Saptarshi Pani (Jadavpur University, India), Gouranga Maity (Jadavpur University, India), Irina Shpakovskaya (I.P. Pavlov Saint Petersburg First State Medical University, St. Petersburg Electrotechnical University "LETI", Russian Federation), Dmitrii Kaplun (China University of Mining and Technology, China; St. Petersburg Electrotechnical University "LETI", Russian Federation), and Ram Sarkar (Jadavpur University, India)</i>	
Ensemble of Radiomics and ConvNeXt for Breast Cancer Diagnosis	303
<i>Jorge Alberto Garza-Abdala (Tecnologico de Monterrey, Mexico), Gerardo Alejandro Fumagal-González (Tecnologico de Monterrey, Mexico), Beatriz A Bosques-Palomo (Tecnologico de Monterrey, Mexico), Mario Alexis Monsivais Molina (Tecnologico de Monterrey, Mexico), Daly Avedano (Tecnologico de Monterrey, Mexico), Servando Cardona-Huerta (Tecnologico de Monterrey, Mexico), and José Gerardo Tamez-Pena (Tecnologico de Monterrey, Mexico)</i>	
Incentivising Personalised Colorectal Cancer Screening: An Adversarial Risk Analysis Approach	307
<i>Daniel Corrales (ICMAT-CSIC) and David Rios-Insua (ICMAT-CSIC)</i>	

Main Track: Glucose Prediction and Diabetes Management

Implementation of a Federated Learning Platform for Glucose Prediction in Type 1 Diabetes	311
<i>Clara Fuertes (Universidad Politécnica de Madrid, Spain), Carlos Gallardo (Universidad Politécnica de Madrid, Spain), David Subías (Parc Tauli Universitari Hospital, Spain), M. Elena Hernando (Universidad Politécnica de Madrid, Spain), Mercedes Rigla (Parc Tauli Universitari Hospital, Spain), and Gema García-Sáez (Universidad Politécnica de Madrid, Spain)</i>	
Deep Transfer Learning for Glucose Prediction Adding Physical Activity Data in Type 1 Diabetes	317
<i>Carlos Gallardo (Universidad Politécnica de Madrid, Spain), Gema García-Sáez (Universidad Politécnica de Madrid, Spain; ISCIII, Spain), David Subías (Parc Tauli Hospital Universitari, Spain), Mercedes Rigla (Parc Tauli Hospital Universitari, Spain), and María Elena Hernando (Universidad Politécnica de Madrid, Spain; ISCIII, Spain)</i>	
Bayesian Neural Network for Uncertainty-Aware Blood Glucose Prediction for Type 1 Diabetes....	323
<i>Sarala Ghimire (University of Agder, Norway), Turgay Celik (University of Agder, Norway), Martin Gerdes (University of Agder, Norway), and Christian W. Omlin (University of Agder, Norway)</i>	

Online Simulation of a Diabetic-Patient Metabolism and a Realistic Meal Composition	329
<i>Tomas Koutny (University of West Bohemia in Pilsen, Czech Republic)</i>	
<i>and Martin Ubl (University of West Bohemia in Pilsen, Czech Republic)</i>	

Poster's Presentations

Driving and Sleep Deprivation: Comparing Interventions using a Driving Simulator with EEG Analysis	335
<i>Niki Eleni Ntagka (University of Ioannina, Greece), Emmanouil D. Oikonomou (University of Ioannina, Greece), Konstantinos Sakkas (University of Ioannina, Greece), Vasileios Choutas (University of Ioannina, Greece), Vasileios Aspiotis (University of Ioannina, Greece), Nikolaos Giannakeas (University of Ioannina, Greece), Alexandros T. Tzallas (University of Ioannina, Greece), and Andreas Miltiadous (University of Ioannina, Greece)</i>	
Advances on Real Time M/EEG Neural Feature Extraction	337
<i>Payam S. Shabestari (University Hospital Zurich, Switzerland), Delphine Ribes (EPFL, Switzerland), Lara Défayes (EPFL, Switzerland), Danpeng Cai (EPFL, Switzerland), Emily Groves (EPFL, Switzerland), Harry H. Behjat (Lund University, Sweden), Dimitri Van de Ville (EPFL, Switzerland), Tobias Kleinjung (University Hospital Zurich, Switzerland), Adrian Naas (University of Fribourg, Switzerland), Nicolas Henchoz (EPFL, Switzerland), Andreas Sonderegger (University of Fribourg, Switzerland), and Patrick Neff (University Hospital Zurich, Switzerland)</i>	
Belle Quantified Dimensions: Precise and Automatic Quantification of Skin Lesion from Dermoscope Calibration Scale	339
<i>Paul Fricker (Torus.ai & Belle.ai), Susely Figueroa (Torus.ai & Belle.ai), Clément Lemeunier (Torus.ai & Belle.ai), and Hang Nguyen (Torus.ai & Belle.ai)</i>	
Intraoperative Absolute Depth Estimation in MVD Surgery	341
<i>Jinhee Lee (Bongseng Memorial Hospital, South Korea; Stanford University, USA), Hwanhee Lee (Bongseng Memorial Hospital, South Korea; Stanford University, USA), Jay J. Park (Stanford University, USA), Ethan Htun (Stanford University, USA), Bruce Changlong Xu (Stanford University, USA), Sang Hoon Cho (Stanford University, USA), Sanghoon Lee (Bongseng Memorial Hospital, South Korea), and Vivek P. Buch (Stanford University, USA)</i>	
Towards Universal Cytopathology Segmentation: Transformer and CNN Models Across Stains	343
<i>Luís O. Santos (Federal University of Santa Catarina, Brasil), Rodrigo P. S. Ribeiro (Federal University of Santa Catarina, Brasil), Aldo von Wangenheim (Federal University of Santa Catarina, Brasil), Alexandre S. C. Onofre (Federal University of Santa Catarina, Brasil), Fabiana B. M. Onofre (Federal University of Santa Catarina, Brasil), Bibiana Q. Tiellet (Federal University of Santa Catarina, Brasil), Beatriz S. Lopes (Federal University of Santa Catarina, Brasil), and Douglas J. D. Macedo (Federal University of Santa Catarina, Brasil)</i>	

Special Track on Network Medicine (NM) II

Differential Co-Expression Networks of Tumor Educated Platelets Transcriptome for Glioblastoma Multiforme Diagnosis	345
<i>Mattia Manna (Sapienza University of Rome, Italy), Simone Boesso (Sapienza University of Rome, Italy), Lorenzo Farina (Sapienza University of Rome, Italy), and Manuela Petti (Sapienza University of Rome, Italy)</i>	
Exploring Protein Patterns, Cavity Interactions, and Therapeutic Insights in Cancer	351
<i>Paloma Tejera-Nevado (Universidad Politécnica de Madrid, Spain), Belén Otero-Carrasco (Universidad Politécnica de Madrid, Spain), and Alejandro Rodríguez-González (Universidad Politécnica de Madrid, Spain)</i>	
Evaluating the Influence of Disease-Gene Associations in the Significance of Disease Modules through the Lens of Network Medicine	357
<i>Antonio Gil Hoed (Universidad Politécnica de Madrid, Spain), Lucía Prieto-Santamaría (Universidad Politécnica de Madrid, Spain), and Alejandro Rodríguez-González (Universidad Politécnica de Madrid, Spain)</i>	

Main Track: Medical Image Segmentation IIII

Multi-Task Learning for Simultaneous CT Synthesis and OAR Segmentation in Adaptive Proton Therapy	363
<i>Blanca Rodríguez-González (Universidad Rey Juan Carlos, Spain), Javier Hernández-Rubia (Universidad Rey Juan Carlos, Spain), Borja Rodríguez-Vila (Universidad Rey Juan Carlos, Spain), Angel Torrado-Carvajal (Universidad Rey Juan Carlos, Spain), Alejandro Mazal (Centro de Protonterapia Quironsalud, Spain), Juan Antonio Vera-Sánchez (Centro de Protonterapia Quironsalud, Spain), and Norberto Malpica (Universidad Rey Juan Carlos, Spain)</i>	
CNN Ensembles for Nuclei Instance Segmentation in OED Histological Images	369
<i>Adriano B. Silva (Federal University of Uberlândia), Jose E. B. Apumayta (Federal University of Uberlândia), Thaína A. A. Tosta (Federal University of São Paulo), Alessandro S. Martins (Federal Institute of Triângulo Mineiro), Domingos L. L. de Oliveira (Federal University of Uberlândia; Federal Institute of Education, Science and Technology of São Paulo), Leandro A. Neves (São Paulo State University), Paulo R. de Faria (Federal University of Uberlândia), and Marcelo Z. do Nascimento (Federal University of Uberlândia)</i>	
Can Foundation Models Really Segment Tumors? A Benchmarking Odyssey in Lung CT Imaging	375
<i>Elena Mulero Ayllón (Università Campus Bio-Medico di Roma, Italy), Massimiliano Mantegna (Università Campus Bio-Medico di Roma, Italy), Linlin Shen (Shenzhen University, China), Paolo Soda (Università Campus Bio-Medico di Roma, Italy; Umeå University, Sweden), Valerio Guarrasi (Università Campus Bio-Medico di Roma, Italy), and Matteo Tortora (University of Genoa, Italy)</i>	

Main Track: m-Health and Telemedicine

Leveraging Natural Language Processing for mHealth Development: A Component-Based Approach using Nursing Taxonomies	381
<i>William Niemiec (Federal University of Rio Grande do Sul, Brazil), Anderson Rocha Tavares (Federal University of Rio Grande do Sul, Brazil), and Erika Fernandes Cota (Federal University of Rio Grande do Sul, Brazil)</i>	
Automated Regulatory Classification of Mobile Medical Apps	387
<i>Ernest C. Chianumba (Montclair State University, USA), Franklyn Kogolo (Montclair State University, USA), and Raina Samuel (Montclair State University, USA)</i>	
Machine Learning Prediction of Heart Health Status from Mobile PPG Sensor Data	393
<i>Sergio A. Alvarez (Boston College, USA), Corrine Y. Jurgens (Boston College, USA), Yik Ki Lam (U. of Notre Dame, USA), Easton Cummins (U. of Cincinnati College of Medicine, USA), Jacqueline C. Massaro (Boston College, USA), Charounipha Soybara (Massachusetts General Hospital, USA), Christopher S. Lee (Boston College, USA), and Marvin A. Konstam (Tufts Medical Center and Tufts U. School of Medicine, USA)</i>	

Main Track: Speech Analysis

LTD-Conformer: Speech Depression Detection with Speaking and Listening Perspectives	399
<i>Jihun Lee (Chosun University, Korea), Jisun Hong (Chosun University, Korea), Daegil Choi (Chosun University, Korea), and Jaehyo Jung (Eulji University, Korea)</i>	
A Platform for the Delivery of Speech Treatment for Dysarthria in Multisystemic Ataxia	405
<i>Anthony Stell (University of Melbourne, Australia), Adam P. Vogel (University of Melbourne, Australia), Jean Paul Vera Soto (University of Melbourne, Australia), Alejandra Abril Pareja (University of Melbourne, Australia), and Richard Sinnott (University of Melbourne, Australia)</i>	
Augmented Speech Generalization in Parkinson's Disease Detection	411
<i>Máté Hireš (Technical university of Košice, Slovakia) and Peter Drotár (Technical university of Košice, Slovakia)</i>	

Special Track on Multimodal Artificial Intelligence in Healthcare (MAIH) I

Point, Detect, Count: Multi-Task Medical Image Understanding with Instruction-Tuned Vision-Language Models	415
<i>Sushant Gautam (Simula Metropolitan Center for Digital Engineering (SimulaMet), Norway; Oslo Metropolitan University (OsloMet), Norway), Michael A. Riegler (Simula Research Laboratory, Norway), and Pål Halvorsen (Simula Metropolitan Center for Digital Engineering (SimulaMet), Norway; Oslo Metropolitan University (OsloMet), Norway)</i>	

LEFORMER: Liquid Enhanced Multimodal Learning for Depression Severity Estimation	423
<i>Jisun Hong (Chosun University, Korea), Jihun Lee (Chosun University, Korea), Daegil Choi (Chosun University, Korea), and Jaehyo Jung (Eulji University, Korea)</i>	
Generative-AI Solutions for Connecting Seniors and Healthcare Providers	429
<i>Emad Deilam Salehi (McMaster University, Canada), Yufei Yuan (McMaster University, Canada), and Kamran Sartipi (East Carolina University, USA)</i>	
A Multilingual Multimodal Medical Examination Dataset for Visual Question Answering in Healthcare	435
<i>Giuseppe Riccio (University of Naples Federico II, Italy), Antonio Romano (University of Naples Federico II, Italy), Mariano Barone (University of Naples Federico II, Italy), Gian Marco Orlando (University of Naples Federico II, Italy), Diego Russo (University of Naples Federico II, Italy), Marco Postiglione (Northwestern University, United States), Valerio La Gatta (Northwestern University, United States), and Vincenzo Moscato (University of Naples Federico II, Italy)</i>	

Special Track on Security and Privacy in Health Systems—Addressing Technology, Society, and Law (SPHS)

Differentially Private Non Parametric Copulas: Generating Synthetic Data with Non Parametric Copulas under Privacy Guarantees	441
<i>Pablo A. Osorio-Marulanda (Basque Research and Technology Alliance (BRTA), Spain; Universidad EAFIT, Colombia), John Esteban Castro Ramirez (Universidad EAFIT, Colombia), Mikel Hernández Jiménez (Basque Research and Technology Alliance (BRTA), Spain; Biogipuzkoa Health Research Institute, Spain), Nicolas Moreno Reyes (Universidad EAFIT, Colombia), and Gorka Epelde Unanue (Basque Research and Technology Alliance (BRTA), Spain; Biogipuzkoa Health Research Institute, Spain)</i>	
ECG De-Anonymization: Real-World Risks and a Privacy-by-Design Mitigation Strategy	449
<i>Hamza Aguelal (University College Cork, Ireland) and Paolo Palmieri (University College Cork, Ireland)</i>	
An Implementation Framework Supporting Privacy by Design in Mobile Health Applications	457
<i>Raphael Abreu F. de Jesus (BRIDGE Lab. (UFSC), Brazil), Fabricio de O. Ourique (Queen Mary University of London, United Kingdom), Jim Lau (Federal University of Santa Catarina (UFSC), Brazil), Roberto Rodrigues-Filho (Federal University of Santa Catarina (UFSC), Brazil), Luciana B. Frigo (Federal University of Santa Catarina (UFSC), Brazil), Alison R. Panisson (Federal University of Santa Catarina (UFSC), Brazil), and Analucia S. Morales (Federal University of Santa Catarina (UFSC), Brazil)</i>	

Main Track: Virtual and Interactive Technologies in Healthcare

VIA-VR: A Platform to Streamline the Development of Virtual Reality Serious Games for Healthcare	463
<i>Samuel Truman (University of Würzburg, Germany) and Sebastian von Mammen (University of Würzburg, Germany)</i>	

Lower-Limb Bradykinesia Assessment in Parkinson's Disease from Routine Clinical Videos	469
<i>Katherine Coutinho (Universidad Rey Juan Carlos, Spain), José Lapeña (Hospital Universitario 12 de Octubre, Spain), Mariana H.G. Monje (Northwestern University, USA), José C. Martínez (Universidad Politécnica de Madrid, Spain), David A. Pérez (Hospital Universitario 12 de Octubre, Spain), Alvaro Sánchez (Hospital Universitario 12 de Octubre, Spain), and Norberto A. Malpica (Universidad Rey Juan Carlos, Spain)</i>	
Using Proactive Computing for Real-Time Feedback in High-Fidelity Medical Simulation	475
<i>Nazanin Sheykhmohammadi (University of Luxembourg, Luxembourg), Denis Zampunieris (University of Luxembourg, Luxembourg), Sandro Reis (University of Luxembourg, Luxembourg), and Christian Grévisse (University of Luxembourg, Luxembourg)</i>	
Impact of Immersive and Non-Immersive Displays on User Performance in a Haptic-Enabled Virtual Reality Platform	480
<i>Ana Ciscal (University of Valladolid, Spain), Javier Pérez-Turiel (University of Valladolid, Spain), and Juan Carlos Fraile (University of Valladolid, Spain)</i>	

Main Track: AI for Diagnosis, Prediction and Radiomics

A Multi-Task Learning Framework for Mortality Prediction in Liver Transplant Candidates	484
<i>Abdelghani Halimi (Institut Polytechnique de Paris, France; Rue de la Chapelle de l'Hôpital, France), Nesma Houmani (Institut Polytechnique de Paris, France), Sonia Garcia-Salicetti (Institut Polytechnique de Paris, France), Ilias Kounis (Université Paris-Saclay, France), and Audrey Coilly (Université Paris-Saclay, France)</i>	
Enhancing Radiomic Feature Robustness through Voxel Spacing-Aware Extraction in Anisotropic CT Data	490
<i>David Corral Fontecha (Complejo Asistencial universitario de León, Spain), Pablo Menendez Fernández-Miranda (Hospital Universitario Rey Juan Carlos, Spain), Sergio Rubio-Martín (Universidad de León, Spain), Alicia Merayo-Corcoba (Universidad de León, Spain), Laura López González (Complejo Asistencial universitario de León, Spain), Lara Lloret Iglesias (IFCA-CSIC, Spain), and Jose A Vega (Universidad de Oviedo, Spain; Universidad Autónoma de Chile, Chile)</i>	
A Novel Approach for Automated Renal Stone Detection from KUB Radiographs in Thai Population	496
<i>Paniti Achararit (Chulabhorn Royal Academy, Thailand), Pawaree Nonthasaen (Chulabhorn Royal Academy, Thailand), Sutheera Kungwanchai (Chiangrai Prachanukroh Hospital, Thailand), and Suthee Treewatanawong (Chiangrai Prachanukroh Hospital, Thailand)</i>	
Assessing a Proposed Dynamic Ratio in Dataset Class Imbalance with GAN's Generated Melanoma Images	500
<i>Gerardo Alejandro Fumagal-González (Tecnológico de Monterrey, Mexico), Jorge Alberto Garza-Abdala (Tecnológico de Monterrey, Mexico), Alma Alhelí Pedro Pérez (Pontificia Universidad Católica de Chile, Chile), and José Gerardo Tamez-Pena (Tecnológico de Monterrey, Mexico)</i>	

Poster's Presentations

DRIVE: A Data-Driven Platform for Disease Visualization and Drug Repurposing	504
<i>Alejandro Rodríguez González (Universidad Politécnica de Madrid, Spain), Lucia Prieto Santamaría (Universidad Politécnica de Madrid, Spain), Belén Otero Carrasco (Universidad Politécnica de Madrid, Spain), Andrea Álvarez Pérez (Universidad Politécnica de Madrid, Spain), and David Juste Urraca (Universidad Politécnica de Madrid, Spain)</i>	
MindMap: ML-Based Mapping of the Progression of Alzheimer's Disease using Human Expression as a Behavioral Biomarker	506
<i>Soumik Chemudupati (Liberal Arts and Science Academy, USA)</i>	
Machine Learning Identification of Genetic Variants Associated with Sub-Optimal Ovarian Response and Hyper-Response	508
<i>José A. Ortiz (Instituto Bernabeu, Spain), B. Lledó (Instituto Bernabeu, Spain), L. Luque (Instituto Bernabeu, Spain), R. Morales (Instituto Bernabeu, Spain), J. Guerrero (Instituto Bernabeu, Spain), and A. Bernabeu (Instituto Bernabeu, Spain)</i>	
Supervised Machine Learning and Active Learning for Surrogate Outcome Detection in Clinical Protocols	510
<i>Onyeka Obuaya (University of Edinburgh, United Kingdom), Saturnino Luz (University of Edinburgh, United Kingdom), Shane Sheehan (University of Edinburgh, United Kingdom), Rod Taylor (University of Glasgow, United Kingdom), and Christopher Weir (University of Edinburgh, United Kingdom)</i>	
Explainable AI and Trust, Design Methodologies to Explore Patients' Perspective	512
<i>Wen Zhan (École polytechnique fédérale de Lausanne, Switzerland), Margherita Motta (École polytechnique fédérale de Lausanne, Switzerland), Sebastian Baez-Lugo (École polytechnique fédérale de Lausanne, Switzerland), Nicolas Henchoz (École polytechnique fédérale de Lausanne, Switzerland), Meritxell Bach Cuadra (University Hospital and University of Lausanne, Switzerland), and Delphine Ribes Lemay (École polytechnique fédérale de Lausanne, Switzerland)</i>	
Extracting and Visualizing Frequent Medical Instruction Patterns with Statistical Insights from Multi-Institutional Electronic Medical Record Data	514
<i>Miwa Sugitani (Ochanomizu University, Japan), Ryosuke Matsuo (Ochanomizu University, Japan), Tomoyoshi Yamazaki (Ochanomizu University, Japan), Kenji Araki (Ochanomizu University, Japan), Masato Oguchi (Ochanomizu University, Japan), Haruo Yokota (Josai University, Japan), and Hieu Hanh Le (Ochanomizu University, Japan)</i>	

Special Track on Multimodal Artificial Intelligence in Healthcare (MAIH) II

Distilling Genomic Knowledge into Whole Slide Imaging for Glioma Molecular Classification	516
<i>Qiao Chen (University of Jyväskylä, Finland), Hongming Xu (Dalian University of Technology, China), Xinyu Hao (University of Jyväskylä, Finland), Qibin Zhang (Dalian University of Technology, China), Huamin Qin (Capital Medical University, China), Tommi Kärkkäinen (University of Jyväskylä, Finland), and Fengyu Cong (Dalian University of Technology, China)</i>	
Bone Fracture Detection via GANs-Based Multi-Modal Fusion Technique	522
<i>Emilio Paspuel-Montalvo (King Fahd University of Petroleum and Minerals, Saudi Arabia), Khushboo Munir (King Fahd University of Petroleum and Minerals, Saudi Arabia), and Abdullah F. Al-Battal (King Fahd University of Petroleum and Minerals, Saudi Arabia)</i>	
Whole-Body Image-to-Image Translation for a Virtual Scanner in a Healthcare Digital Twin	528
<i>Valerio Guarraasi (Università Campus Bio-Medico di Roma, Italy), Francesco Di Feola (Umeå University, Sweden), Rebecca Restivo (Università Campus Bio-Medico di Roma, Italy), Lorenzo Tronchin (Università Campus Bio-Medico di Roma, Italy; Umeå University, Sweden), and Paolo Soda (Università Campus Bio-Medico di Roma, Italy; Umeå University, Sweden)</i>	
A Comparison of Open Source Deep Learning Based Models for Automatic Tumor Segmentation in Radiotherapy Planning of Glioblastoma Multiforme Adult Patients	535
<i>Gloria Campos (Universitat Politècnica de València, Spain), Maria Beser-Robles (Instituto de Investigación Sanitaria La Fe, Spain), Jaime Castellà-Malonda (Hospital Universitario y Politécnico de La Fe, Spain), Luis Martí-Bonmatí (Instituto de Investigación Sanitaria La Fe, Spain), Christian Mata (Universitat Politècnica de Catalunya - BarcelonaTech (UPC), Spain), and Montserrat Carles (Instituto de Investigación Sanitaria La Fe, Spain)</i>	

Main Track: Bioinformatics

Advanced Graph-Based Approaches for Predicting Antimicrobial Resistance in Intensive Care Units	541
<i>Paula Martín-Palomeque (King Juan Carlos University, Spain), Óscar Escudero-Arnanz (King Juan Carlos University, Spain), Cristina Soguero-Ruiz (King Juan Carlos University, Spain), and Antonio G. Marques (King Juan Carlos University, Spain)</i>	
Identification of Novel Drug-Drug Interactions as Out-of-Distribution Samples	549
<i>Dimitrios Lezos (The American College of Greece—Deree, Greece) and Dimitrios Vogiatzis (The American College of Greece—Deree, Greece; National Center for Scientific Research, "Democritos", Greece)</i>	
VIRTUAL-CARDIO-DRUG: AI-Powered SBVS for Cardiovascular Drug Discovery	555
<i>Álvaro Serrano Navarro (CNIC, Spain), Juan Ignacio Alvarez Arenas (CNIC, Spain), Alberto Gonzalez Calatayud (CNIC, Spain), Jose Antonio Enríquez (CNIC, Spain; CIBERFES, Spain), Fernando Martínez de Benito (CNIC, Spain), and Fátima Sánchez Cabo (CNIC, Spain; CIBER-CV, Spain)</i>	

Multi-Scale Genomic Signatures and Machine Learning for Enhanced Prediction of Antimicrobial Resistance	559
---	-----

*Axel Alejandro Ramos García (Tecnologico de Monterrey, Mexico),
Cuauhtémoc Licon Cassani (Tecnologico de Monterrey, Mexico), and
Alejandro Santos Díaz (Tecnologico de Monterrey, Mexico)*

Microbial Signatures of Addiction: A Computational Analysis of Gut Microbiota in Substance use Disorders	563
--	-----

*Juan Esparza Sanchez (Tecnologico de Monterrey, Mexico), Marco A.
Parra Vilchis (Tecnologico de Monterrey, Mexico), Diego A. Garibi
Miranda (Tecnologico de Monterrey, Mexico), Maricruz
Sepulveda-Villegas (Tecnologico de Monterrey, Mexico), Angelica Lizeth
Sanchez-Lopez (Tecnologico de Monterrey, Mexico), and Gildardo
Sanchez-Ante (Tecnologico de Monterrey, Mexico)*

Main Track: Monitoring and Interaction in Assistive Therapies

Remote Monitoring of Rehabilitation Exercises through Motion Assessment	567
---	-----

*Ilaria Basile (National Research Council (CNR), Italy) and Giovanna
Sannino (National Research Council (CNR), Italy)*

Exploring the Ecological Validity of Living Labs Through Real-World Experimentation: A Case Study on Motion Monitoring in Older Adults	573
--	-----

*Styliana Siakopoulou (Aristotle University of Thessaloniki, Greece),
Antonis Billis (Aristotle University of Thessaloniki, Greece), Stavros
Vasakos (Aristotle University of Thessaloniki, Greece), Apollon Zoiros
(Aristotle University of Thessaloniki, Greece), and Panagiotis D.
Bamidis (Aristotle University of Thessaloniki, Greece)*

Robot-Assisted Upper Limb Rehabilitation System Based on Variable Admittance Control	579
--	-----

*Davide Colasanto (University of Florence, Italy), Nicola Secciani
(University of Florence, Italy), Alessandro Bucci (University of
Florence, Italy), Alberto Topini (University of Florence, Italy),
Alessandro Ridolfi (University of Florence, Italy), and Benedetto
Allotta (University of Florence, Italy)*

Interaction Detection in Images of Therapy Sessions with Children with Autism Spectrum Disorder	585
---	-----

*Brenda Caroline Santos Mendes (Universidade Federal de Santa Catarina,
Brazil), Jônata Tyska (Universidade Federal de Santa Catarina, Brazil;
CNR, Italy), and Mateus Grellert (Universidade Federal do Rio Grande
do Sul, Brazil)*

Main Track: Explainability and Interpretability in Medicine

Explanation Supported Learning: Improving Prediction Performance with Explainable Artificial Intelligence	591
---	-----

*Adrian Duric (University of Oslo, Norway), Jim Torresen (University of
Oslo, Norway), Michael A. Riegler (Simula Research Laboratory,
Norway), and Hugo Lewi Hammer (Oslo Metropolitan University, Norway)*

Detection of Active and Latent Tuberculosis with Explainable Deep Learning Ensembles	599
<i>Lara Visuña (University Carlos III of Madrid, Spain), Javier Garcia-Blas (University Carlos III of Madrid, Spain), and Jasús Carretero (University Carlos III of Madrid, Spain)</i>	
Classifying Residual Inhibition in the Context of Tinnitus: An Interpretable Machine Learning Approach	605
<i>Hafez Kader (Otto von Guericke University Magdeburg, Germany), Steven C. Marcrum (University Hospital Regensburg, Germany), Milena Engelke (University of Regensburg, Germany), Niklas K. Edvall (Karolinska Institutet, Sweden), Berthold Langguth (University of Regensburg, Germany), Birgit Mazurek (Charité - Universitätsmedizin Berlin, Freie Universität Berlin, Humboldt-Universität zu Berlin, Berlin Institute of Health), Jose Antonio Lopez-Escamez (University of Sydney, Australia; Universidad de Granada, Spain), Dimitrios Kikidis (National and Kapodistrian University of Athens, Greece), Rilana Cima (Katholieke Universiteit Leuven, Belgium), Patrick Neff (University Hospital Zurich, University of Zurich, Switzerland), Winfried Schlee (University of Regensburg, Germany; Eastern Switzerland University of Applied Sciences, Switzerland), Christopher R. Cederroth (Karolinska Institutet, Sweden; University of Tübingen, Germany), Benjamin Noack (Otto von Guericke University Magdeburg, Germany), Myra Spiliopoulou (Otto von Guericke University Magdeburg, Germany), and Stefan Schoisswohl (University of Regensburg, Germany; Universitaet der Bundeswehr München, Germany)</i>	
Interpretable Machine Learning for Early Detection of Critical Outcomes in the Emergency Department	612
<i>Waqar Aziz Sulaiman (University of Cyprus, Cyprus), Andreas Panayides (CYENS Centre of Excellence, Cyprus), Eirini Schiza (CYENS Centre of Excellence, Cyprus), Efthymoulos Kyriacou (Cyprus University of Technology, Cyprus), Antonis Kakas (University of Cyprus, Cyprus; CYENS Centre of Excellence, Cyprus), and Constantinos S. Pattichis (University of Cyprus, Cyprus; CYENS Centre of Excellence, Cyprus)</i>	

Special Track on Multimodal Artificial Intelligence in Healthcare (MAIH) III

Color Normalization by Dictionary Learning with Nuclear Segmentation Evaluation in H&E Histological Images	616
<i>André Fernando Quaresma da Silva (Federal University of São Paulo, Brazil), André Dias Freitas (Federal University of Uberlândia, Brazil), Paulo Rogério de Faria (Federal University of Uberlândia, Brazil), Leandro Alves Neves (São Paulo State University, Brazil), Marcelo Zanchetta do Nascimento (Federal University of Uberlândia, Brazil), and Tháina A. A. Tosta (Federal University of São Paulo, Brazil)</i>	

ProjectedEx: Enhancing Generation in Explainable AI for Prostate Cancer	623
<i>Xuyin Qi (Flinders University; The University of Adelaide, Australia), Zeyu Zhang (Flinders University; The Australian National University, Australia), Aaron Berliano Handoko (The University of Sydney, Australia), Huazhan Zheng (Zhejiang University of Technology, China), Mingxi Chen (Guangdong Technion – Israel Institute of Technology, China), Ta Duc Huy (The University of Adelaide, Australia), Vu Minh Hieu Phan (The University of Adelaide, Australia), Lei Zhang (University of Chinese Academy of Sciences, China), Linqi Cheng (Rice University, United States), Shiyu Jiang (Johns Hopkins University, United States), Zhiwei Zhang (The Pennsylvania State University, United States), Zhibin Liao (The University of Adelaide, Australia), Yang Zhao (La Trobe University, Australia), and Minh-Son To (Flinders University, Australia)</i>	
Graph Neural Networks for the Localization of Breathing Abnormalities	630
<i>Syed Muhammad Hamza Zaidi (Otto-von-Guericke-University Magdeburg, Germany) and Myra Spiliopoulou (Otto-von-Guericke-University Magdeburg, Germany)</i>	
Comparison of ConvNeXt and Vision-Language Models for Breast Density Assessment in Screening Mammography	636
<i>Yusdivia Molina-Román (Tecnologico de Monterrey, Mexico), David Gómez-Ortiz (Universidad Politécnica de Madrid, Spain), Ernestina Menasalvas-Ruiz (Universidad Politécnica de Madrid, Spain), José Gerardo Tamez-Peña (Tecnologico de Monterrey, Mexico), and Alejandro Santos-Díaz (Tecnologico de Monterrey, Mexico)</i>	

Special Track on Semantic Interoperability of Biomedical Data (SIBIDA) I

FHIR Lens: A Graph-Based Approach to Semantic EHR Exploration	642
<i>Dominik Tomaszuk (TU Wien, Austria), Arslan Smajevic (TU Wien, Austria), Tomer Sagi (Aalborg University, Denmark), and Katja Hose (TU Wien, Austria)</i>	
Predicting Similarities between Biomedical Ontologies : The UMLS Use-Case	648
<i>Safaa Menad (Normandie Univ, France), Saïd Abdeddaïm (Normandie Univ, France), and Lina F. Soualmia (Normandie Univ, France)</i>	
Enhancing the Description-Detection Framework with Semantic Clustering using BioSTransformers	654
<i>Safaa Menad (Normandie Univ, France), Gabriel H. A. Medeiros (Normandie Univ, France), and Lina F. Soualmia (Normandie Univ, France)</i>	
Lung-CABO: Lung Cancer Concepts Association Biological Ontology	660
<i>Delia Aminta Moreno-Perdomo (Universidad Politécnica de Madrid, Spain), Paloma Tejera-Nevado (Universidad Politécnica de Madrid, Spain), Lucía Prieto-Santamaría (Universidad Politécnica de Madrid, Spain), Guillermo Vigueras (Universidad Politécnica de Madrid, Spain), Antonio Jesus Diaz-Honrubia (Universidad Politécnica de Madrid, Spain), and Alejandro Rodríguez-González (Universidad Politécnica de Madrid, Spain)</i>	

An Embedding-Based Machine Learning Solution for Medical Concept Mapping	664
<i>Vicente Barros (University of Aveiro, Portugal), Raquel Paradinha (University of Aveiro, Portugal), João Rafael Almeida (University of Aveiro, Portugal), and José Luís Oliveira (University of Aveiro, Portugal)</i>	

Main Track: AI in Chest Imaging

The Hidden Threat of Hallucinations in Binary Chest X-ray Pneumonia Classification	668
<i>Sivaramakrishnan Rajaraman (National Institutes of Health, USA), Zhaohui Liang (National Institutes of Health, USA), Niccolo Marini (National Institutes of Health, USA), Zhiyun Xue (National Institutes of Health, USA), and Sameer Antani (National Institutes of Health, USA)</i>	
Evaluation of Client Participation on Federated Learning Scenario for Chest X-ray Imaging	674
<i>Carlos F. Del Cerro (Universidad Carlos III de Madrid, Spain), M. Desco (Universidad Carlos III de Madrid, Spain), and M. Abella (Universidad Carlos III de Madrid, Spain)</i>	
Enhancing Pulmonary Nodule Localization Based on Latent Representations	680
<i>Charmi Patel (DePaul University, USA), Yiyang Wang (Milwaukee School of Engineering, USA), Roselyne Tchoua (DePaul University, USA), Thiruvarangan Ramaraj (DePaul University, USA), Jacob Furst (DePaul University, USA), and Daniela Raicu (DePaul University, USA)</i>	
Hybrid 3D CNN-MAMBA for Emphysema Classification in the SCAPIS Cohort	686
<i>Francesco Di Feola (Umeå University, Sweden), Marida De Maria (Magna Græcia University of Catanzaro, Italy), Göran Bergström (University of Gothenburg, Sweden; Sahlgrenska University Hospital, Sweden), Anders Blomberg (Umeå University, Sweden), Åse Johnsson (University of Gothenburg, Sweden; Sahlgrenska University Hospital, Sweden), Pierangelo Veltri (University of Calabria (Rende), Italy), and Paolo Soda (Umeå University, Sweden; Università Campus Bio-Medico di Roma, Italy)</i>	

Main Track: Advanced Learning Techniques in Medical Decision Support

Improving Diabetic Retinopathy Classification using Class Imbalance Correction Techniques	693
<i>Caroline König (IDEAI-UPC, Spain), Pedro Copado (IDEAI-UPC, Spain), Enrique Romero (IDEAI-UPC, Spain), Javier Zarranz-Ventura (Institut Clínic d'Oftalmologia (ICOF), Spain), and Alfredo Vellido (IDEAI-UPC, Spain)</i>	
Evaluation of Few-Shot Learning Methods for Kidney Stone Type Recognition in Ureteroscopy	699
<i>Carlos Salazar-Ruiz (Tecnologico de Monterrey, Mexico), Francisco Lopez-Tiro (Tecnologico de Monterrey, Mexico; Université de Lorraine, France), Ivan Reyes-Amezcuca (Tecnologico de Monterrey, Mexico), Clement Larose (Université de Lorraine, France; CHRU de Nancy-Brabois, France), Gilberto Ochoa-Ruiz (Tecnologico de Monterrey, Mexico), and Christian Daul (Université de Lorraine, France)</i>	

Unsupervised Domain Adaptation with Contrastive Learning for Classifying Breast Lesions in Mammograms	705
<i>Mariam M. Hassan (Universitat Rovira i Virgili, Spain; Institute of National Planning, Egypt), Mohamed Ragab (A*STAR, Singapore), Mohamed Abdel-Nasser (Aswan University, Egypt), and Domenec Puig (Universitat Rovira i Virgili, Spain)</i>	
Beyond the Black-Box: Understanding XGBoost to Predict Pediatric Hospital Readmission	711
<i>Nayara Cristina da Silva (Federal University of Uberlandia, Brazil), Marcelo Keese Albertini (Federal University of Uberlandia, Brazil), André Ricardo Backes (Federal University of São Carlos, Brazil), and Geórgia das Graças Pena (Federal University of Uberlandia, Brazil)</i>	

Poster's Presentations

Towards Detection of Perfusion Disorders using Remote Photoplethysmography	717
<i>Samuel Tauber (Fraunhofer Institute of Microelectronic Circuits and Systems, Germany), Christian Wiede (Fraunhofer Institute of Microelectronic Circuits and Systems, Germany), and Karsten Seidl (Univ. of Duisburg-Essen, Germany)</i>	
Circadian Stability via Accelerometer in People with Dementia: A DARK.DEM Proof-of-Concept... 719	
<i>Valentina Casadei (University of Bergen, Norway), Monica Patrascu (Univ. of Bergen, Norway), Line I. Berge (Univ. of Bergen, Norway), Sunniva Vibe Skagen (University of Bergen, Norway), Kjersti Nadreskar (University of Bergen, Norway), and Kamilla Haugland (University of Bergen, Norway)</i>	
Automated Digitisation and Analysis of Paper Pain Drawings for Improved Diagnostic Accuracy of Polymyalgia Rheumatica in Primary Care	721
<i>Darcy Murphy (University of Manchester, UK), Sarah Mackie (University of Leeds, UK), David Wong (University of Leeds, UK), William Dixon (University of Manchester, UK), and Sabine van der Veer (University of Manchester, UK)</i>	
A Clinician Perspective on Sensor Data in People with Dementia at the End of Life: Preliminary Results from the 5-D Study	723
<i>Kamilla Haugland (University of Bergen, Norway), Monica Patrascu (Univ. Bergen, Norway), Bettina S. Husebo (University of Bergen, Norway), Anne Therese Hatle (University of Bergen, Norway), Tanja Lukkari (University of Bergen, Norway), Brice Marty (University of Bergen, Norway), and Valentina Casadei (University of Bergen, Norway)</i>	
Exploring Causal Modeling to Enhance Diabetes Prediction and Management	725
<i>Patrizia Quaranta (University of Naples Federico II Naples, Italy) and Roberto Pietrantuono (University of Naples Federico II Naples, Italy)</i>	

Special Track: Projects and Industry Track

ELADAIS: An Integrated Platform for High-Impact Clinical Data Extraction, Standardization and Advanced Analytics using OMOP-CDM	727
<i>Alejandro Rodríguez-González (Universidad Politécnica de Madrid, Spain), Victor Robles (Universidad Politécnica de Madrid, Spain), Juan José Cubillas Mercado (Minsait, Spain), Juan Manuel Martínez Pérez (Minsait, Spain), Jose Luis González Mendez (Minsait, Spain), and Ernestina Menasalvas Ruiz (Universidad Politécnica de Madrid, Spain)</i>	
A Machine Learning Approach for Anxiety and Depression Prediction using GAD-7 and PHQ-9 Questionnaires	732
<i>Arthur R. S. Vitória (Federal University of Goiás, Brazil), Stephany J. A. Resque (Federal University of Goiás, Brazil), Sérgio C. Junior (Federal University of Goiás, Brazil), Hugo M. V. Jardim (Federal University of Goiás, Brazil), Rodrigo S. Dias (DMHealth, Brazil), Iwens G. Sene Junior (Federal University of Goiás, Brazil), and Renato F. Bulcão-Neto (Federal University of Goiás, Brazil)</i>	
AI-Powered Insulin Pens for Pediatric Diabetes: Advancements in Lipodystrophy Detection and Injection Site Recognition	738
<i>Lorenzo Pede (Università Campus Bio-Medico di Roma, Italy), Mariangela Martino (Bambino Gesù Children's Hospital – IRCCS, Italy), Maria Elisa Amodeo (Bambino Gesù Children's Hospital – IRCCS, Italy), Francesca Silvestri (Bambino Gesù Children's Hospital – IRCCS, Italy), Sebastiano Battista Romano Viglialoro (Università Campus Bio-Medico di Roma, Italy), Daria Maggi (Policlinico Campus Bio-Medico, Italy), Dario Tuccinardi (Policlinico Campus Bio-Medico, Italy), Vincenzo Piemonte (Università Campus Bio-Medico di Roma, Italy), Silvia Manfrini (Policlinico Campus Bio-Medico, Italy), Riccardo Schiaffini (Bambino Gesù Children's Hospital – IRCCS, Italy), Paolo Soda (Università Campus Bio-Medico di Roma, Italy), and Ermanno Cordelli (Università del Salento, Italy)</i>	
ANT - Advancing Neurofeedback (in Tinnitus)	744
<i>Patrick Neff (University Hospital Zurich, Switzerland), Danpeng Cai (EPFL, Switzerland), Emily Groves (EPFL, Switzerland), Lara Défayes (EPFL, Switzerland), Sebastian Baez-Lugo (EPFL, Switzerland), Adrian Naas (University of Fribourg, Switzerland), Payam S. Shabestari (University Hospital Zurich, Switzerland), Nicolas Henchoz (EPFL, Switzerland), Andreas Sonderegger (University of Fribourg, Switzerland), Delphine Ribes (EPFL, Switzerland), and Tobias Kleinjung (University Hospital Zurich, Switzerland)</i>	

Rare Diseases in the Community of Portuguese-Speaking Countries: Mapping, Advances in Digital Health, and International Cooperation	747
<i>Vinicius Lima (University of São Paulo, Brazil; University of Porto, Portugal), Filipe Bernardi (University of São Paulo, Brazil; Institute for Systems Engineering and Computers of Coimbra, Portugal; University of Porto, Portugal), Rui Rijo (Institute for Systems Engineering and Computers at Coimbra, Portugal; Polytechnic Institute of Leiria, Portugal), Alberto Freitas (University of Porto, Portugal), Têmis Félix (Porto Alegre Clinics Hospital, Brazil), Ida Schwartz (Porto Alegre Clinics Hospital, Brazil), Adulai Rodrigues (Ministry of Public Health, Guinea-Bissau), Tomas Sanjuluca (Mandume ya Ndemufayo University, Angola), Olímpio Zavale (Health Research for Development LLC, Mozambique), Luis Madeira (Maputo Central Hospital, Mozambique), Julio Souza (Polytechnic Institute of Porto, Portugal), and Domingos Alves (University of São Paulo, Brazil)</i>	

Special Track on Semantic Interoperability of Biomedical Data (SIBIDA) II

Modeling Clinical Data with Attention: A Knowledge Graph Approach with CliniKG	751
<i>Eduardo Moura (University of São Paulo, Brazil), Rafael Conrado (University of São Paulo, Brazil), Leonardo O. Campos (University of São Paulo, Brazil), Mauro Marcel Olivatto (Federal University of Fronteira Sul, Brazil), Marco Antonio Gutierrez (University of São Paulo, Brazil), Caetano Traina (University of São Paulo, Brazil), Agma J. M. Traina (University of São Paulo, Brazil), and Mirela T. Cazzolato (University of São Paulo, Brazil)</i>	
Predicting Multi-Type Drug-Drug Interactions using a Disease-Specific Knowledge Graph	757
<i>Marios Vottas (National Centre of Scientific Research "Demokritos", Greece), Fotis Aisopos (National Centre of Scientific Research "Demokritos", Greece), Konstantinos Bougiatiotis (National Centre of Scientific Research "Demokritos", Greece), and Anastasia Krithara (National Centre of Scientific Research "Demokritos", Greece)</i>	
FairMed-FL: Federated Learning for Fair and Unbiased Deep Learning in Medical Imaging	763
<i>Érica Peters do Carmo (University of São Paulo (USP), Brazil), Caetano Traina (University of São Paulo (USP), Brazil), and Agma J. M. Traina (University of São Paulo (USP), Brazil)</i>	
A Federated Random Forest Solution for Secure Distributed Machine Learning	769
<i>Alexandre Cotorobai (University of Aveiro, Portugal), Jorge Miguel Silva (University of Aveiro, Portugal), and José Luís Oliveira (University of Aveiro, Portugal)</i>	

Main Track: Computational Signal Processing

Neurodegenerative Disease Classification with EEG: A Deep Learning Approach for Dementia Diagnosis	775
<i>Andreas Miltiadous (University of Ioannina, Greece), Konstantinos Sakkas (University of Ioannina, Greece), Emmanouil D. Oikonomou (University of Ioannina, Greece), Aimilia Ntetska (University of Western Macedonia, Greece), Nikolaos Giannakeas (University of Ioannina, Greece), and Alexandros T. Tzallas (University of Ioannina, Greece)</i>	
Tangent Space Mapping and CBR Synergy for EEG Classification in Neurological Disorders	781
<i>Jonah Fernandez (University of Girona, Spain), Bianca Innocenti (University of Girona, Spain), and Beatriz López (University of Girona, Spain)</i>	
Self-Supervised Learning of Band-Limited Spectral Features from Sleep EEG using Variational Autoencoders	787
<i>Akshit Soota (Worcester Polytechnic Institute, USA), Isaac Zhao (Worcester Polytechnic Institute, USA), Carolina Ruiz (Worcester Polytechnic Institute, USA), and Sergio A. Alvarez (Boston College, USA)</i>	
Benchmarking Deep Learning Architectures for ECG-Based Multi-Label Heart Disease Prediction using MIMIC-IV Database	795
<i>Eyiara Oladipo (University of Detroit Mercy, USA), Sarwar Nazrul (University of Detroit Mercy, USA), and Mohamed Nafea (Missouri University of Science and Technology, USA)</i>	

Main Track: Deep Learning in Medicine

Automated Deep Learning Approach for Post-Operative Neonatal Pain Detection and Prediction through Physiological Signals	801
<i>Jacqueline Hausmann (University of South Florida), Jiayi Wang (University of South Florida), Marcia Kneusel (University of South Florida), Stephanie Prescott (Inova Health Care), Peter R. Mouton (SRC Biosciences), Yu Sun (University of South Florida), and Dmitry Goldgof (University of South Florida)</i>	
Deep Learning-Based Models for Sickle Cell Anemia Characterization in Retinal Fundus Images	807
<i>L. Carrasco (University of A Coruña, Spain), L. Ramos (University of A Coruña, Spain), N. Barreira (University of A Coruña, Spain), A. S. Hervella (University of A Coruña, Spain), and Lina H. Raffa (King Abdulaziz University, Saudi Arabia; King Abdulaziz University, Saudi Arabia)</i>	

A Two-Stage Deep Learning Approach for Large Vessel Occlusion Detection and Volume Assessment	813
<i>Ciro Russo (University of Cassino and Lazio Meridionale, Italy), Giulio Russo (University of Cassino and Lazio Meridionale, Italy), Arnau Oliver (University of Girona, Spain), Xavier Lladó (University of Girona, Spain), Mikel Terceño (Hospital Univ. Dr Josep Trueta, Spain), Yolanda Silva (Hospital Univ. Dr Josep Trueta, Spain), Alessandro Bria (University of Cassino and Lazio Meridionale, Italy), and Claudio Marrocco (University of Cassino and Lazio Meridionale, Italy)</i>	
A Deep Learning-Assisted Hybrid Model for Electric Dosimetry in Electroporation Therapies	819
<i>Kylian Desier (Univ. of Bordeaux, France), Luc Lafitte (Univ. of Bordeaux, France), Laurent Facq (Univ. of Bordeaux, France), Olivier Sutter (Univ. of Bordeaux, France; Avicenne Hospital, France), Olivier Seror (Avicenne Hospital, France), Clair Poignard (INRIA Research Center at Rennes Univ., France), and Baudouin Denis de Senneville (Univ. of Bordeaux, France; INRIA, France)</i>	

Main Track: Biomedical Signal, Image Processing and Machine Vision

Multi-Harmonic Visualization for Actigraphy-Measured Circadian Rhythm with Evolutionary Learning in People with Dementia	823
<i>Kamilla Haugland (University of Bergen, Norway), Valentina Casadei (University of Bergen, Norway), Bettina S. Husebo (University of Bergen, Norway), Line I. Berge (University of Bergen, Norway), and Monica Patrascu (University of Bergen, Norway)</i>	
A Multi-Region Framework for Alzheimer's Disease Classification Based on Displacement Vector Field Statistics and Jacobian Determinants	829
<i>Leandro Prado de Andrade (Federal University of São Carlos, Brazil), Mario Augusto de Souza Lizier (Federal University of São Carlos, Brazil), and Ricardo José Ferrari (Federal University of São Carlos, Brazil)</i>	
Assessing Human Pose Estimation Models for Clinically Relevant Body Segment Measurements ..	835
<i>Rayele Moreira (Parnaíba Delta Federal University, Brazil), Aline Miranda (Parnaíba Delta Federal University, Brazil), Lucas Batista (Parnaíba Delta Federal University, Brazil), Renan Fialho (Parnaíba Delta Federal University, Brazil), Maria Beatriz Carvalho (Parnaíba Delta Federal University, Brazil), Rafael Sousa (University Center Inta, Brazil), Victor Hugo Bastos (Parnaíba Delta Federal University, Brazil), Silmar Teixeira (Parnaíba Delta Federal University, Brazil), and Ariel Soares Teles (Parnaíba Delta Federal University, Brazil; Federal Institute of Maranhão, Brazil)</i>	
Analyze of Sex Differences and Electromyography and Autonomic Nervous System Responses to Micro Current Stimulation	841
<i>SeungHui Kim (Dongguk University, Republic of Korea), SuLim Kang (Dongguk University, Republic of Korea), JiYean Kwon (Dongguk University, Republic of Korea), and SungMin Kim (Dongguk University, Republic of Korea)</i>	

Main Track: Vision and Language Models

MedBlock-Bot: A Blockchain-Enabled RAG System for Providing Feedback to Large Language Models Accessing Pediatric Clinical Guidelines	845
<i>Mohamed Yaseen Jabarulla (TU Braunschweig), Steffen Oeltze-Jafra (TU Braunschweig), Philipp Beerbaum (Hannover Medical School, Germany), and Theodor Uden (Hannover Medical School, Germany)</i>	
Use of Large Language Models for Cataloging Medical Reports in Reconfigurable Digital Collections	851
<i>Félix Buendía-García (Universitat Politècnica de València, Spain), Joaquín Gayoso-Cabada (Universitat Politècnica de València, Spain), and José-Luis Sierra-Rodríguez (Universidad Complutense de Madrid, Spain)</i>	
Few-Shot Prompting with Vision Language Model for Pain Classification in Infant Cry Sounds.....	857
<i>Anthony McCofie (University of South Florida, USA), Abhiram Kandiyana (University of South Florida, USA), Peter R. Mouton (SRC Biosciences, USA), Yu Sun (University of South Florida, USA), and Dmitry Goldgof (University of South Florida, USA)</i>	
CLIP-RL: Surgical Scene Segmentation using Contrastive Language-Vision Pretraining & Reinforcement Learning	863
<i>Fatmaelzahraa Ali Ahmed (Hamad Medical Corporation, Qatar), Muhammed Arsalan (Qatar University, Qatar), Abdulaziz Al-Ali (Qatar University, Qatar), Khalid Al-Jalham (Hamad Medical Corporation, Qatar), and Shidin Balakrishnan (Hamad Medical Corporation, Qatar)</i>	

Main Track: Advances in Computed Tomography

Glasses-Free Holographic Visualization of Pediatric Computed Tomography DICOM Data on Looking Glass 16" OLED	869
<i>Qianyu Xie (Jilin University, China), Noga Michelle (University of Alberta, Canada), and Puniṭhakumar Kumaradevan (University of Alberta, Canada)</i>	
AI-Driven Lung-RADS Classification on CT Reports	877
<i>Tarcísio Ferreira (Federal University of Alagoas (UFAL), Brazil), Marcelo Oliveira (Federal University of Alagoas (UFAL), Brazil), and Thales Vieira (Federal University of Alagoas (UFAL), Brazil)</i>	
CT Sinogram Inpainting for Truncation Artifact Correction and Field-of-View Extension	885
<i>Daniel Sanderson (Universidad Carlos III de Madrid, Spain), Ana Ramirez (Universidad Carlos III de Madrid, Spain), Manuel Desco (Universidad Carlos III de Madrid, Spain), and Monica Abella (Universidad Carlos III de Madrid, Spain)</i>	

Automatic Calibration for CT Bed Stitching Based on Fourier-Mellin	891
<i>Daniel Sanderson (Instituto de Investigación Sanitaria Gregorio Marañón (IiSGM), Spain; University Carlos III of Madrid, Spain), Daniel A. Rodríguez (Instituto de Investigación Sanitaria Gregorio Marañón (IiSGM), Spain; University Carlos III of Madrid, Spain), Javier Garcia-Blas (Instituto de Investigación Sanitaria Gregorio Marañón (IiSGM), Spain; Pedro Juan de Lastanosa Institute of Technology Development and Innovation, Spain; University Carlos III of Madrid, Spain), Manuel Desco (Instituto de Investigación Sanitaria Gregorio Marañón (IiSGM), Spain; University Carlos III of Madrid, Spain; Centro de Investigación en Red de Salud Mental, Spain; Centro Nacional de Investigaciones Cardiovasculares Carlos III (CNIC), Spain), and Monica Abella (Instituto de Investigación Sanitaria Gregorio Marañón (IiSGM), Spain; University Carlos III of Madrid, Spain; Centro Nacional de Investigaciones Cardiovasculares Carlos III (CNIC), Spain)</i>	

Main Track: Digital Solutions for Health Systems

AI-Driven Public Health Surveillance: Analyzing Vulnerable Areas in Brazil using Remote Sensing and Socioeconomic Data	896
<i>João Pedro Silva (University of São Paulo, Brazil), Erikson J. de Aguiar (University of São Paulo, Brazil), Gabriel Spadon (Dalhousie University, Canada), Agma J. M. Traina (University of São Paulo, Brazil), and Jose F. Rodrigues (University of São Paulo, Brazil)</i>	
Fraud, Waste, and Abuse Detection in Medical Claims using an Ensemble of Unsupervised Machine Learning Models	902
<i>Willem A. Janse van Rensburg (Stellenbosch University, South Africa), Chantelle van Staden (Stellenbosch University, South Africa), and Lise Prinsloo (Stellenbosch University, South Africa)</i>	
Current Situation of Serious Games to Support Ecuadorian Health	908
<i>Franklin Parrales-Bravo (Universidad Bolivariana del Ecuador, Ecuador; Universidad de Guayaquil, Ecuador), Wilber Ortiz-Aguilar (Universidad Bolivariana del Ecuador, Ecuador), Lorenzo Cevallos-Torres (Universidad Bolivariana del Ecuador, Ecuador; Universidad de Guayaquil, Ecuador), Julio Barzola-Monteses (Universidad Bolivariana del Ecuador, Ecuador; Universidad de Guayaquil, Ecuador), and Rosangela Caicedo-Quiroz (Universidad Bolivariana del Ecuador, Ecuador)</i>	
Deep Learning Approaches to Assessing University Students' Health-Related Quality of Life: A Comparative Study of MLP and GNN	912
<i>José Luis Ávila-Jiménez (Universidad de Córdoba, Spain), Manuel Rich-Ruiz (Universidad de Córdoba, Spain), Francisco J. Rodríguez-Lozano (Universidad de Córdoba, Spain), Vanesa Cantón-Habas (Universidad de Córdoba, Spain), and Sebastián Ventura (Universidad de Córdoba, Spain)</i>	

Main Track: Biomedical Signal and Medical Image

Synthesis of Contrast-Enhanced T1W Images from Multiparametric MRI through Deep Learning ..	916
<i>Jesus Sanchez (Instituto de Investigacion Sanitaria, España), Daniel Sanderson (Universidad Carlos III de Madrid, España), Manuel Desco (Instituto de Investigacion Sanitaria, España), Monica Abella (Universidad Carlos III de Madrid, España), and Juan Guzman de Villoria (Hospital General Universitario, España)</i>	
Leveraging MRI Radiomics and Machine Learning for Accurate Differentiation of Triple-Negative Breast Cancer Subtype	922
<i>Yaqeen Ali (mediri GmbH, Germany; Darmstadt University of Applied Sciences, Germany), Johannes Gregori (mediri GmbH, Germany; Darmstadt University of Applied Sciences, European University of Technology, Germany), Tewele W. Tareke (Université Bourgogne Europe, France), Alain Lalande (Université Bourgogne Europe, France), and Fabrice Meriaudeau (Université Bourgogne Europe, France)</i>	
Parietal Atrophy Analysis in Alzheimer's Disease: Automation via MRI Features and Clustering Methods	929
<i>Yasmin Victoria Oliveira (Federal University of São Carlos, Brazil) and Ricardo José Ferrari (Federal University of São Carlos, Brazil)</i>	
Automated Identification of Eye Motion in Raw MRI Data using Machine Learning	936
<i>Elena Najdenovska (HES-SO University of Applied Sciences and Arts Western Switzerland, Switzerland), Cédric Campos Carvalho (HES-SO University of Applied Sciences and Arts Western Switzerland, Switzerland), Jaime Barranco Hernandez (HES-SO Valais-Wallis, Switzerland; The Sense Innovation and Research Center, Switzerland; CIBM – Center for Biomedical Imaging, Switzerland; University of Lausanne and Lausanne University Hospital, Switzerland), Yiwei Jia (HES-SO Valais-Wallis, Switzerland; The Sense Innovation and Research Center, Switzerland; University of Bern, Switzerland), Mauro Leidi (HES-SO Valais-Wallis, Switzerland; University of Bern, Switzerland; Ghent University, Belgium; The Sense Innovation and Research Center, Switzerland), Benedetta Franceschiello (HES-SO Valais-Wallis, Switzerland; The Sense Innovation and Research Center, Switzerland), and Laura Elena Raileanu (HES-SO University of Applied Sciences and Arts Western Switzerland, Switzerland)</i>	

Main Track: Neurofeedback Applications

Designing Feedback Stimuli in Neurofeedback: Preliminary Requirements from Experts and Users	941
<i>Danpeng Cai (École Polytechnique Fédérale de Lausanne, Switzerland), Emily Groves (École Polytechnique Fédérale de Lausanne, Switzerland), Lara Défayes (École Polytechnique Fédérale de Lausanne, Switzerland), Adrian Naas (Bern University of Applied Sciences, Switzerland), Nicolas Gninenko (University of Fribourg, Switzerland), Payam S. Shabestari (University Hospital and University of Zurich, Switzerland), Nicolas Henchoz (École Polytechnique Fédérale de Lausanne, Switzerland), Tobias Kleinjung (University Hospital and University of Zurich, Switzerland), Andreas Sonderegger (Bern University of Applied Sciences, Université de Fribourg, Switzerland), Patrick Neff (University Hospital and University of Zurich, Switzerland), and Delphine Ribes Lemay (École Polytechnique Fédérale de Lausanne, Switzerland)</i>	
Auditory Phantom Perceptions (Tinnitus) and Neurofeedback Training 'in the wild': A Feasibility Study on Home Treatment.	945
<i>Adrian Naas (Bern University of Applied Sciences, Switzerland; Université de Fribourg, Switzerland), Andreas Sonderegger (Bern University of Applied Sciences, Switzerland; Université de Fribourg, Switzerland), Delphine Ribes Lemay (École Polytechnique Fédérale de Lausanne, Switzerland), Payam S. Shabestari (University Hospital and University of Zurich, Switzerland), Martin Meyer (University of Zurich, Switzerland), and Patrick Neff (University Hospital and University of Zurich, Switzerland)</i>	

Main Track: Eye-Tracking and AI in Clinical Assessment

Eye-Tracking in Digital Pathology: A Vendor-Agnostic Platform for Standardized and Reproducible Eye-Tracking Studies	951
<i>Vinzent Bücheler (Neu-Ulm University of Applied Sciences, Germany; University of Augsburg, Germany), Daniel Hieber (Neu-Ulm University of Applied Sciences, Germany; University of Augsburg, Germany; University Hospital Würzburg, Germany), Maximilian Karthan (Neu-Ulm University of Applied Sciences, Germany; University Hospital Würzburg, Germany), Nicola Jungbäck (Neu-Ulm University of Applied Sciences, Germany; University of Augsburg, Germany), Moritz Dinser (Neu-Ulm University of Applied Sciences, Germany; University of Augsburg, Germany; University Hospital Würzburg, Germany), Christofer Pohl (Neu-Ulm University of Applied Sciences, Germany), Rüdiger Pryss (University Hospital Würzburg, Germany), Friederike Liesche-Starneck (University of Augsburg, Germany), and Johannes Schobel (Neu-Ulm University of Applied Sciences, Germany)</i>	
Pupil Size Derived Features Improve the Accuracy of Eye-Tracker Based MCI Classification	957
<i>Sami Andberg (University of Eastern Finland, Finland), Hasnain Ali Shah (University of Eastern Finland, Finland), Sanna Hannonen (Pohjois-Savon hyvinvointialue, Finland), Virve Kärkkäinen (University of Eastern Finland, Finland), Kai Kaarniranta (University of Eastern Finland, Finland), Anne M. Koivisto (University of Helsinki, Finland), and Roman Bednarik (University of Eastern Finland, Finland)</i>	

Automated MoCA Score Estimation using Eye-Gaze Data and Vision Transformers	963
<i>Raffaele Mineo (University of Catania, Italy), Isaak Kavasidis (University of Catania, Italy), Federica Proietto Salanitri (University of Catania, Italy), Lisa Passarello (University of Catania, Italy), Giovanni Piccininno (ItemOxygen, Italy), Vincenzo Masciale (Grifo Multimedia, Italy), Alessandro Anselmo (ItemOxygen, Italy), Cristiano Convertino (Grifo Multimedia, Italy), Domenico Rotondi (Grifo Multimedia, Italy), Nicola Laurieri (ItemOxygen, Italy), Simone Palazzo (University of Catania, Italy), Concetto Spampinato (University of Catania, Italy), Manuela Pennisi (University of Catania, Italy), and Daniela Giordano (University of Catania, Italy)</i>	
A Transformer-Based Anomaly Detection System for OCT Image Embeddings	969
<i>Eugenia Sol Piñeiro (Instituto Tecnológico de Buenos Aires, Argentina), Ariel Schlaen (Universidad de Buenos Aires, Argentina), Rodrigo Ramele (Instituto Tecnológico de Buenos Aires, Argentina), and Juliana Gambini (Universidad Nacional de Hurlingham, Universidad Tecnológica Nacional, Argentina)</i>	

Main Track: Advanced Technologies and Optimization in Clinical Applications

Dynamic Portfolio for Personalized CPAP Treatment: Adaptive Digital Biomarker-Driven Strategies Across the OSA Care Pathway	973
<i>Yasaman Kakaei Siahkal (Université Lumière Lyon 2, INSA Lyon, Université Claude Bernard Lyon 1, Université Jean Monnet Saint-Etienne, France; Linde HomeCare France, France), Nejib Moalla (Université Lumière Lyon 2, INSA Lyon, Université Claude Bernard Lyon 1, Université Jean Monnet Saint-Etienne, France), Aicha Sekhari (Université Lumière Lyon 2, INSA Lyon, Université Claude Bernard Lyon 1, Université Jean Monnet Saint-Etienne, France), Tao Wang (Université Jean Monnet Saint-Etienne, INSA Lyon, Université Lumière Lyon 2, Université Claude Bernard Lyon 1, France), and Olivier Grasset (Linde Homecare France, France)</i>	
Artificial Intelligence Assurance in Head and Neck Surgery: Now and Next	977
<i>Yuansan Liu (University of Melbourne, Australia), Sudanthi Wijewickrema (University of Melbourne, Australia), Bridget Copson (St Vincent's Hospital, Australia), Jean-Marc Gerard (University of Melbourne, Australia), and Sameer Antani (National Institutes of Health, USA)</i>	
Genetic Algorithm-Optimized Apodization for Ultrafast Plane-Wave Compounding	983
<i>Zahraa Alzein (University of Genoa, Italy) and Daniele D. Caviglia (University of Genoa, Italy)</i>	
A Multi-Objective Optimization Framework for Compound Weights in Divergent Wave Ultrasound Imaging	987
<i>Zahraa Alzein (University of Genoa, Italy) and Daniele D. Caviglia (University of Genoa, Italy)</i>	

Author Index