IEEE 14th International Conference on Pattern Recognition Systems (ICPRS) 2024

Session	Topic
Session 1	Machine Learning in Medical Applications (I)
Session 2	Machine Learning in Medical Applications (II)
Session 3	Biometrics and Case Studies
Session 4	Pattern Recognition and Image Analysis (I)
Session 5	Computer Vision and Real-Time Systems
Session 6	Artificial Intelligence Techniques in Pattern Recognition
Session 7	Natural Language Processing and Recognition
Session 8	Pattern Recognition Principles
Session 9	Pattern Recognition and Image Analysis (II)
Session 10	Data mining and Big Data
Session 11	Pattern Recognition in Agriculture

Conference Programme

Monday, July 15, 2024

Time	
9:30 – 10:00	**Registration** at 115 New Cavendish Campus – University of Westminster
10:00 – 12:00	**Workshop 1** - Generative AI: generating images using AI **Instructor:** Assist. Prof. Ester Bonmati and Assoc. Prof. Barbara Villarini **Room**: Cavendish CG.24/25 Innovation Space
12:30 – 13:30	Lunch Break **Room**: Pavilion C1.18
14:00 – 16:00	**Workshop 2** – Reinforcement Learning for image analysis **Instructor:** Iani Gayo, Assist. Prof. Ester Bonmati and Assoc. Prof. Barbara Villarini **Room**: Cavendish CG.24/25 Innovation Space

Tuesday, July 16, 2024

Time	
8:30 – 9:00	**Registration** at 115 New Cavendish Campus – University of Westminster Coffee Break **Room**: Pavilion C1.18
9:00 – 9:10	Opening Conference **Welcome by IEEE ICPRS24 General Chairs and Local Chairs** **Welcome from Prof. Peter Bonfield, Vice-Chancellor and President University of Westminster** **Room**: Large Lecture Theatre (C2.12)
9:10 - 10:00	**Invited Talk:** Towards Resilient AI in healthcare, Prof. Paolo Soda **Chair**: Prof. Rodrigo Salas **Room**: Large Lecture Theatre (C2.12)

		Session 1 Machine Learning in Medical Applications (I) **Chair**: Assoc. Prof. Anastasia Angelopoulou **Room**: Large Lecture Theatre (C2.12)
10:00 – 10:20		**Transformer-Based Skin Carcinoma Classification using Histopathology Images via Incremental Learning** *Muhammad Imran, Muhammad Usman Akram, Anum Abdul Salam*
10:20 – 10:40		**Efficient colorectal polyps segmentation using a deep learning ensemble framework from colonoscopy images** *Deepak Bajhaiya, Sujatha Narayanan Unni*
10:40 – 11:00		**In Domain Transfer Learning for Prostate MRI Segmentation** *Larbi Touijer, Matteo Santacesaria, Francesca Odone, Vito Paolo Pastore*
11:00 – 11:20		**Explainable Machine-Learning for identifying the genetic biomarker MGMT in brain tumors using magnetic resonance imaging radiomics** *Sebastian Ponce, Steren Chabert, Leondry Mayeta, Pamela Franco, Francisco Plaza-Vega, Marvin Querales, Rodrigo Salas*
11:20 – 11:40		Coffee Break **Room**: Pavilion C1.18
		Session 2 Machine Learning in Medical Applications (II) **Chair**: Assist. Prof. Ester Bonmati Coll **Room**: Large Lecture Theatre (C2.12)
11:40 – 12:00	ICPRS24 Conference Programme	**Leveraging large language models for medical text classification: a hospital readmission prediction case** *Nodira Nazyrova, Salma Chahed, Thierry Chaussalet, Miriam Dwek*
12:00 – 12:20		**Autism Spectrum Disorder Prediction Using Machine Learning Classifiers** *Faisal Aburub, Wael Hadi, Abedal-Kareem Al-Banna, Mohammad Arafah*
12:20 – 12:40		**Focal Atrophy Structure-focused Neurodegeneration Convolutional Neural Network for Modelling and Classification of Alzheimer's Disease** *Simisola Odimayo, Chollette C. Olisah, Khadijah Mohammed*
12:40 – 13:00		**SEDNet: Shallow Encoder Decoder Network for Brain Tumor Segmentation** *Chollette C. Olisah, Sofie Van Cauter*
13:00 – 14:00		Lunch Break **Room**: Pavilion C1.18
14:00 - 14:50		**Invited Talk:** Opportunities in Egocentric Video Understanding, Prof. Dima Damen **Chair**: Assoc. Prof. Barbara Villarini **Room**: Large Lecture Theatre (C2.12)
		Session 3 Biometrics and Case Studies **Chair**: Assoc. Prof. Barbara Villarini **Room**: Large Lecture Theatre (C2.12)

14:50 – 15:10		**MultiMAE-DER: Multimodal Masked Autoencoder for Dynamic Emotion Recognition** *Peihao Xiang, Chaohao Lin, Kaida Wu, Ou Bai*
15:10 – 15:30		**Shrinking embeddings, not accuracy: Performance-Preserving Reduction of Facial Embeddings for Complex Face Verification Computations** *Philipp Hofer, Philipp Schwarz, Michael Roland, Rene Mayrhofer*
15:30 – 15:50		**Analysing Emotional and Topical Patterns in Conspiracy Theory Narratives: A Discourse Comparative Study on the 2023 Hawaii Wildfires** *Nikolai Dubinko, Marjory Da Costa Abreu, Petra Saskia Bayerl, Helen Gibson*
15:50 – 16:10		Coffee Break **Room**: Pavilion C1.18
		Session 4 Pattern Recognition and Image Analysis (I) **Chair**: Prof. Rodrigo Salas **Room**: Large Lecture Theatre (C2.12)
16:10 – 16:30	ICPRS24 Conference Programme	**Enhancing Authenticity Verification with Transfer Learning and Ensemble Techniques in Facial Feature-Based Deepfake Detection** *Nadeem Qazi, Iftikhar Ahmed*
16:30 – 16:50		**VLS-FWA: Real-time end-to-end neural network pipeline of vision-based landing system for fixed-wing aircraft** *Dheeraj Bharti, Chiranjeev Prachand, K S Venkatesh*
16:50 – 17:10		**SAI-ChileanDiet: A multi-label food dataset with self-acquired images of the Chilean diet** *Roberto Morales, Bastian Munoz, Angela Martinez, Eduardo Aguilar*
17:10 – 17:30		**Exploring neighborhood variancy for rule search optimization in Life-like Network Automata** *Kallil M. C. Zielinski, Leonardo Scabini, Lucas C. Ribas, Odemir M. Bruno*

Wednesday, July **17, 2024**

8:30 – 9:00		**Registration** at 115 New Cavendish Campus – University of Westminster Coffee Break **Room**: Pavilion C1.18
9:00 - 9:50		**Invited Talk:** Multimodal Self-Supervised Learning, Prof. Sean Gong **Chair**: Prof. Sergio Velastin **Room**: Large Lecture Theatre (C2.12)
		Session 5 Computer Vision and Real-Time Systems **Chair**: Prof. Sergio Velastin **Room**: Large Lecture Theatre (C2.12)

9:50 – 10:10		**SiVIC-Adverse: A Framework for Generating Synthetic Datasets for Visual Perception in Adverse Scenarios and Automated Driving** *Wei Xu, Dominique Gruyer, Alexandra Duminil, Sio-Song Ieng*
10:10 – 10:30		**Enhancing Vehicle Aerodynamics with Deep Reinforcement Learning in Voxelised Models** *Jignesh Patel, Yannis Spyridis, Vasileios Argyriou*
10:30 – 10:50		**Semantic Video Moment Retrieval by Temporal Feature Perturbation and Refinement** *Weitong Cai, Jiabo Huang, Jian Hu, Shaogang Gong, Hailin Jin, Yang Liu*
10:50 – 11:10		**Computer Vision-Driven Recommendation System for London Explorers** *Khadidja Mekiri, Kashif Talpur, Shakeel Ahmad*
11:10 – 11:30		**A Cross-Domain Threat Screening and Localization Framework Using Vision Transformers and Self-supervised Learning** *Ammara Nasim, Muhammad Usman Akram, Muhammad Belal Afsar Khan, Asad Mansoor Khan, Taimur Hassan*
11:30 – 11:50		Coffee Break **Room**: Pavilion C1.18
	Session 6 Artificial Intelligence Techniques in Pattern Recognition **Chair**: Assist. Prof. Marie Beurton-Aimar **Room**: Large Lecture Theatre (C2.12)	
11:50 – 12:10	ICPRS24 Conference Programme	**LLM-aided Knowledge Graph construction for Zero-Shot Visual Object State Classification** *Filippos Gouidis, Katerina Papantoniou, Konstantinos Papoutsakis, Theodore Patkos, Antonis Argyros, Dimitris Plexousakis*
12:10 – 12:30		**Evaluation of road users trajectories from aerial-view data for risk analysis** *Josue Manuel Rivera Velazquez, Pascal Houssam Salmane, Guillaume Saint Pierre, Louahdi Khoudour, Trung-Thai Do, Martin Emery*
12:30 – 12:50		**Deep Learning-Based Instance Segmentation to Characterize the Morphology of Compact Aggregates through Image Analysis** *Leo Theodon, Carole Coufort-Saudejaud, Johan Debayle*
12:50 – 13:10		**Optimizing Multi-Target Sessioning Through Airborne Passive Sensor Management** *Hao Ren,Xiaojun Ban,Shengkun Xie*
13:10 – 14:10		Lunch Break **Room**: Pavilion C1.18
	Session 7 Natural Language Processing and Recognition **Chair**: Assoc. Prof. Romina Torres **Room**: Large Lecture Theatre (C2.12)	
14:10 – 14:30		**Multi-Task Learning Transformers: Comparative Analysis of Emotion Classification and Intensity Prediction in Social Media** *Qasid Labeed, Xing Liang*

14:30 – 14:50	**A Deep Learning model for Question Analysis in Low-resource Languages: A Dataset and Case Study for Persian** *Fatemeh Ebrahimi Khaksefidi, Afsaneh Fatemi, Mohammad Ali Nematbakhsh, Mahsa Abazari Kia*
14:50 – 15:10	**Automatic detection of contextual laterality in Mammography Reports using Large Language Models** *Eduardo Godoy, Joaquin De Ferrari, Diego Mellado, Steren Chabert, Rodrigo Salas*
15:10 – 15:30	**Arabic Tweet Act: A Graph Convolution Network-based Classifier for Classifying Arabic Speech Acts in Twitter** *Khadejaa Alshehri, Areej Alhothali, Nahed Alowidi*
15:30 – 15:50	**An Attention-based Ensemble Model for Emotion Recognition in Conversation** *Misbah Farooq, Varuna De Silva, Xiyu Shi*
15:50 – 16:10	Coffee Break **Room**: Pavilion C1.18

Session 8 Pattern Recognition Principles
Chair: Assoc. Prof. Anastasia Angelopoulou
Room: Large Lecture Theatre (C2.12)

16:10 – 16:30	**Adversarial Contrastive Representation Learning for Passive WiFi Fingerprinting of Individuals** *Varuna De Silva, Corentin Artaud*
16:30 – 16:50	**Missing Data Imputation With Contextual Granules and AI-driven Bankruptcy Prediction** *Debarati Chakraborty, Ravi Ranjan*
16:50 – 17:10	**Exploratory Analysis of Machine Learning Methods for Total Organic Carbon Prediction Using Well-Log Data of Kolmani Field** *Fodio Longman, Rasheed O. Ojulari, Husaini Balarabe, Olaniyi J. Olatomiwa, Ifeanyichukwu Edeh, Olabisi Joshua, Habeeb Balogun*
17:10 – 17:30	**Comparative Analysis of Micro/Minichannel Flow Boiling Pattern Recognition and Classification using Clustering Algorithms** *Mohammad Harris, Anastasia Angelopoulou, Hongwei Wu, Wenbin Zhang*

(Conference Programme)

ICPRS24 Dinner
Best Conference Paper Prizes Ceremony
Room: Pavilion C1.18
Time: 18:30 – 21:00

Thursday, July **18, 2024**

8:30 – 9:00	**Registration** at 115 New Cavendish Campus – University of Westminster Coffee Break **Room**: Pavilion C1.18

9:00 - 9:50	**Invited Talk:** Inductive Biases for Robot Reinforcement Learning, Prof. Jan Peters **Chair**: Prof. Boris X. Vintimilla B. **Room**: Large Lecture Theatre (C2.12)
	Session 9 Pattern Recognition and Image Analysis (II) **Chair**: Prof. Boris X. Vintimilla B. **Room**: Large Lecture Theatre (C2.12)
9:50 – 10:10	**Depth-Conditioned Thermal-like Image Generation** *Patricia Suarez, Angel Sappa*
10:10 – 10:30	**Preliminary results on food weight estimation with RGB-D images** *Bryan Gonzalez, Osmar Gecele, Jaime Ramirez, Gonzalo Garcia, Sergio Velastin, Gonzalo Farias*
10:30 – 10:50	**Self-Occluded Human Pose Recovery in Monocular Video Motion Capture** *Leila Malekian, Rudy Lapeer*
10:50 – 11:30	**Coffee Break** **Room**: Pavilion C1.18
	Session 10 Data mining and Big Data **Chair**: Prof. Thierry Chaussalet **Room**: Large Lecture Theatre (C2.12)
11:30 – 11:50	**A Laplacian Evolution Approach to Identify the Source-Sink Pattern of Human Mobility in Urban** *Peng Zhang, Wanyu Cong, Yi Shi, Junyan Yang, Qiao Wang*
11:50 – 12:10	**An Evaluation of Standard Statistical Models and LLMs on Time Series Forecasting** *Rui Cao, Qiao Wang*
12:10 – 12:30	**A Concept Drift Based Approach To Evaluating Model Performance And Theoretical Lifespan** *Mustafa Hajmohammed, Panagiotis Chountas, Thierry Chaussalet*
12:30 – 13:30	**Lunch Break** **Room**: Pavilion C1.18
	Session 11 Pattern Recognition in Agriculture **Chair**: Assoc. Prof. Saumya Reni **Room**: Large Lecture Theatre (C2.12)
13:30 – 13:50	**Carabids hierarchical classification with ensemble model architecture** *Gabin Moulie, Marie Beurton-Aimar, Matthieu Vale*
13:50 – 14:10	**Enhancing Apple's Defect Classification: Insights from Visible Spectrum and Narrow Spectral Band Imaging** *Omar Coello, Moises Coronel, Dario Carpio, Boris Vintimilla, Luis Chuquimarca*

14:10 – 14:30		**Deep learning for Root System Extraction from Barley Plants** *Maichol Dadi, Alessandra Lumini, Annalisa Franco, Giuseppe Sangiorgi*
14:30 – 14:50		**Non-Invasive Estimation of Moisture Content in Mushrooms Using Hyperspectral Imaging and Machine Learning-Based Stacking Regressor Model** *Jyotisana Meena, Sujatha Narayanan Unni*
14:50 – 15:10		**Classifying Healthy and Defective Fruits with a Siamese Architecture and CNN Models** *Luis Chuquimarca, Boris Vintimilla, Sergio Velastin*

ICPRS24 Closing Session