### Conference Programme

#### Monday, July 15, 2024

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:30 – 10:00</td>
<td><strong>Registration</strong> at 115 New Cavendish Campus – University of Westminster</td>
</tr>
</tbody>
</table>
| 10:00 – 12:00| **Workshop 1** - Generative Al: 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

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
</table>
| 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 Al in healthcare, Prof. Paolo Soda  
**Chair:** Prof. Rodrigo Salas  
**Room:** Large Lecture Theatre (C2.12) |
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Topic</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00 – 10:20</td>
<td>Session 1</td>
<td>Machine Learning in Medical Applications (I)</td>
<td>Chair: Assoc. Prof. Anastasia Angelopoulou Room: Large Lecture Theatre (C2.12)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Transformer-Based Skin Carcinoma Classification using Histopathology Images via Incremental Learning</td>
<td>Muhammad Imran, Muhammad Usman Akram, Anum Abdul Salam</td>
</tr>
<tr>
<td>10:20 – 10:40</td>
<td></td>
<td>Efficient colorectal polyps segmentation using a deep learning ensemble framework from colonoscopy images</td>
<td>Deepak Bajhaiya, Sujatha Narayanan Unni</td>
</tr>
<tr>
<td>10:40 – 11:00</td>
<td></td>
<td>In Domain Transfer Learning for Prostate MRI Segmentation</td>
<td>Larbi Touijer, Matteo Santacesaria, Francesca Odone, Vito Paolo Pastore</td>
</tr>
<tr>
<td>11:00 – 11:20</td>
<td></td>
<td>Explainable Machine-Learning for identifying the genetic biomarker MGMT in brain tumors using magnetic resonance imaging radiomics</td>
<td>Sebastian Ponce, Steren Chabert, Leondry Mayeta, Pamela Franco, Francisco Plaza-Vega, Marvin Querales, Rodrigo Salas</td>
</tr>
<tr>
<td>11:20 – 11:40</td>
<td></td>
<td>Coffee Break</td>
<td>Room: Pavilion C1.18</td>
</tr>
<tr>
<td>11:40 – 12:00</td>
<td></td>
<td>Session 2 Machine Learning in Medical Applications (II)</td>
<td>Chair: Assist. Prof. Ester Bonmati Coll Room: Large Lecture Theatre (C2.12)</td>
</tr>
<tr>
<td>12:00 – 12:20</td>
<td></td>
<td>Leveraging large language models for medical text classification: a hospital readmission prediction case</td>
<td>Nodira Nazyrova, Salma Chahed, Thierry Chaussalet, Miriam Dwek</td>
</tr>
<tr>
<td>12:40 – 13:00</td>
<td></td>
<td>Focal Atrophy Structure-focused Neurodegeneration Convolutional Neural Network for Modelling and Classification of Alzheimer’s Disease</td>
<td>Simisola Odimayo, Chollette C. Olisah, Khadijah Mohammed</td>
</tr>
<tr>
<td>13:00 – 14:00</td>
<td></td>
<td>SEDNet: Shallow Encoder Decoder Network for Brain Tumor Segmentation</td>
<td>Chollette C. Olisah, Sofie Van Cauter</td>
</tr>
<tr>
<td>14:00 – 14:50</td>
<td></td>
<td>Invited Talk: Opportunities in Egocentric Video Understanding</td>
<td>Prof. Dima Damen Chair: Assoc. Prof. Barbara Villarini Room: Large Lecture Theatre (C2.12)</td>
</tr>
<tr>
<td>14:50 – 15:10</td>
<td></td>
<td>Session 3 Biometrics and Case Studies</td>
<td>Chair: Assoc. Prof. Barbara Villarini Room: Large Lecture Theatre (C2.12)</td>
</tr>
<tr>
<td>Time</td>
<td>Session Content</td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>----------------------------------------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14:50 – 15:10</td>
<td>MultiMAE-DER: Multimodal Masked Autoencoder for Dynamic Emotion Recognition</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Peihao Xiang, Chaohao Lin, Kaida Wu, Ou Bai</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15:10 – 15:30</td>
<td>Shrinking embeddings, not accuracy: Performance-Preserving Reduction of Facial Embeddings for Complex Face Verification Computations</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Philipp Hofer, Philipp Schwarz, Michael Roland, Rene Mayrhofer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15:30 – 15:50</td>
<td>Analysing Emotional and Topical Patterns in Conspiracy Theory Narratives: A Discourse Comparative Study on the 2023 Hawaii Wildfires</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nikolai Dubinko, Marjory Da Costa Abreu, Petra Saskia Bayerl, Helen Gibson</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15:50 – 16:10</td>
<td>Coffee Break</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Room: Pavilion C1.18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16:10 – 16:30</td>
<td>Session 4 Pattern Recognition and Image Analysis (I)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chair: Prof. Johan Debayle</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Room: Large Lecture Theatre (C2.12)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16:30 – 16:50</td>
<td>Enhancing Authenticity Verification with Transfer Learning and Ensemble Techniques in Facial Feature-Based Deepfake Detection</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nadeem Qazi, Iftikhar Ahmed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16:50 – 17:10</td>
<td>VLS-FWA: Real-time end-to-end neural network pipeline of vision-based landing system for fixed-wing aircraft</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dheeraj Bharti, Chiranjeev Prachand, K S Venkatesh</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17:10 – 17:30</td>
<td>SAI-ChileanDiet: A multi-label food dataset with self-acquired images of the Chilean diet</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Roberto Morales, Bastian Munoz, Angela Martinez, Eduardo Aguilar</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Exploring neighborhood variancy for rule search optimization in Life-like Network Automata</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kallil M. C. Zielinski, Leonardo Scabini, Lucas C. Ribas, Odemir M. Bruno</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Wednesday, July 17, 2024**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30 – 9:00</td>
<td>Registration at 115 New Cavendish Campus – University of Westminster</td>
</tr>
<tr>
<td></td>
<td>Coffee Break</td>
</tr>
<tr>
<td></td>
<td>Room: Pavilion C1.18</td>
</tr>
<tr>
<td>9:00 - 9:50</td>
<td>Invited Talk: Multimodal Self-Supervised Learning, Prof. Sean Gong</td>
</tr>
<tr>
<td></td>
<td>Chair: Prof. Sergio Velastin</td>
</tr>
<tr>
<td></td>
<td>Room: Large Lecture Theatre (C2.12)</td>
</tr>
<tr>
<td>9:00 - 9:50</td>
<td>Session 5 Computer Vision and Real-Time Systems</td>
</tr>
<tr>
<td></td>
<td>Chair: Prof. Sergio Velastin</td>
</tr>
<tr>
<td></td>
<td>Room: Large Lecture Theatre (C2.12)</td>
</tr>
<tr>
<td>Time</td>
<td>Session Title</td>
</tr>
<tr>
<td>-------------</td>
<td>--------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>10:50 – 11:10</td>
<td>Computer Vision-Driven Recommendation System for London Explorers</td>
</tr>
<tr>
<td>11:10 – 11:30</td>
<td>A Cross-Domain Threat Screening and Localization Framework Using Vision Transformers and Self-supervised Learning</td>
</tr>
<tr>
<td>11:30 – 11:50</td>
<td>Coffee Break</td>
</tr>
<tr>
<td>11:50 – 12:10</td>
<td>LLM-aided Knowledge Graph construction for Zero-Shot Visual Object State Classification</td>
</tr>
<tr>
<td>12:30 – 12:50</td>
<td>Deep Learning-Based Instance Segmentation to Characterize the Morphology of Compact Aggregates through Image Analysis</td>
</tr>
<tr>
<td>12:50 – 13:10</td>
<td>Optimizing Multi-Target Sessioning Through Airborne Passive Sensor Management</td>
</tr>
<tr>
<td>13:10 – 14:10</td>
<td>Lunch Break</td>
</tr>
<tr>
<td>14:10 – 14:30</td>
<td>Multi-Task Learning Transformers: Comparative Analysis of Emotion Classification and Intensity Prediction in Social Media</td>
</tr>
<tr>
<td>Time</td>
<td>Session</td>
</tr>
<tr>
<td>----------------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>14:30 – 14:50</td>
<td>A Deep Learning model for Question Analysis in Low-resource Languages: A Dataset and Case Study for Persian</td>
</tr>
<tr>
<td></td>
<td>Fatemeh Ebrahimi Khaksefidi, Afsaneh Fatemi, Mohammad Ali Nematbakhsh, Mahsa Abazari Kia</td>
</tr>
<tr>
<td>14:50 – 15:10</td>
<td>Automatic detection of contextual laterality in Mammography Reports using Large Language Models</td>
</tr>
<tr>
<td></td>
<td>Eduardo Godoy, Joaquin De Ferrari, Diego Mellado, Steren Chabert, Rodrigo Salas</td>
</tr>
<tr>
<td>15:10 – 15:30</td>
<td>Arabic Tweet Act: A Graph Convolution Network-based Classifier for Classifying Arabic Speech Acts in Twitter</td>
</tr>
<tr>
<td></td>
<td>Khadejaa Alshehri, Areej Alhothali, Nahed Alowidi</td>
</tr>
<tr>
<td>15:30 – 15:50</td>
<td>An Attention-based Ensemble Model for Emotion Recognition in Conversation</td>
</tr>
<tr>
<td></td>
<td>Misbah Farooq, Varuna De Silva, Xiyu Shi</td>
</tr>
<tr>
<td>15:50 – 16:10</td>
<td>Coffee Break</td>
</tr>
<tr>
<td></td>
<td><strong>Room:</strong> Pavilion C1.18</td>
</tr>
<tr>
<td>15:50 – 16:10</td>
<td><strong>Session 8 Pattern Recognition Principles</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Chair:</strong> Prof. Angel Domingo Sappa</td>
</tr>
<tr>
<td></td>
<td><strong>Room:</strong> Large Lecture Theatre (C2.12)</td>
</tr>
<tr>
<td>16:10 – 16:30</td>
<td>Adversarial Contrastive Representation Learning for Passive WiFi Fingerprinting of Individuals</td>
</tr>
<tr>
<td></td>
<td>Varuna De Silva, Corentin Artaud</td>
</tr>
<tr>
<td>16:30 – 16:50</td>
<td>Missing Data Imputation With Contextual Granules and AI-driven Bankruptcy Prediction</td>
</tr>
<tr>
<td></td>
<td>Debarati Chakraborty, Ravi Ranjan</td>
</tr>
<tr>
<td>17:10 – 17:30</td>
<td>Comparative Analysis of Micro/Minichannel Flow Boiling Pattern Recognition and Classification using Clustering Algorithms</td>
</tr>
<tr>
<td></td>
<td>Mohammad Harris, Anastasia Angelopoulou, Hongwei Wu, Wenbin Zhang</td>
</tr>
<tr>
<td>17:30 – 18:30</td>
<td><strong>ICPRS24 Dinner</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Best Conference Paper Prizes Ceremony</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Room:</strong> Pavilion C1.18</td>
</tr>
<tr>
<td></td>
<td><strong>Time:</strong> 18:30 – 21:00</td>
</tr>
</tbody>
</table>

**Thursday, July 18, 2024**

<table>
<thead>
<tr>
<th>Time</th>
<th>Conference Programme</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30 – 9:00</td>
<td><strong>Registration</strong> at 115 New Cavendish Campus – University of Westminster</td>
</tr>
<tr>
<td></td>
<td><strong>Coffee Break</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Room:</strong> Pavilion C1.18</td>
</tr>
</tbody>
</table>

Coffee Break: Pavilion C1.18
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00 - 9:50</td>
<td>Invited Talk: Inductive Biases for Robot Reinforcement Learning, Prof. Jan Peters</td>
<td><strong>Chair:</strong> Prof. Boris X. Vintimilla B. <strong>Room:</strong> Large Lecture Theatre (C2.12)</td>
</tr>
<tr>
<td></td>
<td>Session 9 Pattern Recognition and Image Analysis (II)</td>
<td><strong>Chair:</strong> Prof. Boris X. Vintimilla B. <strong>Room:</strong> Large Lecture Theatre (C2.12)</td>
</tr>
<tr>
<td>9:50 - 10:10</td>
<td>Depth-Conditioned Thermal-like Image Generation</td>
<td>Patricia Suarez, Angel Sappa</td>
</tr>
<tr>
<td>10:10 - 10:30</td>
<td>Preliminary results on food weight estimation with RGB-D images</td>
<td>Bryan Gonzalez, Osmar Gecele, Jaime Ramirez, Gonzalo Garcia, Sergio Velastin, Gonzalo Farias</td>
</tr>
<tr>
<td>10:30 - 10:50</td>
<td>Self-Occluded Human Pose Recovery in Monocular Video Motion Capture</td>
<td>Leila Malekian, Rudy Lapeer</td>
</tr>
<tr>
<td>10:50 - 11:30</td>
<td><strong>Coffee Break</strong></td>
<td><strong>Room:</strong> Pavilion C1.18</td>
</tr>
<tr>
<td></td>
<td>Session 10 Data mining and Big Data</td>
<td><strong>Chair:</strong> Prof. Thierry Chaussalet <strong>Room:</strong> Large Lecture Theatre (C2.12)</td>
</tr>
<tr>
<td>11:30 - 11:50</td>
<td>A Laplacian Evolution Approach to Identify the Source-Sink Pattern of Human Mobility in Urban</td>
<td>Peng Zhang, Wanyu Cong, Yi Shi, Junyan Yang, Qiao Wang</td>
</tr>
<tr>
<td>11:50 - 12:10</td>
<td>An Evaluation of Standard Statistical Models and LLMs on Time Series Forecasting</td>
<td>Rui Cao, Qiao Wang</td>
</tr>
<tr>
<td>12:10 - 12:30</td>
<td>A Concept Drift Based Approach To Evaluating Model Performance And Theoretical Lifespan</td>
<td>Mustafa Hajmohammed, Panagiotis Chountas, Thierry Chaussalet</td>
</tr>
<tr>
<td>12:30 - 13:30</td>
<td><strong>Lunch Break</strong></td>
<td><strong>Room:</strong> Pavilion C1.18</td>
</tr>
<tr>
<td></td>
<td>Session 11 Pattern Recognition in Agriculture</td>
<td><strong>Chair:</strong> Assoc. Prof. Saumya Reni <strong>Room:</strong> Large Lecture Theatre (C2.12)</td>
</tr>
<tr>
<td>13:30 - 13:50</td>
<td>Carabids hierarchical classification with ensemble model architecture</td>
<td>Gabin Moulie, Marie Beurton-Aimar, Matthieu Vale</td>
</tr>
<tr>
<td>13:50 - 14:10</td>
<td>Enhancing Apple’s Defect Classification: Insights from Visible Spectrum and Narrow Spectral Band Imaging</td>
<td>Omar Coello, Moises Coronel, Dario Carpio, Boris Vintimilla, Luis Chuquimarca</td>
</tr>
<tr>
<td>Time</td>
<td>Topic</td>
<td>Authors</td>
</tr>
<tr>
<td>------------</td>
<td>----------------------------------------------------------------------</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td>14:10 – 14:30</td>
<td>Deep learning for Root System Extraction from Barley Plants</td>
<td>Maichol Dadi, Alessandra Lumini, Annalisa Franco, Giuseppe Sangiorgi</td>
</tr>
<tr>
<td>14:30 – 14:50</td>
<td>Non-Invasive Estimation of Moisture Content in Mushrooms Using Hyperspectral Imaging and Machine Learning-Based Stacking Regressor Model</td>
<td>Jyotisana Meena, Sujatha Narayanan Unni</td>
</tr>
<tr>
<td>14:50 – 15:10</td>
<td>Classifying Healthy and Defective Fruits with a Siamese Architecture and CNN Models</td>
<td>Luis Chuquimarca, Boris Vintimilla, Sergio Velastin</td>
</tr>
</tbody>
</table>

ICPRS24 Closing Session