

16th International Conference on Information Science and Technology (ICIST 2026)

October 1-6, 2026
Coimbra and Porto, Portugal

Final Program



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University of Coimbra



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IEEE Systems, Man and Cybernetics Society

Welcome Messages

On behalf of the Organizing Committee of the 16th International Conference on Information Science and Technology (ICIST 2026), we are pleased to welcome you to this event, which will take place in Coimbra and Porto, Portugal, and online from October 1-6, 2026. Building on the success of previous events, ICIST has become a well-established series of popular, high-quality conferences in information science and technology. ICIST 2026 aims to provide a high-level international forum for scientists, engineers, and educators to present the latest advancements in intelligent control, automation, and intelligent information processing, as well as their applications in related fields. The conference will feature keynote speeches by world-renowned scholars, regular sessions with broad coverage, and special sessions focusing on trending topics.

This year, the conference received 110 submissions from 18 countries around the globe. Each submission was reviewed by at least two, and on average, three program committee members. After rigorous peer reviews, the committee accepted 76 papers for publication in the proceedings, resulting in an acceptance rate of 69%. These papers cover a wide range of topics, including theory, methodology, and applications. In addition to the contributed papers, the conference's technical program features two keynote speeches by Prof. Yun-hui Liu (Fellow of IEEE, Fellow of HKIE, Fellow of HKAE, Editor-in-Chief of *Robotics and Biomimetics*, and Choh-Ming Li Professor of Mechanical and Automation Engineering at The Chinese University of Hong Kong) and Dr. João Carreira (Director and Research Scientist, Google DeepMind, London, UK).

Many organizations and volunteers contributed greatly to the success of this conference. We would like to express our sincere gratitude to the University of Coimbra and the City University of Hong Kong for their co-sponsorship; the Institute of Systems and Robotics (University of Coimbra) and the Faculty of Engineering (University of Porto) for their organization; and the IEEE Systems, Man, and Cybernetics Society for its technical co-sponsorship. We also extend our heartfelt thanks to all the organizing committee members for their efforts in organizing the conference. Special thanks go to the program committee members and reviewers, whose insightful reviews and timely feedback ensured the high quality of the accepted papers and the smooth flow of the conference. Finally, we would like to thank all the speakers, authors, and participants for their support.

Cristiano Premebida, Bernardete Ribeiro, and Jun Wang
General Chairs

Alexandre Bernardino and Nian Zhang
Program Chairs

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Qichao Zhang	Chinese Academy of Sciences
Kai Zhang	Zhejiang University

Program at a Glance

Time (Lisbon Time)	Oct. 1 (Thu.) Coimbra	Oct. 2 (Fri.) Coimbra	Oct. 3 (Sat.) Coimbra	Oct. 4 (Sun.) Online via Zoom	Oct. 5 (Mon.) Online via Zoom	Oct. 6 (Tue.) Porto
07:20 – 09:00						
09:00 – 09:30		Opening Ceremony 09:15 – 09:30				
09:30 – 10:30		Keynote Speech I – Dr. Yun-hui Liu 09:30 – 10:30	Onsite Session S5 08:30 – 10:30	Online Session S7 07:20 – 12:00	Online Session S9 07:20 – 12:00	Presentations 09:30 – 10:30 Field Robotics 09:30 – 10:30
10:30 – 11:00		Coffee Break	Coffee Break			Coffee Break 10:30 – 10:45
11:00 – 12:00		Keynote Speech II – Dr. João Carreira 11:00 – 12:00	Onsite Session S6 11:00 – 12:00			Roundtable 10:45 – 12:30 ROS 2 10:45 – 12:30
12:00 – 13:00			Lunch Break			Lunch Break 12:30 – 13:30
13:00 – 15:00		Onsite Session S1		Online Session S8 13:00 – 15:20	Online Session S10 13:00 – 15:00	ROS 2 (Part A) 13:30 – 15:30
15:00 – 15:20		Coffee Break				
15:20 – 17:20	Onsite Registration 15:20 – 17:20	Onsite Session S3	Culture Tour 15:00 – 16:30			ROS 2 (Part B) 15:45 – 17:30
18:00 – 19:30		Banquet 18:00 – 19:30				

Keynote Speech I

AI-Powered Surgical Robots

Prof. Yun-hui Liu
The Chinese University of Hong Kong
Hong Kong Centre for Logistics Robotics

Abstract

The rapid development of AI, in particular embodied AI, presents a lot of opportunity for robotics research and applications. In this talk, we will introduce our on-going research efforts on AI-powered robots that aim to automate the surgical procedures. The topics to be covered include AI-powered perception of surgical fields, LLM/VLM-driven surgical planning and control, surgical skill learning, system integration, and clinical experiments. In particular, we will introduce an AI-powered flexible surgical robot with level-3 autonomy for kidney stone treatment procedures and present its clinical experiments.

Biosketch



Yun-hui Liu received B. Eng. degree in Applied Dynamics from Beijing Institute of Technology, M. Eng. degree in Mechanical Engineering from Osaka University, and Ph.D. degree in Applied Mathematics from the University of Tokyo. After working at the National Electrotechnical Laboratory of Japan as a Research Scientist, he joined The Chinese University of Hong Kong (CUHK) and is currently a Choh-Ming Li Professor of Mechanical and Automation Engineering, the Director of the CUHK T Stone Robotics Institute, and the Director/CEO of Hong Kong Centre for Logistics Robotics funded by the InnoHK clusters of the HKSAR government. He has published more than 500 papers in refereed journals and conference proceedings and was listed in the Highly Cited Authors (Engineering) by Thomson Reuters. His research interests include vision-based robotics, machine intelligence and their applications in manufacturing, logistics, healthcare and constructions. Prof. Liu has received numerous research awards from international journals and international conferences in robotics and automation, and from government agencies. In recent years, he has been actively transferring robotics technologies developed at university labs to industries, and co-founded VisionNav Robotics, CornerStone Robotics, etc. He was the Editor-in-Chief of Robotics and Biomimetics and served as an Associate Editor of the IEEE Transactions on Robotics and Automation. He is Fellow of IEEE, HKIE and HKAE.

Keynote Speech II

Pixels and Predictions: Perceiving What Is and What Could Be

Dr. João Carreira
Research Scientist (Director)
Google DeepMind
London UK

Abstract

Vision has undergone tremendous progress recently with many classic problems solved. This talk will cover recent progress from our team at Google DeepMind around two areas — a) advanced visual capabilities including 4D reconstruction (3D + motion), multitask vision models and city-scale perception and b) going beyond perception and modelling the future, which is important for acting and robotics.

Biosketch



João Carreira is a Research Scientist at Google DeepMind, working on computer vision. He completed his PhD at the University of Bonn in 2012 working on object segmentation, advised by Cristian Sminchisescu, then was a PostDoc in sunny Berkeley with Jitendra Malik, working on 3D and

human pose estimation. His focus at DeepMind has been on learning from video, and was one of the core creators of the Kinetics dataset and more recently the Perception Test. On the modelling side he was an author of the I3D and Perceiver models and is interested in developmental-inspired approaches that succeed at learning from continuous video streams, like people and animals do.

October 2, 2026

Auditorium, Second floor, Student Hub Building (formerly Faculty of Medicine Bldg),
Rua Larga, 3004-504, Coimbra, Portugal

Plenary Sessions

Time	Agenda
09:15 - 09:30	Opening Ceremony
09:30 - 10:30	Keynote Speech I - Prof. Yun-hui Liu
10:30 - 11:00	Coffee Break
11:00 - 12:00	Keynote Speech II - Dr. João Carreira
12:00 - 13:00	Lunch Break

Onsite Parallel Sessions

S1: Control System Modeling

Chairs: Xiaoyue Xu and Na Zhang

13:00 - 15:00 | Auditorium, Student Hub Building (second floor)

Time	Title	Authors
13:00 - 13:20	Output-feedback control for Multirate Positive Markov Jump Systems with Bit Rate Constraint	Na Zhang; Chuqi Liu; Jinling Liang; Jianquan Lu; Wenying Xu; Shaofu Yang
13:20 - 13:40	Recursive Filtering for Time-Varying Systems With Randomly Occurring State Saturations and Time-Correlated Fading Channels	Shipei Cai; Jinling Liang
13:40 - 14:00	A data-driven and knowledge-informed interpretable model for fault prediction	Wei Yan; Zengyan Ji; Shuo Ding; Cecilia Zanni-Merk; Liang Zhang
14:00 - 14:20	Event-Triggered Average Consensus over Directed Graphs with Uniformly Positive Inter-Event Intervals	Kai Wu; Yuezun Lv; Jialing Zhou
14:20 - 14:40	A High-Fidelity 3D Electromagnetic Digital Twin Head Model for Computational Electromagnetics	Naike Du; Xiuzhu Ye
14:40 - 15:00	Grammar-Guided Mechanism Discovery: From Process Data to Transferable Governing Equations	Xiaoyue Xu; Han-Xiong Li

S2: Autonomous Systems

Chairs: Xia Wu and Mário P. Cristóvão

13:00 - 15:00 | Meeting Room, Student Hub Building (second floor)

Time	Title	Authors
13:00 - 13:20	Group Cross-Attention Based Multimodal Fusion for Vehicle-Infrastructure Cooperative Detection	Xia Wu
13:20 - 13:40	Toward Predictive Navigation for Agricultural Robots: A Review of Cognitive Architectures and a Deep Active Inference Proof of Concept	Victor Romero Bautista; Nelson Broyer Paco Chipana; Pedro Miguel Núñez Trujillo; Luis Vicente Calderita Estévez; Pablo Bustos García De Castro
13:40 - 14:00	Sensor Fusion of Ultra-Wideband and Bluetooth 5.1 for Precise Indoor Positioning	Jan-Gerrit Jaeger; Felix Karbach; Dietmar Tutsch
14:00 - 14:20	A Mixture of Domain Experts Framework for Autonomous Navigation via Deep Reinforcement Learning	Vinicius Gustierrez Neves; Ana Rosalia Huaman Reyna; Iago Pachêco Gomes; Denis Fernando Wolf
14:20 - 14:40	Multi-Vehicle Coordinated Trajectory Planning on Curved Roads Using Varying-Step Safety Corridors	Pengfei Liu; Tong Kang; Junbo Wang; Yunxuan Liang
14:40 - 15:00	Vision Beyond Frames: Exploring LiDAR-Inertial-Events-Based Localization in Forest Environments	Mário P. Cristóvão; David Portugal

S3: Computer Vision and Image Analysis

Chairs: Xiaodong Gu and Dylan Perdigão

15:20 - 17:20 | Auditorium, Student Hub Building (second floor)

Time	Title	Authors
15:20 - 15:40	SVRA: Singular-Value Residual Adaptation for VLMs	Ying Dong; Xiaodong Gu
15:40 - 16:00	Post-Training Threshold-Scaling for Efficient SNN Classification on Neuromorphic Hardware	Dylan Perdigão; Francisco Antunes; Catarina Silva; Bernardete Ribeiro

Time	Title	Authors
16:00 - 16:20	C2F-SL: A Calibrated Cascade Framework for Soft Label Generation in Multispectral Segmentation	Wilgo Moreira Nunes Cardoso; Gil Rito Gonçalves; Cristiano Premebida
16:20 - 16:40	Physiology-Driven Feature Engineering in Ground-Based Thermal Imaging for Grapevine Water Status Assessment	Syed Asad Shabbir Bukhari; Gil Rito Gonçalves; Lino Marques
16:40 - 17:00	A Comparative Study of Confidence Calibration and Uncertainty Estimation for Semantic Understanding of Outdoor Environments	Yasin Hamzavi; Tiago Barros; Cristiano Premebida; U.J. Nunes
17:00 - 17:20	Multimodal RGB–Infrared Combination for UAV-Based Wildfire Segmentation: A Comparative Study on FLAME3	Matheus F. Kovaleski; Luís Garrote; Cristiano Premebida; Jerome Mendes; João Ruivo Paulo

S4: Machine Learning and Applications

Chairs: Léa Billet and Venkata Sai Varada

15:20 - 17:20 | Meeting Room, Student Hub Building (second floor)

Time	Title	Authors
15:20 - 15:40	CLOE: Christoffel Loss Autoencoder for Anomaly Detection	Léa Billet; Louise Travé-Massuyès; Elodie Chanthery; Alexandre Gaffet
15:40 - 16:00	KRC-FL: Calibrating Cross-Domain Prototype Relations for Federated Learning under Feature Distribution Skew	Chen Chen; Haifeng Dai; Linan Wang; Zuoming Zhang
16:00 - 16:20	Spiking-Attention Transformers for Fraud Detection Under Bias and Drift	Naveed Ahmad; Catarina Silva; Bernardete Ribeiro
16:20 - 16:40	Fine-Tuned Multi-Task Small Language Models for IT Incident Management	Venkata Sai Varada; Shubham Khandelwal; Kartavya Shankar
16:40 - 17:00	Trustworthy Neural Traffic Sign Recognition: Attacks, Explanations and Verification	Miguel Costa, Carlos Gonçalves, Rafael Vieira, Tiago Henriques, Alexandra Batista, Diogo Baptista, Luis Conde Bento

Time	Title	Authors
17:00 - 17:20	A Design Science Approach to Traceability-Aware Visual Browser Test Automation	Yusuf Köse; Stiphen Chowdhury; Sin-Chun Ng; Man-Fai Leung

Forum on AI & Robotics in Strategic Sectors

13:00 - 17:20

<https://airsforum.isr.uc.pt/>

Banquet

18:00 - 19:30

Papa Restaurante

#37 Rua Alexandre Herculano, Coimbra, Portugal

<https://papa.eatbu.com/>

October 3, 2026 - Onsite Sessions

S5: Perception and Localization

Chairs: Tiago Barros and Eduarda Andrada

08:30 - 10:30 | Auditorium, Student Hub Building (second floor)

Time	Title	Authors
08:30 - 08:50	Seg2Track++: Probabilistic Track Validation and Data Association for Multi-Object Tracking and Segmentation	Diogo Mendonça; Tiago Barros; Cristiano Premebida; Urbano J. Nunes
08:50 - 09:10	Zero-Shot Semantic Re-Identification for Autonomous Driving: A VLM Baseline Study	Eduardo Borges; Manuel Nunes Abreu; Luís Garrote; Urbano J. Nunes
09:10 - 09:30	PRUNE: Selective LiDAR–Camera Projection via Multi-Stage Evidence Rejection for Semantic Fusion in Unstructured Forests	M Eduarda Andrada; David Portugal; Paulo Peixoto; George Kantor
09:30 - 09:50	Visual Object Removal in LiDAR Point Clouds for Dynamic Environment Representation	Kennedy O. S. Mota; Luis Garrote; Cristiano Premebida; Urbano J. Nunes
09:50 - 10:10	Fault Detection Approach for Dissolved Oxygen Sensors in Wastewater Treatment Plants	Pedro Lôbo Amorim; Amanda Pina Amorim; Rodrigo Salles; Jorge S. S. Júnior; Jérôme Mendes
10:10 - 10:30	Multimodal Affective AI for Engagement- and Stress-Aware Adaptive Human–Robot Interaction	Diego Resende Faria; Cristiano Premebida

S6: Trustworthy AI

Chairs: Fernando Beltran and Luís Garrote

11:00 - 12:00 | Auditorium, Second floor, Student Hub Building

Time	Title	Authors
11:00 - 11:20	QIF-DP: Shielded Privacy Budget Allocation for Statistically Secure Query Answering	Mina Khoshmehr; Fernando Beltran
11:20 - 11:40	Formal Verification of Deep Neural Networks for Classification in Industrial Environments	Manuel Nunes Abreu; Luís Garrote; Luis Conde Bento; Bradley Schmerl; Urbano J. Nunes; David Garlan
11:40 - 12:00	AlphaEvolve inspired Discoveries for Science and Technology	Dongbin Zhao

15:00-16:30

Cultural Tour (visit the Baroque Library, St. Michael's Chapel, etc).

October 4, 2026
Online Sessions via Zoom

S7: Computational Intelligence

Chairs: Xiao-Fang Liu and Xinrui Jiang

07:20 - 12:00 (Lisbon Time)

Zoom link: <https://cityu.zoom.us/j/86268979872> (Meeting ID and passcode are not required)

Time	Title	Authors
07:20 - 07:40	FF-EEGNet: A Bio-inspired Forward-Forward Framework for General EEG Processing	Zhiyu Tan; Fan Ping; Di Zhao; Zhong Ji; Meizhou Gao; Xinpeng Guan; Cailian Chen; Xinyi Le
07:40 - 08:00	Adaptive Distributed NE Seeking with Privacy Protection under Switching Topologies	Zhijie Chen; Yinyu Zheng; Sitian Qin
08:00 - 08:20	Parameter Identification of Lithium-Ion Batteries Using an Improved Chaos Evolutionary Optimization Algorithm	Haoyu Li; Peng Liu; Zhongyu Qian; Junhong Zhao
08:20 - 08:40	An Actuator-aware Genetic Algorithm for Soft Robot Design	Jie-Yu Ren; Xiao-Fang Liu; Jun Zhang
08:40 - 09:00	Adaptive Differential Evolution with Stagnation-Triggered Nelder-Mead for 3D Dynamic UAV Path Planning	Jun You; Pengpeng Zhi; Haoxuan Zhang; Yanchun Zhao
09:00 - 09:20	Analog Circuit Implementation of Accelerated Projection Neurodynamic Algorithms for Constrained Convex Optimization	Hong Liu; Junhui Chen; Yuanyuan Ou; Ruoxi Yu; You Zhao; Xing He; Hangjun Che; Yuming Feng
09:20 - 09:40	Hierarchical Adaptive Topology Differential Evolution for Multimodal Optimization	Ming-Kun Guo; Yi Jiang; Jun Zhang; Zhi-Hui Zhan
09:40 - 10:00	ES-AHD: An Evolution Strategy Framework for Automatic Heuristic Design	Hai-Lin Liu
10:00 - 10:20	Neurodynamic Approaches for Heterogeneous Multi-coalition Game under event-triggered communication	Zhiyu Liu, Yiyao Xu, Sitian Qin

Time	Title	Authors
10:20 - 10:40	Deep Reinforcement Learning-Based Hybrid Sliding Mode Attitude Control for Rigid Spacecraft	Zuoming Zhang; Linan Wang; Chen Chen; Haifeng Dai
10:40 - 11:00	A New Pest Management Model with Impulsive Control and Physical Management	Yi Xu; Xianxiu Zhang; Ruimin Zeng; Quanfeng Ao; Baojie Zhang
11:00 - 11:20	A Time-Varying Penalty-Based Neurodynamic Approach for Nonsmooth Interval-Valued Optimization Problems with General Set Constraints	Yufei Xiong; Xinrui Jiang; Sitian Qin
11:20 - 11:40	A Neurodynamics-driven Approach to Reliable Chiller Load Scheduling	Lin Chen; Yu Tian; Hangjun Che; Shaofu Yang; Wenying Xu; Zhongying Chen
11:40 - 12:00	Preparation of Aspirin and Its Implications for Traditional Chinese Medicine Modernization and Data-Assisted Process Analysis	Yanxuan Wang; Xinyi Le; Na Zhou

S8: AI Applications I

Chairs: Carrie Ho and Kushagra Agrawal

13:00 - 15:20 (Lisbon Time)

Zoom link: <https://cityu.zoom.us/j/86268979872> (Meeting ID and passcode are not required)

Time	Title	Authors
13:00 - 13:20	Structured Hallucinations in Small Language Models: Repeatability, Attention Signatures, and Context Contagion	Kushagra Agrawal; Yuming Feng; Hangjun Che; Man-Fai Leung
13:20 - 13:40	LumiNet: A Joint Single-Stage Compact CNN for Low-Light Image Enhancement and Denoising	Himidiri Himakanika Pushpakumara; Seyed Ruzaik
13:40 - 14:00	An Empirical Study of AI-Assisted Sustainability Lesson Plan Generation Using ChatGPT	Man-Fai Leung; Chung-Man Tang; Ka Lee Carrie Ho; Stiphen Chowdhury; Sin-Chun Ng

Time	Title	Authors
14:00 - 14:20	Edge-AI for Agricultural Decision Support: A Survey on Neural Networks and IoT	Adriely Lúcia Brandelli; Iury da Silva Batalha; Pedro Luiz Magalhaes Cumino; Matheus Rico Tanner
14:20 - 14:40	Physics-Regularized Neural Dynamics Learning for Sample-Efficient Thermal Process Control	Sahana Varadaraju; Bharathwaj Vijayakumar
14:40 - 15:00	Graph Autoencoders for Synthetic Tree Skeletons: A Baseline Study	Miguel Diogo; Luis Conde Bento; Paulo Peixoto
15:00 - 15:20	Risk-Aware Offline Reinforcement Learning with Calibrated Off-Policy Evaluation for Motor-Imagery BCI Decoding	Bryan Cheng

October 5, 2026
Online Sessions via Zoom

S9: Intelligent Systems

Chairs: Xiang Liu and Jialing Zhang

07:20 - 12:00 (Lisbon Time)

Zoom link: <https://cityu.zoom.us/j/82429167882> (Meeting ID and passcode are not required)

Time	Title	Authors
07:20 - 07:40	Generation of scRNA-seq Data by Combining Generation Adversarial Network and Label	Xiaoshu Zhu; Tiezheng Qiao; Fei Teng; Qintong Lyu; Ya Zhou; Chunrong Xiong
07:40 - 08:00	An Efficient Multi-Task FCOS Network Based on MobileNetV3 for Thyroid Nodule Localization and Classification	Jingbo Sun; Yanzhu Gao; Ying Han; Mingyan Yang; Yichen Zhao; Yilan Yuan; Cong Lin; Qiong Chen
08:00 - 08:20	Capability-Aware Dynamic Skill Selection for Memory-Augmented Generation	Yu Qiao; Yifan Wang; Chengrui Huang; Xilin Zhang; Shuo Shang
08:20 - 08:40	Uncertainty-Aware Gradient Fusion for Multimodal Learning	Nannan Lu; Zhen Tan; Yichen Dai; Yujie Zhou
08:40 - 09:00	A Decoder-Centric Co-Design for Edge Deployment of Transformer-Based Neural TSP Solvers on FPGAs	Yulong Ren; Tengfei Li; Shenshen Gu
09:00 - 09:20	The Impact of Macroeconomic Policy Texts on Stock Volatility of Listed Companies in the New Infrastructure Sector: A Multidimensional Panel Empirical Study Based on Theme, Frequency, and Tone	Shiyue Xu; Jie Su
09:20 - 09:40	WPFEformer: A Fault Diagnosis Model for Rotating Machinery Based on Multi-Domain Features and Residual Late Fusion	Jiangtao Wang; Xiang Liu; Yan Wang; Hao Ma; Ningning Qin
09:40 - 10:00	Aligning Flow-Matching Vision-Language-Action Models via Advantage-Guided Action Preference Optimization	Yan Shen; Qingshan Liu
10:00 - 10:20	STF-DiaNet: A Spatial-Frequency and Temporal Fusion Network for Adjacent-Frame Guided Diaphragm Ultrasound Segmentation	Xujie Gao; Yifan Wang; Kehu Yang; Long Cheng

Time	Title	Authors
10:20 - 10:40	LLMInit+: Semantic Preservation Regularization for LLM-Initialized Graph Collaborative Filtering	Jialing Zhang
10:40 - 11:00	LLM-MADDPG for Multi-UAV Trajectory Design and Task Offloading	Hengwei Deng; Xin Yang; Zixin Liu
11:00 - 11:20	A Lightweight Multi-Branch Feature Pyramid Network for Marine Oil Spill Detection	Junlin He; Xinzhe Wang; Jun Xing; Jianchao Fan
11:20 - 11:40	Space Debris Recognition Method Based on RGB-IR Multi-Modal Fusion	Ziyi Zhao; Zhelong Wang; Xiang Li; Yongtao Chen; Zhiyong Fu; Pengrong Hou; Jiahao Jiang; Hainan Tang; Mingyang Hua
11:40 - 12:00	Bottom-Up Collaborative Optimization of Assembly Line Balancing and Layout for Multi-Floor Assembly of Complex Equipment	Danping Gong, Yuhai Wen, Liang Chen, Xinyi Le, Yu Zheng

S10: AI Applications II

Chairs: Sougre-Nonma Rouamba and Ilkim Aydar

13:00 - 15:00 (Lisbon Time)

Zoom link: <https://cityu.zoom.us/j/82429167882> (Meeting ID and passcode are not required)

Time	Title	Authors
13:00 - 13:20	Graph-Based Deep Learning for Hyperspectral Image Classification	Sougre-Nonma Rouamba; Paul Cotae; Nian Zhang
13:20 - 13:40	Transformer-Based Hyperspectral Image Classification via Spectral Embedding and Patch-Local Self-Attention: A Multi-Benchmark Empirical Study	Ilkim Aydar; Paul Cotae; Nian Zhang
13:40 - 14:00	Hyperspectral Image Classification Using PCA-Based Deep 2D Convolutional Neural Networks with Spatial Regularization	Matheus de Andrade; Sougre-Nonma Rouamba; Paul Cotae; Nian Zhang
14:00 - 14:20	A Taxonomy of Integration Architectures for Virtual and Augmented Reality in Learning Management Systems	Tolulope Oladipo, Avijoy Chakma, Agbo Idoko

14:20 - 14:40	Real-Data-Grounded Benchmarking of Authenticated Encryption for Mobile Learning Management Systems Under Simulated 4G, 5G, and 6G Network Conditions	Tolulope Oladipo, Avijoy Chakma, Agbo Idoko
14:40 - 15:00	Reference-Transcript-Free Detection of Caption Timing Drift and Terminology Near-Misses for Accessibility Triage in LMS Lecture Videos	Tolulope Oladipo, Francisca Onaolapo Oladipo, Avijoy Chakma, Agbo Idoko

October 6, 2026

**Main FEUP Building, Faculty of Engineering, University of Porto,
Rua Dr. Roberto Dias, Porto, Portugal**

Tutorials

Hands-on Robot Operating System (ROS) 2 for Field Robotics

Time	Agenda
09:30-10:30	Field Robotics Context and Motivation
10:30-10:45	Coffee break
10:45-12:30	ROS 2 Fundamentals
12:30-13:30	Lunch break
13:30-15:30	Hands-on ROS 2 Tutorial (Part A)
15:45-17:30	Hands-on ROS 2 Tutorial (Part B)

Workshop

Intelligent Networks for Sustainable Cities: From Urban Data to Decarbonization

Time	Agenda
09:30-10:30	Short Technical Presentations
10:30-10:45	Coffee break
10:45-12:30	Roundtable From Intelligent Urban Systems to Carbon-Neutral Communities: What Comes Next?"

