ENNS

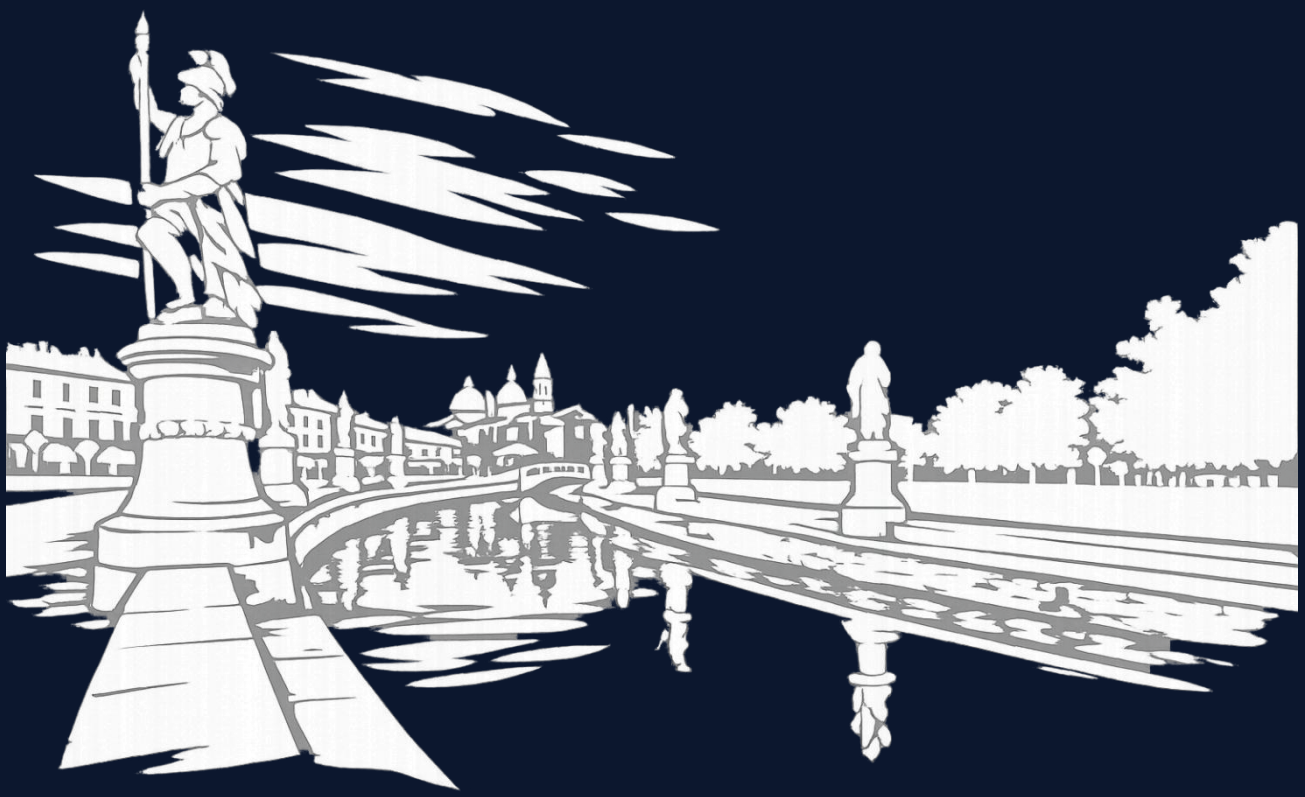
ICANN26

35th International Conference on Artificial Neural Networks

September 14-17, 2026

Padova, Italy

PROGRAM



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Conference Website: https://e-nns.org/icann2026/

Program at a Glance

Monday 14/09/2026

Workshops

Time	Congress Centre Hall	Congress Centre A	Congress Centre B	ROOM T4	ROOM T2	Lunch And Poster Area
8.30						
09:30		Workshop: Neurorobotics	Workshop: Efficient Deep Learning	Workshop: Artificial Intelligence for Industry 5.0	Workshop: Theory and Learning for Complex Systems	
11:00						Coffee Break
11:30		Workshop: Neurorobotics	Workshop: Efficient Deep Learning	Workshop: Artificial Intelligence for Industry 5.0	Workshop: Dungeons, Neurons, and Dialogues	
13:00						Lunch
14:30	Registration	The 3rd Workshop on AI in Drug Discovery	Workshop: Efficient Deep Learning	Workshop: Deep Learning and Mathematical Methods for Deepfake Detection	4th International Workshop on Reservoir Computing (RC 2026)	
16:00						Coffee Break
16:30		The 3rd Workshop on AI in Drug Discovery	Workshop: Efficient Deep Learning	Workshop: Deep Learning and Mathematical Methods for Deepfake Detection	4th International Workshop on Reservoir Computing (RC 2026)	
18:00						Welcome Reception
19.00	End of the Day's Scientific Program					

Tuesday 15/09/2026

Time	Congress Centre Hall	Congress Centre A	Congress Centre B	ROOM T4	ROOM T2	ROOM T1	Lunch And Poster Area
08:30	Registration						
09:00		Opening					
09:30		Keynote 1 - Pierre Baldi					
10:30							Coffee Break And Poster Exhibition
11:00		Neuroscience 1	Special session: Perception frontiers with neuromorphic methods	Neural Control and Planning	General Applications of Machine Learning 1	Artificial Intelligence and Machine Learning 1	
12:40							Lunch
14:00		Special sessions: Complexity, Robustness, and Accuracy of Neural Networks	Large Language Models 1	Computer Vision 1	General Applications of Machine Learning 2	Artificial Intelligence and Machine Learning 2	
15:20		Keynote 2 - Ginestra Bianconi					
16:20							Coffee Break And Poster Exhibition
16:50		Neuroscience 2	Machine Learning for Graphs 1	Biosignal Processing	General Applications of Machine Learning 3	Artificial Intelligence and Machine Learning 3	
18:30							Poster Exhibition
19:00	End of the Day's Scientific Program						

Wednesday 16/09/2026

Time	Congress Centre Hall	Congress Centre A	Congress Centre B	ROOM T4	ROOM T2	ROOM T1	Lunch And Poster Area
08:30	Registration						
09:00		Keynote 3 - Josè Maria Delgado					
10:00							Coffee Break And Poster Exhibition
10:30		Computer Vision 2	Special session: Neural Networks for Graphs and Beyond (NN4G+ 2026)	Artificial Intelligence and Machine Learning 4	Reinforcement Learning	Special session: Spiking Neural Networks and Neuromorphic Computing	
12:30		ENNS board meeting					Lunch
14:00		Large Language Models 2	Learning Algorithms	Special session: Explainable Neurosymbolic AI (X-NeSy)	Special sessions: Multimodal data fusion with large language models	General Applications of Machine Learning 4	
15:20		Keynote 4 - Massimiliano Pontil					
16:20							Coffee Break And Poster Exhibition
16:50		General Applications of Machine Learning 5	Artificial Intelligence and Machine Learning 5	Neuroscience 3	Special session: Advances and Challenges in Predictive AI for Biomedical Data Analysis	New Topics in AI/ML	
18:30							Poster Exhibition
19:00	End of the Day's Scientific Program						
20:00	**Gala Dinner at Caffè Pedrocchi**						

Thursday 17/09/2026

Time	Congress Centre Hall	Congress Centre A	Congress Centre B	ROOM T4	ROOM T2	ROOM T1	Lunch And Poster Area
08:30	Registration						
09:00		Keynote 5 - Ausra Saudargiene					
10:00							Coffee Break And Poster Exhibition
10:30		Artificial Intelligence and Machine Learning 6	Computer Vision 3	Special session: Advances in Artificial Intelligence, Remote Sensing and Signal Processing for Urban and Earth Applications	Large Foundational Models And Novel Neural Network Architectures	Human-Computer Interaction And Robotics	
12:30							Lunch
14:00		Machine Learning for Graphs 2	Large Language Models 3	Computer Vision 4	Theory and Foundations of Neural Networks	LLM, Speech and Language Processing	
15:20		Keynote 6 - Marco Gori					
16:20							Coffee Break And Poster Exhibition
16:50		ENNS General assembly					
18:00		Closing remarks					
18:30							Poster Exhibition
19:00	End of the Day's Scientific Program						

Invited Speakers

Prof. Pierre Baldi (UC Irvine, California)

9:30, Tuesday 15/09/2026 - Congress Centre A/B

Talk: The Theory of Synaptic Neural Balance

Session Chair: *Prof. Alessio Micheli*

We develop a general theory of synaptic neural balance and how it can emerge or be enforced in neural networks. For a given regularizer, a neuron is said to be in balance if the total cost of its input weights is equal to the total cost of its output weights. The basic example is provided by feedforward networks of ReLU units trained with L2 regularizers, which exhibit balance after proper training. The theory explains this phenomenon and extends it in several directions. The first direction is the extension to bilinear and other activation functions. The second direction is the extension to more general regularizers, including all Lp regularizers. The third direction is the extension to non-layered architectures, recurrent architectures, convolutional architectures, as well as architectures with mixed activation functions. Gradient descent on the error function alone does not converge in general to a balanced state, where every neuron is in balance, even when starting from a balanced state. However, gradient descent on the regularized error function ought to converge to a balanced state, and thus network balance can be used to assess learning progress. The theory is based on two local neuronal operations: scaling which is commutative, and balancing which is not commutative. Given any initial set of weights, when local balancing operations are applied to each neuron in a stochastic manner, global order always emerges through the convergence of the stochastic balancing algorithm to the same unique set of balanced weights. The reason for this is the existence of an underlying strictly convex optimization problem where the relevant variables are constrained to a linear, only architecture-dependent, manifold. Simulations show that balancing neurons prior to learning, or during learning in alternation with gradient descent steps, can improve learning speed and final performance. Finally, we show how synaptic balancing is intimately connected to questions of neural overparameterization and algebraic geometry, and discuss the relevance of synaptic neural balance for neurobiological or neuromorphic neural networks.

Prof. Ginestra Bianconi (Queen Mary University of London, UK)

15:20, Tuesday 15/09/2026 - Congress Centre A/B

Talk: Topology shapes dynamics of higher-order networks

Session Chair: *Prof. Alessandro Villa*

Complex systems like the brain, climate, and next-generation artificial intelligence rely on interactions that extend beyond simple pairwise relationships. This talk reveals the critical role of higher-order networks, structures that capture multi-body interactions, in shaping the dynamics of such systems.

By integrating algebraic topology with non-linear dynamics, the research highlights how topological signals, dynamical variables defined on nodes, edges, triangles, and other higher-order structures, drive phenomena such as topological synchronization, pattern formation, and triadic percolation. The surprising result that emerges from this research is that topological operators including the Topological Dirac operator, offer a common language for treating complexity, AI algorithms, and quantum physics.

These findings not only advance the understanding of the underlying mechanisms in neuroscience and climate science but also pave the way for innovative machine learning algorithms inspired by theoretical physics.

Prof. José María Delgado García (Siviglia, Spain)

9:00, Wednesday 16/09/2026 - Congress Centre A/B

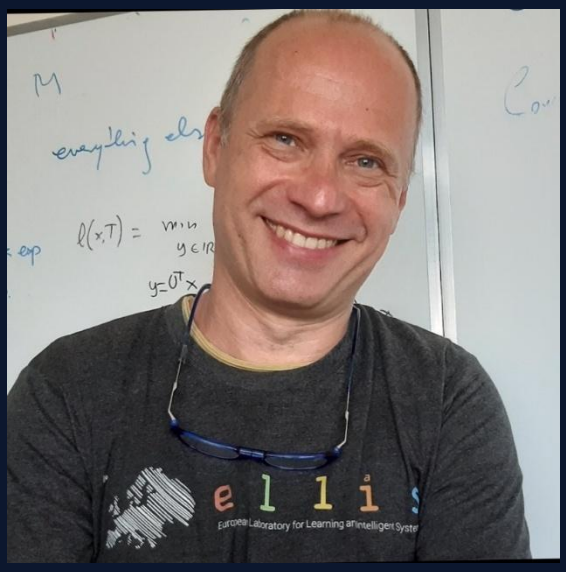
Talk: Functional states corresponding to different types of associative and social learning task

Session Chair: ***Prof. Alessandra Lintas***

The most important thing that I have learned across my scientific life is that the complexity of brain functions can only be approached by multidisciplinary, comparative, and at live approaches. The availability of genetically manipulated mammals (mice and rats) and of sophisticated electrophysiological and pharmacological techniques, susceptible of being applied in behaving animals during the acquisition of new motor and cognitive abilities, have largely facilitated my scientific approach in the past 20 years. In this regard, our group has studied the contribution of cortical, subcortical and cerebellar circuits to associative (Pavlovian, instrumental), social, brain-machine, and decision-making learning paradigms. For this, we have recorded unitary firing rates, local field potentials, and activity dependent changes in synaptic strength in cortical and subcortical neurons during the respective acquisition processes. The main output of our studies is that learning is the result of the activity of wide cortical and subcortical circuits activating particular functional properties of involved synaptic nodes and that brain functions during learning processes have to be studied at the very moment of the acquisition process.

Prof. Massimiliano Pontil (Italian Institute of Technology, Genova)

15:20, Wednesday 16/09/2026 - Congress Centre A/B



Talk: Learning Linear Evolution Operators: Theory and Applications

Session Chair: ***Prof. Vera Kurkova***

Dynamical systems are central to science and engineering, with applications in climate modeling, molecular dynamics, robotics, neuroscience, finance, and beyond. Remarkably, despite their diversity, many such systems can be understood within the unifying framework of linear evolution operators. The key idea is to study how functions of the state evolve over time, instead of tracking the full state. This transforms a nonlinear problem into a linear one and enables spectral analysis to uncover global system dynamics. This perspective has a long history, rooted in foundational work by Markov, Koopman, and von Neumann. However, while conceptually powerful, linear evolution operators are often computationally intractable in high-dimensional settings. Consequently, over the past two decades, significant effort has focused on data-driven methods, yet their theoretical guarantees remain poorly understood. This talk presents a framework for placing data-driven approaches to dynamical systems on a firm statistical foundation. By formulating the problem of learning linear evolution operators from a statistical perspective, we develop novel learning algorithms backed by finite-sample learning guarantees, which show promising results in challenging real-world applications in molecular dynamics, climate modeling, and robotics. The algorithms provably learn evolution operators and their spectra, and leverage modern deep learning architectures to learn representations of dynamics efficiently and reliably. Finally, if time permits, I will discuss how linear operators play a central role in reinforcement learning and statistical inference, including uncertainty quantification and causality.

Prof. Ausra Saudargiene (Lithuanian University of Health Sciences)

9:00, Thursday 17/09/2026 - Congress Centre A/B

Talk: Toward Digital Brain Twins of Neurodegenerative Disorders

Session Chair: ***Prof. Igor Tetko***

EBRAINS is a European digital brain research infrastructure for integrating multimodal neuroscience data, computational models, simulation tools, AI-assisted clinical research workflows within a shared ecosystem. By enabling interoperable data analysis pipelines and biologically informed large-scale simulations, EBRAINS supports a transition from descriptive neuroscience toward mechanistic and predictive models of brain disorders. Within the EBRAINS ecosystem, The Virtual Brain (TVB) provides a framework for constructing individualized whole-brain models by integrating patient-specific anatomical connectivity, empirical neurophysiological recordings, and biophysically interpretable neural mass models. This capacity to link empirical data with mechanistic simulations is particularly relevant for neurodegenerative disorders, which are characterized by progressive neuronal dysfunction and loss, often accompanied by widespread alterations in brain network dynamics. Parkinson's disease, one of the most common neurodegenerative disorders, is marked by dopaminergic neuronal loss and heterogeneous motor and non-motor symptoms. In Parkinson‘s disease, TVB-based modeling is especially promising as both dopaminergic medication and deep brain stimulation modulate large-scale neural dynamics, yet the mechanisms underlying individual therapeutic responses remain incompletely understood. Integrating EEG-derived biomarkers with mechanistic whole-brain modeling may therefore support the development of patient-specific digital brain models and personalized neuromodulation strategies. We combine EEG-derived biomarkers, including spectral connectivity, synchronization measures, burst dynamics, and neuronal avalanche statistics, with dopamine-sensitive neural mass modeling to characterize patient-specific brain dynamics across medication and deep-brain stimulation states. The results suggest that neuromodulation shifts individuals through different dynamical regimes, including pathological synchronization, asynchronous activity, bistability, and near-critical states. By linking AI-assisted feature extraction and model inversion with mechanistic whole-brain simulations, EBRAINS The Virtual Brain Twin can help infer latent physiological parameters such as excitability, synaptic gain, dopaminergic modulation, and network coupling. This interaction between AI, empirical biomarkers, and digital twin modeling offers a pathway toward predictive, patient-specific models of neurodegenerative disorders and more personalized neuromodulation strategies.

Prof. Marco Gori (University of Siena, Italy)

15:20, Thursday 17/09/2026 - Congress Centre A/B

Talk: Generative System Dynamics in Recurrent Neural Networks

Session Chair: *Prof. Alessandro Villa*

In this talk, I discuss an alternative view of learning from interaction, one that casts time in the leading role. I then show that this alternative path is a candidate to replace transformer-based architectures in carrying out generative processes. The emphasis is on mechanisms that favor generative processes arising simply from the initial conditions of the neural network. I prove that linear units enable universal generation capabilities, which can be extended to piecewise-linear units. Finally, I present evidence of the underlying symbolic structure that emerges from the proposed generation process

Program

Monday, 14 September 2026

The first day of the conference will be dedicated to workshops. Further information, including detailed schedules, will be published by the respective organizers on each workshop's webpage.

Workshops

Workshop Title	Workshop webpage
Neurorobotics *Congress Centre A - 9:30*	https://cogsci.fmph.uniba.sk/neurorobotics-ws
The 3rd Workshop on AI in Drug Discovery *Congress Centre A - 14:30*	https://aichemist.eu/icann2026
Efficient Deep Learning: Methods and Applications *Congress Centre B - 9:30*	https://sites.google.com/view/efficientdeeplearning2026
Artificial Intelligence for Industry 5.0: Neural Models, Hybrid Intelligence and Resilient Complex Systems *Room T4 - 9:30*	https://workshopicann2026.github.io/workshop/workshop.html
Deep Learning and Mathematical Methods for Deepfake Detection *Room T4 - 14:30*	https://sites.google.com/view/workshop-deepfakedetection
Theory and Learning for Complex Systems *Room T2 - 9:30*	https://tlcs2026.github.io/
Dungeons, Neurons, and Dialogues: Third Edition – Neural and Social Intelligence in Contextual Games *Room T2 - 11:30*	https://dnd-sidc.github.io/
4th International Workshop on Reservoir Computing (RC 2026) *Room T2 - 14:30*	https://sites.google.com/unipi.it/reservoircomputing2026
Inclusive Intelligence: Neural Architectures and Generative Models for Next-Generation Accessible and Assistive Technologies	https://cardiamc.github.io/Incl-Int

Tuesday, 15 September 2026

Congress Centre A | Neuroscience 1 - *Session Chair: Davide Borra*

11:00 **A tool for Formal Verification of Probabilistic Spiking Neural Networks via Weight-Discretized Quotient Abstractions**

Nikan Zandian Jazi (Université Côte D'azur); Elisabetta De Maria (Université Côte D'azur); Christopher Leturc (Université Côte D'azur)

11:20 **How do vision-language models represent numbers? An investigation on visual enumeration**

Sina Shafiezadeh (University of Padova); Kuinan Hou (University of Padova); Alberto Testolin (University of Padova); Marco Zorzi (University of Padova)

11:40 **Analytical approach to a large-scale cognitive multi-area language model**

Agata Feledyn (Freie Universität Berlin)

12:00 **Representational Drift in Memory under Incremental Learning with Local Synaptic Mechanisms**

Jayani Hewavitharana (King's College London); Pedro Henrique Da Costa Avelar (King's College London); Kathleen Steinhofel (King's College London); Peter Giese (King's College London)

12:20 **OAG-CAE: A Supervised Autoencoder Framework for Brain-Age Prediction from Whole-Brain Functional Connectivity**

Yikang Cao (Padova Neuroscience Centre); Marco Castellaro (Department of Information Engineering, University of Padova, Padova); Marco Zorzi (Department of General Psychology, University of Padova, Padova); Alessandra Bertoldo (Padova Neuroscience Center, University of Padova, Padova)

Congress Centre B | Special session: Perception frontiers with neuromorphic methods

11:00 **Spectral vs Topological Attention in Event-Based Vision**

Thi Thuy Duong PHAM (Université Côte d'Azur); Quy The TRAN (Université Côte d'Azur); Romaric Mazna (I3S/ CNRS / Université Côte d'Azur); Jean MARTINET (I3S/ CNRS / Université Côte d'Azur)

11:20 **CLANE: Continual Learning of Actions on Neuromorphic Hardware from Event Cameras**

Elvin Hajizada (Ludwig Maximilian University of Munich (LMU)); Michael Neumeier (Fortiss); Edward Paxon Frady (Intel); Yulia Sandamirskaya (ZHAW); Axel von Arnim (Fortiss); Bing Li (TU Ilmenau); Eyke Hüllermeier (Ludwig Maximilian University of Munich (LMU))

11:40 **Reinstating Linear Spatial Filtering in Early Vision from Fixational Motion Event Streams**

Simin Mohammadzadehharzandi (DIBRIS University of Genoa); Fulvio Missoni (DIBRIS University of Genoa); Andrea Canessa (DIBRIS University of Genoa); Silvio P. Sabatini (DIBRIS University of Genoa)

12:00 **Continuous Reward-Driven Learning in Spiking Neural Networks for Embedded Event-Based Robot Control**

Nicola Russo (University of West London); Konstantin Nikolic (University of West London)

12:20 **GERD: Geometric event response data generation**

Jens Egholm Pedersen (DTU); Dimitrios Korakovounis (KTH); Jörg Conradt (KTH)

Room T4 | Neural Control and Planning - *Session Chair: Igor Farkaš*

11:00 **M^2Dformer: A Multi-Scale Multi-Level Decomposition Transformer for Multivariate Time Series Forecasting**

Dong Chen (Chongqing Normal University); Feiyu Chen (Chongqing Normal University); Wei Xiang (Chongqing Normal University); Xiaoyu Liu (Chongqing Normal University)

11:20 **AdaReP:Adaptive Re-Planning under Model Mismatch for Neural World-Model Predictive Control**

Yutian Cheng (Shanghai Jiao Tong University); Xiaojian Ma (State Key Laboratory of General Artificial Intelligence, BIGAI); Xianhao Wang (University of Science and Technology of China); Min Yang (University of Science and Technology of China); Rongpeng Su (University of Science and Technology of China); Hangxin Liu (State Key Laboratory of General Artificial Intelligence, BIGAI); Xi Chen (State Key Laboratory of General Artificial Intelligence, BIGAI); Shuai Li (Shanghai Jiao Tong University); Qing Li (State Key Laboratory of General Artificial Intelligence, BIGAI)

11:40 **EMBARK: Neuromorphic Closed-loop Motor Control Pipeline for NeuroBench**

Jonas Reif (Technische Hochschule Nürnberg); Daniel Pommer (Technische Hochschule Nürnberg); Younes Bouhadjar (Forschungszentrum Jülich); Cristian Axenie (Technische Hochschule Nürnberg)

12:00 **Efficient Sampling Strategies for Physics Informed Neural Networks**

Cristiano Cervellera (National Research Council); Danilo Macciò (National Research Council)

12:20 **Uncertainty-driven training for three-dimensional calibrated lung nodule classification**

Giuseppe Tripodi (University of Manchester); Alessandro De Rosis (The University of Manchester); Saleh Rezaeiravesh (The University of Manchester)

Room T2 | General Applications of Machine Learning 1 - *Session Chair: Igor Tetko*

11:00 **Context-Aware Intent Retrieval and Classification based on Graph Convolutional Networks**

Vinicius Kawai (UNESP); Gustavo Leticio (UNESP); Manuel Carrillo (UNESP); Andre Freitas (University of Manchester); Daniel Pedronette (UNESP)

11:20 **Persistence Diagram Features for Multivariate Time-Series Anomaly Detection**

Muhammad Ibrahim Farrukh (Dartmouth College); Minh N. Bui (Dartmouth College); Brendan Liu (Dartmouth College); Peter Chin (Dartmouth College)

11:40 **Distributional Loss for Robust Classification**

Kathleen Anderson (University of Luebeck); Thomas Martinetz (University of Luebeck)

12:00 **How Brains Close Loops and Why Your GNN Should Too: A Cognitively Motivated Topological Extension of Message Passing on Graphs**

Goutham Nalagatla (Dartmouth College); Sie Hendrata (Dartmouth); Peter Chin (Dartmouth)

Room T1 | Artificial Intelligence and Machine Learning 1 - *Session Chair: Luca Pedrelli*

11:00 **Graph Structure Learning with Dynamic Channel Fusion for Spatio-Temporal Anomaly Detection**

Jing Wang (Civil Aviation University of China); Huilin Liu (Civil Aviation University of China); Jianli Ding (Civil Aviation University of China)

11:20 **Variance-Covariance Regularization for Unsupervised Domain Adaptation**

Junchi Liu (National University of Defense Technology); Xiang zhang (National University of Defense Technology); Yonggang Che (National University of Defense Technology)

11:40 **Visibility-Aware Dual-Graph Spatio-Temporal Network for Trajectory Forecasting under Occlusion**

Xufeng Xiang (Xidian university); zezheng dong (Shanghai Institute of Satellite Engineering); xiao xiao (Xidian University); Yuzhao Zhan (School of Management, Department of Accounting, Shandong University); Chenguang Ren (The Hong Kong Polytechnic University Electrical and Electronic Engineering); Xuzhi He (University of California, Davis; Department of Biomedical Engineering;); Ran Xing (CHANGXING Initiative PTY LTD)

12:00 **The Gentle Collapse: Distributional Metrics for Continual Learning**

Andreas Wagner (Hochschule Karlsruhe HKA ; Fraunhofer Institute ITWM); Ahmed Anwar (DFKI); Federico Raue (DFKI); Tobias Nauen (DFKI ; RPTU); Andreas Dengel (DFKI ; RPTU)

12:20 **ADP: Activation-Driven Neuron Pruning**

Dario Lazzaro (University of Genoa); Antonio Emanuele Cinà (University of Genoa); Maura Pintor (University of Cagliari); Ambra Demontis (University of Cagliari); Battista Biggio (University of Cagliari); Fabio Roli (University of Genoa); Marcello Pelillo (Ca' Foscari University of Venice); Luca Oneto (UNIGE)

Congress Centre A | Special sessions: Complexity, Robustness, and Accuracy of Neural Networks

14:00 **Learning to Extrapolate in Industrial Data-Scarce Scenarios via Differential Ensemble Neural Networks**

Hao Huang (GE Vernova Advanced Research); Jinbo Cao (GE Vernova Advanced Research); John Karigiannis (GE Vernova Advanced Research)

14:20 **Robust loss functions for RBF networks and their derivatives**

Jan Kalina (The Czech Academy of Sciences, Institute of Computer Science)

14:40 **Top-Theta Attention: Sparsifying Transformers by Compensated Thresholding**

Konstantin Berestizshevsky (Huawei); Renzo Andri (Huawei); Lukas Cavigelli (Huawei)

15:00 **Sparse Neural Networks with Architectural Constraints for Feature Selection in Tabular Data**

Lars Fluri (University of Basel)

Congress Centre B | Large Language Models 1 – *Session Chair: Gianfranco Lombardo*

14:00 **Teaching Old Dogs New Tricks: Teacher Signal vs. Experience Replay in Continual Pre-training for Language Model Adaptation**

Andrea Blasi Núñez (University of Southern Denmark); Lukas Galke Poech (University of Southern Denmark); Thiusius Rajeeth Savarimuthu (University of Southern Denmark); Peter Schneider-Kamp (University of Southern Denmark)

14:20 **AdaDiff-VLA: Hybrid Reasoning via Mode Policy Learning for Vision-Language-Action Models**

Haipeng Liu (Zhejiang Sci-Tech University); Pei Liu (The Hong Kong University of Science and Technology (Guangzhou)); Xingyu Liu (Nanjing Agricultural University); Ting Shu (Zhejiang Sci-Tech University)

Room T4 | Computer Vision 1 – *Session Chair: Francesc Serratosa*

14:00 **Scene-level Composed Sketch+Text Image Retrieval Network Based on Query-based Semantic Fusion and Progressive Semantic Alignment**

Luo Wang (Beijing University of Technology); Qi Zhu (beijing university of technology); Yisui Chen (beijing university of technology); Xingjie Yang (beijing university of technology); Xibin Jia (beijing university of technology)

14:20 **Single-Stream Multi-Feature Fusion with Temporal Invariance for Gait Emotion Recognition**

Shirong Lyu (Southwest University); Silu Quan (Southwest University); Yixuan Ding (Southwest University); Chengpeng Wang (Wisesoft Inc.)

14:40 **MAG-voxel: Motion-Aware Event Representation for Efficient SNN-Based Person Detection**

Alimatou Sadia Memudu (IMRA EUROPE); Jean Martinet (Université Côte d'Azur); Yuta Nakano (IMRA EUROPE)

15:00 **Caption-Augmented CLIP-Based Weakly Supervised Video Anomaly Detection**

Gamze YILMAZ (Tongji University); Yu Wang (Tongji University); Shengjie Zhao (Tongji University)

Room T2 | General Applications of Machine Learning 2 – *Session Chair: Claudio Gallicchio*

14:00 **Physics-Informed Machine Learning Under Small-Data Constraints: Lessons from Abrasive Waterjet Milling**
Sarah Grewe (Bochum University of Applied Sciences); Joerg Frochte (Bochum University of Applied Sciences)

14:20 **Solar Flare Prediction from Magnetograms: A Controlled Study of Input Design in Deep Learning**
Danil Garmaev (Université de Montréal); Jean Meunier (Université de Montréal)

14:40 **Feature-Personalized Graph Contrastive Clustering for scRNA-seq Data**
Shangshang Zhao (College of Computer and Information Science,Chongqing Normal University,Chongqing, China); Yanpei Xiao (College of Computer and Information Science,Chongqing Normal University,Chongqing, China); Zhongyang Zhou (College of Computer and Information Science,Chongqing Normal University,Chongqing, China); Feng Liu (College of Computer and Information Science,Chongqing Normal University,Chongqing, China); Pan Zeng (College of Computer and Information Science,Chongqing Normal University,Chongqing); Feiyu Chen (National Center for Applied Mathematics in Chongqing, Chongqing Normal University, Chongqing, China)

15:00 **TermPrompt: Optimal Prompt Design for Automatic Term Extraction Using Incremental Few-Shot Learning**
Amir Hazem (University of Tokyo); Kyo Kageura (University of Tokyo)

Room T1 | Artificial Intelligence and Machine Learning 2 – *Session Chair: Esther Rodrigo-Bonet*

14:00 **ResonatorLM: Causal Resonant Field Mixing for Efficient Long-Context Language Modeling**
Archie Chaudhury (Independent)

14:20 **TaskFusion: Continual Anomaly Detection for Heterogeneous Tabular Data**
Dayananda Herurkar (DFKI); Federico Raue (DFKI); Joachim Folz (DFKI); Joern Hees (Hochschule Bonn-Rhein-Sieg); Andreas Dengel (DFKI)

14:40 **Adaptive Weighted LS-SVM for Multi-View Classification**
Farnaz Faramarzi Lighvan (VUB); Mehrdad Asadi (VUB); Lynn Houthuys (VUB)

15:00 **Contextual Bandits with Randomized Neural Networks**
Marco Angioli (Sapienza University Of Rome); Antonello Rosato (Sapienza University Of Rome); Amy Loutfi (Örebro University); Mauro Olivieri (Sapienza University Of Rome); Denis Kleyko (Örebro University)

Congress Centre A | Neuroscience 2 – *Session Chair: Ausra Saudargiene*

16:50 **From NEST Benchmark to FPGA Silicon: Quantifying the Cost of STDP and Demonstrating Efficient Kernel Offloading**
Maxime Carriere (Freie Universität)

17:10 **Training dataset factors determining brain-like representations in the AlexNet model for object classification**
Nobuhiko Wagatsuma (Toho University); Naoyuki Ohta (Toho University); Akinori Hidaka (Tokyo Denki University); Hiroshi Tamura (University of Osaka)

17:30 **SpikeShot: Bio-Inspired Coincidence Gating for Neuromorphic Gunshot Detection**
Muhammad Aitsam (Sheffield Hallam University); Hasan Syed Saad (Sapienza University of Rome); Alessandro Di Nuovo (Sheffield Hallam University)

17:50 **White-matter-microstructure-informed whole-brain models reveal localized excitation-inhibition imbalance in schizophrenia**

Kailin Zhu (University of Tübingen); Georg Reich (Neural Information Processing Group, Technical University of Berlin, Berlin, Germany); Xiaojun Zhou (Hertie Institute for AI in Brain Health, Faculty of Medicine, University of Tübingen, Tübingen, Germany); Trang-Anh Estelle Nghiem (Hertie Institute for AI in Brain Health, Faculty of Medicine, University of Tübingen, Tübingen, Germany)

18:10 **A predictive coding model of memory replay in the neocortex**

Lucie Fontaine (Université de Bordeaux); Frédéric Alexandre (Centre Inria de l'université de Bordeaux)

Congress Centre B | Machine Learning for Graphs 1 – *Session Chair: Domenico Tortorella*

16:50 **Towards Efficiency and Accuracy: Learning One Compact View for Multiplex Graph Neural Networks via Structure-aware Augmentation**

Renjie Hua (Soochow Securities Co.,Ltd); Kaifang Yao (Nanjing University); Yunhui Liu (Nanjing University); Chuan Ren (Soochow Securities Co.,Ltd); Jianhua Zhao (Nanjing University); Tieke He (Nanjing University)

17:10 **Revealing the Pitfalls and Re-Evaluating the Advancement of Heterophilic Graph Learning**

Sitao Luan (University of Montreal, Mila); Qincheng Lu (McGill); Chenqing Hua (McGill); Jiaqi Zhu (McGill); Xinyu Wang (McGill); Lin Shang (Nanjing University); Xiao-Wen Chang (McGill)

17:30 **A Cooperative Game-Theoretic Framework for Sphere of Influence Centrality in Networks**

Sie Hendrata Dharmawan (Dartmouth College); Kevin Limanta (Dartmouth College); Brendan Liu (Dartmouth College); Peter Chin (Dartmouth College)

17:50 **CycleGAN with Spatial Transformer Network for Near-field SAR Imaging Enhancement**

Ruiqi Shen (Shanghai University); Hao Kong (Shanghai University)

18:10 **A Physics Informed GNN for traffic prediction: the DeepCTM model**

Francesco Cellitti (Sapienza University of Rome); Umberto Ferraro Petrillo (Sapienza University of Rome); Lorenzo Di Rocco (Sapienza University of Rome)

Room T4 | Biosignal Processing – *Session Chair: Igor Tetko*

16:50 **EVANet ： Cross-Modular Contrastive Learning of EEG for Cross-Subject Motor Decoding**

Ziyuan Li (South China University of Technology); Sun Yueru (South China University of Technology); Zhang Yimeng (South China University of Technology)

17:10 **UGR-NET: Uncertainty-guided Refinement Network for Medical Image Segmentation**

Feng Li (Anhui University of Finance and Economics); Chen Sun (Anhui University of Finance and Economics); Bing Wang (Anhui University of Finance and Economics); Peng Chen (Anhui University of Finance and Economics)

17:30 **Bayesian-Optimization-Based Sensor Placement for EEG and Other Biosignals**

Markus Vieth (Bielefeld University); Barbara Hammer (Bielefeld University)

17:50 **Interpretable Neural Networks Reveal Spectral Changes in LFP During Reach Preparation**

Davide Borra (University of Bologna); Matteo Filippini (University of Bologna); Francesco Edoardo Vaccari (University of Bologna); Stefano Diomedi (National Research Council of Italy (CNR)); Patrizia Fattori (University of Bologna); Elisa Magosso (University of Bologna)

Room T2 | General Applications of Machine Learning 3 – *Session Chair: Philipp Allgeuer*

16:50 **Sailfish: A Data Efficiency Optimization Approach for Branch Learning via Full Strong**
Feifei Xu (SHANGHAI UNIVERSITY OF ELECTRIC POWER); Jinze Zhao (SHANGHAI UNIVERSITY OF ELECTRIC POWER); Haizhou Du (SHANGHAI UNIVERSITY OF ELECTRIC POWER)

17:10 **FAIRVAR: Fair Federated Learning via Variance Regularization**
Zahra Kharaghani (Umeå University); Ali Dadras (Umeå University); Tommy Löfstedt (Umeå University)

17:30 **MHGraphRAG: Multimodal Hypergraph-Based Retrieval-Augmented Generation via Community Detection**
Haodong Yang (Guangdong University of Finance & Economics); Jia Cai (Guangdong University of Finance and Economics)

17:50 **Inferring Superpopulation Labels from DNA via AlphaGenome-Derived Functional Signals**
Alberto De Souza (UFES); Thiago Oliveira-Santos (UFES); Claudine Badue (UFES); Breno De Angelo (UFES); Debora Meira (UFES); Artur Garcez (City St George's University of London); Giancarlo Guizzardi (University of Twente)

Room T1 | Artificial Intelligence and Machine Learning 3 – *Session Chair: Peter Schneider-Kamp*

16:50 **CoT-RL-HAR: Chain-of-Thought Reinforcement Learning for Few-Shot Time-Series Human Activity Recognition**
wenqi zheng (Kyushu University); Yutaka Arakawa (Kyushu University)

17:10 **Probing Length Generalization in Mamba via Image Reconstruction**
Jan Rathjens (Ruhr University Bochum); Robin Schiewer (Bielefeld University); Laurenz Wiskott (Ruhr University Bochum); Anand Subramoney (Royal Holloway, University of London)

17:30 **Discretisation as a Framework for Intrinsic Structural Interpretability in the PPG-to-ABP Mapping**
Felipe Saldarriaga Echeverri (City St. George's, University of London); Panicos A Kyriacou (City St. George's, Unviersity of London); Ling Li (City St.George's, University of London)

17:50 **Do LLMs Have Stable Personalities? A Comprehensive Investigation into Big Five Profiling**
Junchen Fu (University of Glasgow); Aravindhan Ashok (University of Glasgow); Chengli Zhai (University of Glasgow); Kaiwen Zheng (University of Glasgow); Yu Song (Michigan State University); Ziyi Zhang (University of Edinburgh); Zhiwei Zheng (University of Glasgow); Yongxin Ni (National University of Singapore); Joemon Jose (University of Glasgow)

18:10 **Inductive Bias and Failure in EKG Deep Learning: A Comparative Interpretability Study**
Eyiara Oladipo (University of Detroit Mercy); Yeva Vainerman (Missouri University of Science & Technology); Mina Maleki (University of Detroit Mercy); Mohamed Nafea (Missouri University of Science & Technology)

Poster (Lunch And Poster Area)

Poster viewing and discussion will take place during the coffee breaks (10:30–11:00 and 16:20–16:50) and in daily poster exhibition from 18:00.

Sample-Wise Online Sensor Drift Compensation via Self-Organized Spiking Dynamics and Reservoir Computing
Zhengchen Dong (Kyushu Univercity)

GeoIMO: Geometry-Driven Independent Motion Classification for Event Cameras

Anil Bayram Gogebakan (Politecnico di Torino); Filippo Marostica (Politecnico di Torino); Alessio Caviglia (Politecnico di Torino); Alessandro Savino (Politecnico di Torino); Stefano Di Carlo (Politecnico di Torino)

Exploring stimulus-response dynamics in neuromorphic and classical hardware: how inference timing affects results

Nicola Cassetta (Politecnico di Torino); Benedetto Leto (Politecnico di Torino); Enrico Macii (Politecnico di Torino); Vittorio Fra (Politecnico di Torino); Gianvito Urgese (Politecnico di Torino)

RESOLVE: Reward Scaling via Online Logic Variation Environments for Mitigating Reward Hacking in LLMs

Shuaishuai Zhang (Beijing Technology and Business University); Yu Wang (Zhengzhou University); Jingyuan Li (Beijing Technology and Business University); Yifan Liu (Beijing Technology and Business University)

Do Encoders Suffice? A Systematic Comparison of Encoder and Decoder Safety Judges for LLM Adversarial Evaluation

Han Jeon (PWC); Shiva Medler (PWC); Joseph Voyles (PWC); Matt Wood (PWC)

Self-Supervised Facial Video Recognition with Input Gating for Delirium Classification

Yuya Okadome (Tokyo University of Science); Haruya Nakamura (Tokyo University of Science); Akishige Yuguchi (Tokyo University of Science); Yoshio Matsumoto (Tokyo University of Science)

SETGen: Semantically Enhanced Trajectory Generation via Bidirectional Trajectory-Road Network Fusion

Jin Yuanchang (Beihang University); Wang Ziang (Beihang University); Deng Pan (Beihang University)

Δ-Net: Computing Tree Decomposition using Monte Carlo Tree Search and Graph Neural Network.

Samuel Beaussant (Akkodis Research)

Multi-Level Deep Feature Fusion for Robust and Cross-Domain Transposable Element Classification

Wellington de Souza Vieira (UTFPR); Fabiana R de Góes (The Rosalind Franklin Institute); Pedro Bugatti (UFSCAR); Priscila Saito (UFSCAR)

MinST: Multilevel Enhanced Architecture Search for Spatial-temporal Forecasting with LLM

Xin Xue (Beihang University); Haoyi Zhou (Beihang University); Tianyu Chen (Beihang University); Shuai Zhang (Beihang University); Yizhou Long (Beihang University); Jianxin Li (Beihang University)

Forecasting Financial Variables from Structured Accounting Time Series with Echo State Networks

Ryoki Motai (Yokohama National University); Ryunosuke Fukuzaki (University of Tsukuba, Tohoku University); Hiroyasu Ando (Tohoku University); Yukihiko Okada (University of Tsukuba)

DPRNet: Dual-Path Reconstruction Network with Residual-Guided Cross-Modal Attention for Multimodal Industrial Anomaly Detection

Yupeng Zhao (Inner Mongolia University of Technology); Xufei Zhuang (Inner Mongolia University of Technology); Jie Lv (Inner Mongolia University of Technology); Yuanyuan Zhi (Inner Mongolia University of Technology); Yeyu Zhong (Inner Mongolia University of Technology); Weijun Wu (Inner Mongolia University of Technology); Leixiao Li (Inner Mongolia University of Technology); Qing-Dao-Er-Ji Ren (Inner Mongolia University of Technology)

Hierarchical Channel Stacking: A Structured Decision Framework for AI-Generated Image Detection

Saifullah Shoaib (Missouri University of Science and Technology); Akash Borigi (Missouri University of Science and Technology); Rupendra Lekkala (Missouri University of Science and Technology); Amaury Lendasse (Missouri University of Science and Technology); Edward Ratner (University of Houston); Sai Bhamidipati (Alceberg Inc.); Alexander Schlager (Alceberg Inc.); Peggy Lindner (Missouri University of Science and Technology)

CD-Fair: Causal Disentanglement Representation Learning for Fair Dermatological Diagnosis

Pengcheng Zhao (Shanghai Jiaotong University); Xiaowei Ding (Shanghai Jiaotong University)

Early detection of multi-class arrhythmia in ECG: Use of Mamba for Edge Devices in MedTech

Prashant Bharti (IIIT Vadodara); Utkarsh Rana (IIIT Vadodara); Jignesh Bhatt (IIIT Vadodara)

Graph Neural Network Interpretation of Burst Initiation for In Silico Cortical Networks

Hari Priya Dhanasekaran (University of Washington); Michael Stiber (University of Washington Bothell)

Complexity-driven Agent Routing for Scalable Opinion Dynamic Simulation

Qiucheng Yu (Chengdu University of Technology); Dongmei Zhou (Chengdu University of Technology); Xiaojun Wang (Chengdu University of Technology); Bingmeng Zhu (Chengdu University of Technology)

Are LLMs Syllogistic Reasoners? A Mechanistic Interpretation Perspective via Activation Patching

Zhidian Huang (Tsinghua University); Jinxin Liu (Tsinghua University); Zijun Yao (Tsinghua University); Weichuan Liu (Siemens AG); Xiaoyin Che (Siemens AG); Lei Hou (Tsinghua University); Juanzi Li (Tsinghua University)

Role-MoE: Role-Semantics-Guided Mixture of Experts for Event Argument Extraction

Yiwen Yao (Soochow University); Xiaoxu Zhu (Soochow University)

Neural-CLS: Mitigating Similarity-Induced Interference via Neural-Inspired Complementary Learning Scheme for Class-Incremental Learning

Pengyue Zhang (Tianjin University); Liu Yang (Tianjin University); Qi Shen (Tianjin University)

Quantifying Explainability in Multiphase Flow Regime Identification via Saliency Metrics

Natássia Siqueira (Federal University of Pelotas); João Inácio Moreira Bezerra (Federal University of Pelotas); Johann Eduardo Castro Bolivar (São Carlos School of Engineering); Marlon Maurício Hernandez Cely (Federal University of Pelotas); Daniel Palomino (Federal University of Pelotas)

Batch Normalization Shapes Representations in Barlow Twins Pretraining

Hans-Oliver Hansen (University of Lübeck, Institut for Neuro- and Bioinformatics); Thomas Martinetz (University of Lübeck, Institut for Neuro- and Bioinformatics)

Enhancing SAM-based Change Detection via Spatial–Frequency Collaborative Learning

HongMing Zhu (Tongji University); QiuLu Dai (Tongji University); BoWen Du (Tongji University); Qin Liu (Tongji University)

SRAM: A Consistency-based Residual Alignment Model for Robust Screen-camera Watermarking

Shicong Han (Shanghai Jiao Tong University); Zijian Niu (Shanghai Jiao Tong University); Guanghao Ding (Shanghai Jiao Tong University); Fei Wu (Shanghai Jiao Tong University); Shilin Wang (Shanghai Jiao Tong University)

CONTRA: A Continual Train, Refinement and Adaptation Framework for Building Robust Web Image Recognition Systems

zhihao sui (sjtu); Jian Cao (sjtu)

Parameter-Efficient Adaptation of SAM3 for Remote Sensing Segmentation Beyond Single-Domain Prompting

Nermeen Abou Baker (Hochschule Ruhr West)

Spatial Token Fusion for Efficient Large Multimodal Models

Hao Tang (Central South University); Chengchao Shen (Central South University)

Probing Image Encoder Robustness via Retrieval Consistency Under Input Perturbations

Gaurav Patil (Chehab Lab); Ahmad Mustapha (American University of Beirut); Ali Chehab (American University of Beirut)

CM2T: Efficient Multi-Granularity Cross-Modal Interaction with Spatial Guidance for RGB–Infrared Object Detection

Ke Liu (University of Electronic Science and Technology of China); Fanman Meng (University of Electronic Science and Technology of China); Runtong Zhang (University of Electronic Science and Technology of China); Qingbo Wu (University of Electronic Science and Technology of China); Linfeng Xu (University of Electronic Science and Technology of China); Hongliang Li (University of Electronic Science and Technology of China)

What Can Skeleton Information Do for Temporal Action Localization?

Xinrui Wang (Sichuan University); Hailun Zhang (Sichuan University); Yue Yang (Sichuan University); Qijun Zhao (Sichuan University); Lingjie Zeng (Sichuan University); Yiping Xie (Sichuan University); Zhen Zhai (Sichuan University)

BCRS: Box-Conditioned Representation Sparsification for Robust Repair of Compromised Object Detectors

Lihui Xia (Nanjing Tech University)

End-to-End Facial Expression Detection in Long Videos

Yini Fang (ECE Department of HKUST, Ydentity); Alec F. Diallo (University of Edinburgh); Frederic Jumelle (Ydentity); Bertram Shi (ECE Department of HKUST)

From Preprocessing to Dual-Granularity Fusion: A Progressive YOLO Framework for Multi-Scale Remote Sensing Object Detection

Xiangtao Jiang (Xiangtan University); Yuan Zhang (Xiangtan University); Kai Hu (Xiangtan University)

Adaptive Gradient Reversal for Efficient Backdoor Unlearning with Minimal Poisoned Samples

Yunfeng Zhang (National University of Defense Technology); Yuyuan Sun (National University of Defense Technology); Zhankai Li (National University of Defense Technology); Tao Liu (National University of Defense Technology); Kailong Zhu (National University of Defense Technology); Xuehu Yan (National University of Defense Technology)

When Less Is Enough: Training-Free Acceleration of Flow-Based VLA Inference via Single-Step Sampling and Partial Asynchronous Replanning

Donghui Ma (Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences and University of Chinese Academy of Sciences); Ye Wang (Ma Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences); Lihong Guo (Ma Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences); Jiang Li (Ma Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences)

Group Resonance Network: Learnable Prototypes and Multi-Subject Resonance for EEG Emotion Recognition

Renwei Meng (AnHui University)

GLC-MambaNet: A Dual Branch Multiscale CNN-Transformer-Mamba Framework for Medical Image Classification

dolly uppal (IIT INDORE); Aditya Yadav (IIT Indore); Surya Prakash (IIT INDORE)

Intelligent Anomaly Understanding and Response for Water Cyber-Physical Systems

Zhanglong Yang (University of North Dakota); Qinxuan Shi (University of North Dakota); Yu-Zheng Lin (University of Arizona); Tingjun Lei (University of North Dakota); Pratik Satam (University of Arizona); Sicong Shao (University of North Dakota)

Automated Transformer-based Software Log Anomaly Detection and Diagnosis

Qinxuan Shi (University of North Dakota); Zhanglong Yang (University of North Dakota); Grant Emanuel (University of North Dakota); Sicong Shao (University of North Dakota)

On the Stability of Prompt Ranking in Large Language Model Evaluation

Shaoshuai Du (University of Amsterdam); Penghao Liang (Northeastern University); Yixian Shen (University of Amsterdam); Chuanqi Shi (University of California San Diego); Hang Zhang (University of California San Diego); Lun Wang (Duke University)

Wednesday, 16 September 2026

Congress Centre A | Computer Vision 2 – *Session Chair: Joemon Jose*

10:30 **Expert Knowledge-Informed Heatmap Generation for Action Unit Intensity Regression**
Yanfeng Ji (Central China Normal University); Ruyi Xu (Wuhan University of Technology); Pianpian Ma (Central China Normal University); Yuxin Zheng (Wuhan University); Yuandong Min (Central China Normal University); Zhiyi Yang (Central China Normal University); Jingying Chen (Central China Normal University)

10:50 **Accelerating Diffusion Transformer with Dynamic Alignment**
Qing Chen (East China Normal University); Hengyu Zhang (East China Normal University); Xingjiao Wu (East China Normal University); Daoguo Dong (Institute of Trustworthy Embodied AI, Fudan University); Liang He (East China Normal University)

11:10 **Architecture-Aware Structured Pruning for Parameter-Efficient Dense Small-Object Detection**
Rafael Subo Yap (De La Salle University); Arren Matthew Antioquia (De La Salle University)

11:30 **OA-CutMix: Correcting the Label Bias of CutMix**
Tobias Nauen (RPTU Kaiserslautern-Landau); Stanislav Frolov (DFKI); Federico Raue (DFKI); Brian Moser (DFKI); Andreas Dengel (DFKI)

11:50 **Human gaze-based filtering for action recognition: a systematic study of accuracy and efficiency**
Gnouyadou Romaric Mazna (I3S); Sai Deepesh Pokala (I3S); Jean Martinet (Université Côte d'Azur)

12:10 **Residual Diffusion in FLUX Latent Space for Short-Horizon Egocentric Future Prediction**
Hamed Abdollahzadeh (L'aquila University); Giovanni De Gasperis (DISIM University of L'Aquila, L'Aquila 67100, Italy)

Congress Centre B | Special session: Neural Networks for Graphs and Beyond (NN4G+ 2026)

10:30 **Do Not Search Blindly: A Multi-Agent Graph-Aware Search for Graph Neural Networks**
Han Xiao (Bangor College,Central South University of Forestry and Technology); Junbo Zhang (College of Computer Science and Technology, National University of Defense Technology); Youcheng Yan (College of Computer Science and Technology, National University of Defense Technology); Zhenhao Zhao (College of Computer Science and Technology, National University of Defense Technology); Jian Liu (College of Computer Science and Technology, National University of Defense Technology); Binglin Wang (College of Computer Science and Technology, National University of Defense Technology)

10:50 **Guiding Diffusion with Logical Constraints: Molecular Graph Generation under Lipinski's Rules**
Emma Meneghini (University of Padua); Paolo Frazzetto (University of Valencia); Luca Pasa (University of Padua); Nicolò Navarin (University of Padua)

11:10 **From Topology to Time: Predicting Circadian Gene Oscillation via Deep Graph Networks**
Alessandro Dipalma (University of Pisa); Kousha Changizi Ashtiani (University of California); Pierre Baldi (University of California); Alessio Micheli (University of Pisa); Paolo Milazzo (University of Pisa)

11:30 **Small Language Models as Graph Classifiers: Evaluating and Improving Permutation Robustness**
Michal Podstawski (NASK National Research Institute)

11:50 **Bohemian Graphsody: Building Living Graphs For Storytelling with Shrecknet**
Pablo Barros (Sony); Pietro Gravino (Sony CSL - Paris); Laura Triglia (Italian Institute of Technology); Enrico Pincione (Unafilliated); Alessandra Sciutti (Italian Instite of Technologyh)

12:10 **Deviation-Based Graph Neural Networks with Kolmogorov-Arnold Transformations for Multiclass Alzheimer's Disease Classification**
Raffaele Scaringi (University of Bari "Aldo Moro"); Davide Cirilli (University of Bari "Aldo Moro"); Michele Minervini (University of Bari "Aldo Moro"); Gennaro Vessio (University of Bari "Aldo Moro"); Giovanna Castellano (University of Bari "Aldo Moro")

Room T4 | Artificial Intelligence and Machine Learning 4 – *Session Chair: Anna Catarinolo*

10:30 **On the Role of Restricted Predictors in Shapley-Based Fairness Auditing**
Mohamed Nafea (Missouri University of Science and Technology); Sokrat Aldarmini (Missouri University of Science and Technology)

10:50 **Instance Reweighting for Adversarial Training Helps Only Against the Training Attack**
Giovanni Scodeller (University of Genoa); Dario Lazzaro (University of Genoa); Emanuele Ledda (University of Cagliari); Antonio Emanuele Cinà (University of Genoa); Battista Biggio (University of Cagliari); Giorgio Fumera (University of Cagliari); Davide Anguita (University of Genoa); Fabio Roli (University of Genoa); Luca Oneto (UNIGE)

11:10 **From Concepts to Relations: Generative Models as Relational Associative Memories**
Giovanni Donghi (University of Padua); Francesco Lollato (University of Padua); Vincenzo Spinello (University of Padua); Alessandro Sperduti (University of Padua); Cesare Alippi (Università della Svizzera Italiana); Nicolò Navarin (University of Padua)

11:30 **Addressing Class Imbalance in Kernel Thinning**
Blanca Cano-Camarero (Universidad Autónoma de Madrid); Ángela Fernández-Pascual (Universidad Autónoma de Madrid); Jose R. Dorronsoro (Universidad Autónoma de Madrid)

11:50 **Learning the Geometry of Minimizing Movements**
Alessandro Betti (IMT School for Advanced Studies Lucca); Fabio Pinelli (IMT School for Advanced Studies Lucca)

12:10 **Distribution-Aware Diffusion-LLM for Robust Ultra-Long-Term Time Series Forecasting**
Falguni Ghosh (Friedrich alexander University Erlangen-Nürnberg); Vahid Hashemi (Audi AG); Bernhard Kainz (Friedrich alexander University Erlangen-Nürnberg)

Room T2 | Reinforcement Learning – *Session Chair: Laura Triglia*

10:30 **Balancing Diversity and Focus in Exploration with Dynamic State Clustering**
Tim Joseph (FZI); Marcus Fechner (KIT); Philipp Stegmaier (KIT); Karam Daaboul (FZI); J. Marius Zöllner (KIT)

10:50 **Stability for Plasticity-Preserving Continual Reinforcement Learning: Comparison of Replay, Regularization, and Isolation Methods**
Chin-Jui Chang (Eberhard Karls University of Tübingen); Chenxing Li (Eberhard Karls University of Tübingen); Jan Seyler (Festo); Shahram Eivazi (Eberhard Karls University of Tübingen)

11:10 **SkyNet: Belief-Aware Planning in Partially Observable Stochastic Games**
Adam Haile (Milwaukee School of Engineering)

11:30 **To Share or Not to Share: Justifying Shared Extractors in Recurrent Actor-Critic for POMDPs**
Luis Calado (Universidad Autónoma de Madrid); Luis F. Lago-Fernández (Universidad Autónoma de Madrid)

11:50 **New Metrics, New Styles: Customizing Rewards to Influence Agent Play**
Laura Triglia (Italian Institute of Technology); Vittorio Guerrieri (Italian Institute of Technology); Pablo Barros (University of Pernambuco); Francesco Rea (Italian Institute of Technology); Alessandra Sciutti (Italian Institute of Technology)

Room T1 | Special session: Spiking Neural Networks and Neuromorphic Computing

10:30 **Equivalence of approximation by networks of single- and multi-spike neurons**
Dominik Dold (University of Vienna); Philipp Petersen (University of Vienna)

10:50 **Test-Time Adaptation of Spiking Neural Networks for Intracortical Neural Decoding using Membrane Potential Alignment**
Guangzhi Tang (Maastricht University)

11:10 **Design of a Hardware-Efficient Digital Inference Circuit for SNN-Based Reservoir Computing Systems**
Satoshi Moriya (Tohoku University); Tetsuta Sakai (Tohoku University); Yuki Majima (Tohoku University); Hideaki Yamamoto (Tohoku University); Shigeo Sato (Tohoku University)

11:30 **OverNeuron: a Spiking Recurrent Cell as Neuromorphic LSTM by Higher-Order Connectivity**
Aurora Gruber (Politecnico di Torino); Walter Gallego Gomez (Politecnico di Torino); Yulia Sandamirskaya (ZHAW); Enrico Macii (Politecnico di Torino); Gianvito Urgese (Politecnico di Torino); Vittorio Fra (Politecnico di Torino)

11:50 **Neuromuscular-Inspired Function Approximation for Neuromorphic Computing**
Jordi Timmermans (University of Groningen; CogniGron); Lambert Schomaker (University of Groningen; CogniGron)

12:10 **Spike-Transmission Delays Improve the Accuracy-Efficiency Trade-Off for Linear Readouts of Spiking Populations**
Alina Lytovchenko (University of Waterloo); Nicolas Martalog (University of Waterloo); Jeff Orchard (University of Waterloo)

Congress Centre A | Large Language Models 2 – *Session Chair: Giovanni De Gasperis*

14:00 **A Controlled Study of Decoding-Time Truthfulness Methods on Instruction-Tuned LLMs**
Ao Sun (National Taiwan University)

14:20 **Dynamic Adaptation of the LLM Context for Generating Routines with Coupled Semantics**
Manikya Venkata Gnaneswar Villuri (Stony Brook University); Hashmath Shaik (Stony Brook University); Alex Doboli (Stony Brook University)

14:40 **Task-Centric Personalized Federated Fine-Tuning of Language Models**
Gabriel Talasso (Universidade Estadual de Campinas); Meghdad Kurmanji (University of Cambridge); Allan Souza (Universidade Estadual de Campinas); Nicholas Lane (University of Cambridge); Leandro Villas (Universidade Estadual de Campinas)

15:00 **GenFT: A Generative Parameter-Efficient Fine-Tuning Method for Pretrained Foundation Models**
Guangning Xu (Hong Kong Baptist University); Baoquan Zhang (Harbin Institute of Technology, Shenzhen); Michael Kwok Po NG (Hong Kong Baptist University)

Congress Centre B | Learning Algorithms – *Session Chair: Alessandro Betti*

14:00 **Theoretical Framework for Distance Metrics in k-Nearest Neighbor Imputation**
Tim Kochs (University Bielefeld); Andrea Castellani (Honda Research Institute Europe); Barbara Hammer (University Bielefeld)

14:20 **Tackling Catastrophic Forgetting in Split Learning via Orthogonal Projection**
Thoop-hom Supannopaj (Montclair State University); Nandu Voore (Montclair State University); Andrew Taggart (Montclair State University); Taeyeong Choi (Kennesaw State University); Chao Huang (Montclair State University)

14:40 **Spectral Feature Refinement: Enhancing Robustness to Image Corruptions**
Savvas Karatsiolis (CYENS Center of Excellence); Andreas Kamilaris (CYENS Center of Excellence)

15:00 **On the Numerical Stability of Mixed-Precision Mutual Information Feature Selection**
Simon Noya (Universidad de A Coruña); Laura Moran-Fernandez (Universidad de A Coruña); Veronica Bolon-Canedo (Universidad de A Coruña); Samuel Suarez-Marcote (Universidad de A Coruña)

Room T4 | Special session: Explainable Neurosymbolic AI (X-NeSy)

14:00 **Concept-Consistent Semi-Supervised Learning for Concept Bottleneck Models via Confidence-Guided Pseudo-Label Propagation**
Yayue Mai (Guangzhou Institute of Science and Technology); Songning Lai (HKUST(GZ))

14:20 **Extraction and Analysis of Multimodal Concepts in Vision Language Models through Sparse Autoencoders**
Sergio Lanza (University of Hamburg); Jae Lee (University of Hamburg); Stefan Wermter (University of Hamburg)

14:40 **Conceptualizing Uncertainty: A Concept-based Approach to Explaining Uncertainty**
Isaac Roberts (CITEC, Bielefeld University); Alexander Schulz (CITEC, Bielefeld University); Sarah Schröder (CITEC, Bielefeld University); Fabian Hinder (CITEC, Bielefeld University); Barbara Hammer (CITEC, Bielefeld University)

15:00 **Addressing Noise in Annotations to Preserve Interpretability of Concept-based Models**
Luca Bergamin (University of Padua); Shakiba Farjood Fashalami (University of Padua); Fabio Aiolli (University of Padua)

Room T2 | Special sessions: Multimodal data fusion with large language models

14:00 **TrafficRAG: A Multimodal RAG Framework for Traffic Accident Liability Determination**
Xu Li (Southwest Petroleum University); ZeDong Fu (Southwest Petroleum University); Xinyi Li (Southwest Petroleum University); Xun Han (Sichuan Police College)

14:20 **FontFusion: Enhancing Generative Text in Diffusion Models with Typographic Conditioning**
Marian Lupascu (University of Bucharest & Adobe Research); Nipun Jindal (Adobe Research); Ionut Mironica (Adobe Research); Zhaowen Wang (Adobe Research)

14:40 **Math-Vision Diagrams - A New Benchmark on Math Diagram Generation**
Harish Kashyap (Pandita AI Inc); Kiran Byadarhaly (Pandita AI Inc.); Sriram Chakravarthy (Pandita AI Inc.); Sanyukta Tuti (Pandita AI Inc); Aryan Mistry (Pandita AI Inc)

Room T1 | General Applications of Machine Learning 4 – *Session Chair: Domenico Amato*

14:00 **AnomalyTDC: A Dual-Branch Contrastive Dynamic Convolution Framework for Time-Series Anomaly Detection**
Dongdong Zhang (Southeast University); Shiyi Chen (Southeast University); Wenguo Xiang (Southeast University)

14:20 **FloodClaw: A Test-Time Reasoning framework for Flood Preparedness**
yunlei men (HKUST(GZ)); Xiaoling HE (Hong Kong University of Science and Technology (Guangzhou)); Xiaoli LIU (University of Helsinki); Wiam Osman Hassan Mohamed (The Hong Kong University of Science and Technology (Guangzhou)); Gelin KAN (Hong Kong University of Science and Technology (Guangzhou))

14:40 **AquaSSL: Underwater Image Recognition via Domain-Specific Self-Supervised Pretraining**
Ikram Kourbane (Univ Brest, Bretagne INP); Kamal Nasreddine (Univ Brest, Bretagne INP); Abdesslam Benzinou (Univ Brest, Bretagne INP)

15:00 **Adaptive Emission Trading System Policy Design via Bi-Level Multi-Agent Reinforcement Learning**

Xiaoyi Long (University of Manchester); Xiaojun Zeng (University of Manchester); Fanlin Meng (University of Exeter)

Congress Centre A | General Applications of Machine Learning 5 – *Session Chair: Sebastian Otte*

16:50 **ReLiT-LE: Learning Reliability-Modulated Dual-Timescale Dynamics for Landmark Estimation in Capsule Endoscopy**

Krispian Lawrence (Equitable); Usha Goparaju (Equitable); Luis Lamb (Equitable)

17:10 **Sparsity-Aware Cross-Modal Fusion with Event-Lag Modeling for Stock Movement Prediction**

You Wu (Anhui University of Finance and Economics); Xiaoyan Jiang (Anhui University of Finance and Economics); Chen Fang (Investment Banking Department, Guoyuan Securities); Meigui Chen (Anhui University of Finance and Economics)

17:30 **DASTMoE: A Spatio-Temporal Mixture-of-Experts Model for Distributed Acoustic Sensing**

Michel Dione (IMT Nord Europe); Bilal Faye (Universite Paris 13); Jerry Lonlac (IMT Nord Europe); Stephane Lecoeuche (Mines Ales); Anthony Fleury (IMT Nord Europe)

17:50 **Multi-Class vs. Multi-Label BERT for CVE-to-CWE Mapping: How Taxonomy Structure Shapes the Errors**

Joerg Frochte (Bochum University of Applied Sciences); Ana Luisa Schwengber Kelm (Mindsquare AG)

18:10 **PU-UNet: Stable Multiplicative Interactions for Medical Image Segmentation**

Ziyuan Li (Technical University of Munich); Osamah Afef Taha Sufyan (University of Applied Sciences Koblenz); Uwe Jaekel (University of Applied Sciences Koblenz); Babette Dellen (University of Applied Sciences Koblenz)

Congress Centre B | Artificial Intelligence and Machine Learning 5 – *Session Chair: Ana Beatriz Lordeiro Barbosa*

16:50 **Minimum distance classification for nonlinear dynamical systems**

Dominique Martinez (CNRS)

17:10 **Understanding Fisher SAM: Scale-Invariant Sharpness, Generalization, and Convergence**

Yingcong Zhou (Northeast Normal University); Li Wang (Guangxi Normal University); Pingfan Wu (Northeast Normal University); Zhiguo Fu (Northeast Normal University)

17:30 **Multiclass Learning on the Simplex**

Edoardo Legnaro (Università di Genova); Sabrina Guastavino (Università di Genova); Francesco Marchetti (Università di Padova)

17:50 **Large-scale MRI Dataset Curation and Subset Extraction via CNN-based Sequence and Plane Classification**

Pedro Fernández-López (University of Malaga); Ariadna Jiménez-Partinen (University of Malaga); Beatriz Asenjo (Hospital Regional Universitario de Málaga); Ezequiel López-Rubio (University of Malaga); Rafael M. Luque-Baena (University of Malaga)

Room T4 | Neuroscience 3 – *Session Chair: Marco Zorzi*

16:50 **A Dynamic Neural Field Model of Chronotopic Map Formation**

Paulo Barbosa (Universidade do Minho); Flora Ferreira (Universidade do Porto); Estela Bi cho (ALGORTIMI Research Centre, Universidade do Minho); Wolfram Erlhagen (Universidade do Minho)

17:10 **Dopamine-Receptor Dynamics in Basal Ganglia Reinforcement Learning: A Mechanistic Model of Probabilistic Reversal Learning**

Giulia Piermaria (Department of Electrical, Electronic and Information Engineering Guglielmo Marconi, University of Bologna, Campus of Cesena, Italy;); Silvana Pelle (Department of Electrical, Electronic and Information Engineering Guglielmo Marconi, University of Bologna, Campus of Cesena, Italy;); Miriam Schirru (Department of Electrical, Electronic and Information Engineering Guglielmo Marconi, University of Bologna, Campus of Cesena, Italy; Faculté de Pharmacie, Université de Montréal, Canada;); Fahima Nekka (Faculté de Pharmacie, Université de Montréal; Centre de recherches mathématiques, Université de Montréal; Centre for Applied Mathematics in Bioscience and Medicine (CAMBAM), McGill University, Canada;); Mauro Ursino (Department of Electrical, Electronic and Information Engineering Guglielmo Marconi, University of Bologna, Campus of Cesena, Italy;)

17:30 **Input Manifold Structure Drives Reservoir Partitioning: Insights into task-related brain activation and the connectivity hypothesis**

Peter Dominey (INSERM); Jan-Paul Triebkron (INS)

17:50 **Statistical Dynamics of Continuous Memory Neural Networks: the Effects of Gradient and Curl Forces**

Roseli Wedemann (Universidade do Estado do Rio de Janeiro); Angel Ricardo Plastino (Universidad Nacional del Noroeste de la Provincia de Buenos Aires); Frank Quing Poi Chen (Universidade do Estado do Rio de Janeiro)

18:10 **Synaptic Plasticity Shapes Complex Intermittency in an Izhikevich Spiking Neural Network**

Marco Cafiso (ISTI-CNR); Paolo Paradisi (ISTI-CNR)

Room T2 | Special session: Advances and Challenges in Predictive AI for Biomedical Data Analysis

16:50 **Harmonic and Entropy Neural Modeling with Demographic Fusion for Speech-Based Depression Detection**

Junkang Yang (University of Yamanashi); Hiromitsu Nishizaki (University of Yamanashi); Chee Siang Leow (University of Yamanashi); Lu Gan (Brunel University); Hongqing Liu (Chongqing University of Posts and Telecommunications)

17:10 **Explainable Deep Learning for Alzheimer's Disease: A Late Fusion Multi-Omics Approach Combining Gene Expression and SNP Variants**

Anna Catarinolo (Italian National Research Council); Francesco Foderà (Italian National Research Council); Massimo La Rosa (Italian National Research Council); Antonino Fiannaca (Italian National Research Council); Laura La Paglia (Italian National Research Council); Alfonso Urso (Italian National Research Council)

17:30 **VLM-CLIE: A VLM-Guided Closed-Loop Framework for Perceptual Low-Light Image Enhancement**

Jie Yang (Academy of Military Sciences); Ming Zhang (Academy of Military Sciences); Jinjing Zhao (Academy of Military Sciences); Zhendong Wu (Academy of Military Sciences); Huayang Cao (Academy of Military Sciences); Cheng Qian (Academy of Military Sciences); Ting Bao (Academy of Military Sciences)

17:50 **Post-Operative Glioma Segmentation via Loss Stabilization, Normalization and Subspace Attention**

Alexandru Crisan (Babeș-Bolyai University); Diana-Laura Borza (Babeș-Bolyai University)

18:10 **SGEVL-Forensics: LLM-Guided Scene Graph Reasoning for Faithful Image Manipulation Detection**

Ting Bao (Academy of Military Sciences); Ming Zhang (Academy of Military Sciences); Jinjing Zhao (Academy of Military Sciences); Zhendong Wu (Academy of Military Sciences); Huayang Cao (Academy of Military Sciences); Cheng Qian (Academy of Military Sciences); Jie Yang (Academy of Military Sciences)

Room T1 | **New Topics in AI/ML –** *Session Chair: Matthias Kerzel*

16:50 **FedReview: Review and Dispose Poisoned Updates without Validation Datasets or Historic Knowledge**
Tianhang Zheng (Zhejiang University); Yanlu Li (Zhejiang University); Bohan Deng (Zhejiang University); Baochun Li (University of Toronto)

17:10 **Improving Relative Representations with Learned Anchors and Whitened Inner Products**
Nikolaj Jakobsen (technical universty of denmark); Oscar Svendsen (technical universty of denmark); Fabian Mager (technical universty of denmark); Hiba Nassar (technical universty of denmark)

17:30 **Just Leaf It: Accelerating Diffusion Classifiers with Hierarchical Class Pruning**
Arundhati Shanbhag (DFKI); Brian Moser (DFKI); Tobias Nauen (DFKI); Stanislav Frolov (DFKI); Federico Raue (DFKI); Andreas Dengel (DFKI)

17:50 **PADBen: A Comprehensive Benchmark for Evaluating AI Text Detectors Against Paraphrase Attacks**
Yiwei Zha (Vrije Universiteit Amsterdam); Rui Min (Northeastern University); Shanu Sushmita (Northeastern University)

18:10 **Semantic versus Structural knowledge in Protein-Ligand Binding Affinity prediction**
Natàlia Segura-Alabart (Universitat Rovira i Virgili - Campus Sescelades); Francesc Serratosa (Universitat Rovira i Virgili - Campus Sescelades); Jean Philippe Lemoine (Universitat Rovira i Virgili - Campus Sescelades)

Poster (Lunch And Poster Area)

Poster viewing and discussion will take place during the coffee breaks (10:00–10:30 and 16:20–16:50) and in daily poster exhibition from 18:30.

HierDiffSAT: Dual-Path Hierarchical Learning with Difference-Aware Fusion for SAT Solving
Wenying Lin (East China Normal University); Tian-Ming Bu (East China Normal University); Zehao Diao (East China Normal University)

The Missing Link: Knowledge Graph-Guided Discovery of Novel Prompt Compositions
Advaith Sanil Kumar (PES University); Abhay Patil (PES University); Austin Dcosta (PES University); Bhaskarjyoti Das (PES University)

SBM With Multiple Samples: Improved Spectral Recovery
Sie Hendrata Dharmawan (Dartmouth College); Peter Chin (Dartmouth College)

Temporal Evolution of Synaptic Weights in Spatiotemporal Learning Spiking Neural Networks
Takemori Orima (Teikyo University); Yoshihiko Horio (Teikyo University)

Introducing Metrics for tuning and evaluating Decision Making Processes based on Spiking Neural Networks
Paul Quentin Schauer (University Leipzig); Ferney Beltran-Velandia (University Leipzig, ScaDS.AI, Max Planck Institute for human cognitive and brain sciences); Dominik Krenzer (University Leipzig); Martin Bogdan (University Leipzig, ScaDS.AI, SECAI)

Predictive Coding Light with Different Spike Timing-Dependent Learning Rules
Antony N'dri (Orange Labs, Sophia Antipolis, France); Jiahui Fu (Frankfurt Institute for Advanced Studies, Frankfurt am Main, Germany); Céline Teulière (Université Clermont Auvergne, Clermont Auvergne INP, CNRS, Institut Pascal, F-63000 Clermont-Ferrand, France); Jochen Triesch (Frankfurt Institute for Advanced Studies, Frankfurt am Main, Germany)

Data Transfer Limitations and Accuracy Trade-offs in Neuromorphic Real-time Systems

CARMEN WEIGELT (Infineon Technologies Dresden); Sirine Arfa (Technische Universitaet Dresden); Pascal Gerhards (Infineon Technologies Dresden); Fabian Kress (Infineon Technologies Semiconductor GmbH); Mathias Haberjahn (Infineon Technologies Dresden); Christian Mayr (Technische Universitaet Dresden); Jürgen Becker (Karlsruhe Institute of Technology)

Working Memory in a Recurrent Spiking Neural Networks With Heterogeneous Synaptic Delays

Laurent Perrinet (Institut de Neurosciences de la Timone (UMR 7289) Aix Marseille Université, CNRS)

Brain-SAM: A SAM-based Model Tailored for Brain MRI Lesion Segmentation

Yinghong Pan (State Key Laboratory of Networking and Switching Technology, Beijing University of Posts and Telecommunications); Xiaotong Yuan (State Key Laboratory of Networking and Switching Technology, Beijing University of Posts and Telecommunications); Honglei Liu (School of Biomedical Engineering, Capital Medical University); Yuqing Yang (State Key Laboratory of Networking and Switching Technology, Beijing University of Posts and Telecommunications); Guixia Kang (State Key Laboratory of Networking and Switching Technology, Beijing University of Posts and Telecommunications)

Texture-Adaptive Embedding for Latent Diffusion Watermarking

Xinyue Yan (Southwest Minzu University); Zishuo Feng (Southwest Minzu University); Wenqiang Yu (Southwest Minzu University); Xianfeng Guo (Southwest Minzu University)

MoE-D: Feature-Space Mixture-of-Experts Diffusion for Long-Tailed Visual Recognition

Ziyao Meng (Universidade do Minho; jilin university); Xue Gu (Minho); Adriano Tavares (Universidade do Minho); Sandro Pinto (Universidade do Minho); Hao Xu (jilin university)

Interpretable and Transferable Video Classification via Dual-Stream Concept-Based Reasoning

Zhaofeng Niu (Qufu Normal University); Jiahui Gong (Qufu Normal University); Bowen Wang (Osaka University); Yang Song (Qufu Normal University); Liangzhi Li (Qufu Normal University)

SLA-v3: Exploration by Traversal Difficulty Encouragement

Yuze Liu (Zhejiang University, Shanghai AI Lab)

From Trajectories to Instructions: Language-Conditioned Meta-Reinforcement Learning

Garvit Singla (International Institute of Information Technology Bangalore); Uma Maheswari Natarajan (International Institute of Information Technology Bangalore); Raghuram Bharadwaj (International Institute of Information Technology Bangalore)

Emergence of Grid-Cell-Like Representations in World Models for Reinforcement Learning

Taku Araki (Aoyama Gakuin University); Takashi Ito (Aoyama Gakuin University); Takashi Onoda (Aoyama Gakuin University)

D^2SD: Dual-Domain Synchronous Diffusion for 3D Human Pose Estimation

Jiashuo Li (Central South University); Wen Ma (Kunming Medical University); Shenghui Liao (Central South University); Ziyang Hu (Central South University); Lihong Liu (Central South University); Yumian Huang (Central South University); Xiaoyan Kui (Central South University)

Latent Chain-of-Thought Reasoning with Adaptive Scratchpad for Citation Intent Classification

Yu Song (School of Computer Science and Engineering, Beihang University); Yifei Li (School of Computer Science and Engineering, Beihang University); Zhao Zhang (School of Computer Science and Engineering, Beihang University); Deqing Wang (School of Computer Science and Engineering, Beihang University); Fuzhen Zhuang (School of Artificial Intelligence, Beihang University)

Harnessing Large Language Models for Scientific Novelty Detection

Yan Liu (Nanyang Technological University); Zonglin Yang (Nanyang Technological University); Soujanya Poria (Nanyang Technological University); Thanh-Son Nguyen (Agency for Science, Technology and Research (ASTAR)); Erik Cambria (Nanyang Technological University)

Evaluating XAI Stability and Efficiency in Malware Classification

Ali Saab (Western University); Haidar Safa (American University of Beirut); Mohamad Nassar (University of New Have)

Alignment With Ground Truth (GTA): An Optimization-Free Hyperparameter-Free Metric for Evaluating Learned Representations

Ahmad Mustapha (American University of Beirut); Ali Chehab (American University of Beirut)

Fine-tuning Pre-trained Vision-Language Models in a Human-Annotation-Free Manner

Qian-Wei Wang (Tsinghua University); Guanghao Meng (Tsinghua University); Ren Cai (Peking University); Yaguang Song (Peng Cheng Laboratory); Shu-Tao Xia (Tsinghua University)

ARETS: Regularized Evolution Combined with Tabu Search for Efficient Auto-Tuning in Deep Learning Compilers

Haibin Liang (South China Agricultural University); Tianping Wu (South China Agricultural University); Zihua Liu (South China Agricultural University); Wenhui Chen (South China Agricultural University); Shaojian Qiu (South China Agricultural University)

AgentEra: Online Prompt Policies for Black-Box Recovery of Suppressed Concepts

Daiheng Gao (University of Science and Technology of China); nanxiang jiang (BUAA); Weiming Zhang (University of Science and Technology of China)

Training-Free Adaptive Sampling Scheduler for Discrete-Time Consistency Distillation

Qi Wang (Hosei University); Jinjia Zhou (Hosei University)

Temporal Features Dominate Explainable Alzheimer's Screening from Online Handwriting

Bruno Moreira Albuquerque (UFPE); Cleber Zanchettin (UFPE); Gabriela Souza (UFPE)

A Systematic Evaluation of Hybrid CNN Architectures for Atrial Fibrillation Episode Prediction Using ECG Data

Mbithe Nzomo (University of Cape Town); Deshendran Moodley (University of Cape Town)

DBHE: Dynamic Basis-driven Hypernetwork Experts for Time Series Forecasting

feifei guo (Beijing Institute of Technology); minglin yu (Beijing Institute of Technology)

Vision-Language-Action Model Optimization for Real-Time Robotic Manipulation

Juyi Lin (Northeastern University); Amir Taherin (Northeastern University); Arash Akbari (Northeastern University); Arman Akbari (Northeastern University); lei lu (Northeastern University); guangyu chen (Northeastern University); Taskin Padir (Northeastern University); Xiaomeng Yang (Northeastern University); Jayanth Srinivasa (Cisco); Xue Lin (Northeastern University); David Kaeli (Northeastern University); Yanzhi Wang (Northeastern University); Pu Zhao (Northeastern University); Xuan Shen (Northeastern University)

Bayesian Uncertainty-Aware Multi-Task Learning for Remote Sensing Image-Text Retrieval

Ruihan Zhen (Shanxi University); Kaixiang Song (Shanxi University); Xinyan Liang (Shanxi University)

MuEmo-R1: Fine-Grained Multimodal Emotion Reasoning via Acoustic-Facial Grounding

Yangdi Dai (East China Normal University); Qingchun Bai (Shanghai Open University); Jingyuan Zhao (East China Normal University); Jie Zhou (East China Normal University); Liang Dou (East China Normal University); Qin Chen (East China Normal University); Liang He (East China Normal University)

EviSplat: Evidence-Grounded Conversational Interaction in 3D Scenes via Gaussian Splatting and Large Language Models

Heng Zhang (Shanghai Dianji University); YaWei Wu (Shanghai Dianji University); YanLi Liu (Shanghai Dianji University)

PE-Stega: A Robust Visually-Enhanced Linguistic Steganography Framework for Social Networks

Jiacheng Fan (National Pilot School of Software, Yunnan University); Yefan Wang (University of Shanghai for Science and Technology); Xiaofan Deng (National Pilot School of Software, Yunnan University); Feitong Wei (National Pilot School of Software, Yunnan University); Qirui Ji (National Pilot School of Software, Yunnan University); Jing Liu (National Pilot School of Software, Yunnan University)

DACAS: Distortion-Aware Capacity Allocation for Style-Augmented Domain Generalization in Computational Pathology

Shichang Sun (Cardiff University); Haolin Yang (Dalian Minzu University); Haibo Wang (Cardiff University); Shun Du (Dalian Minzu University); Shuang Liu (Dalian Minzu University); Yukun Lai (Cardiff University)

TransAegis: Cross-Lingual Representation Steering-based low resource language jailbreak defense

Wei Li (Yunnan University); Wu Feng (Yunnan University); Yao Shaowen (yaosw@ynu.edu.cn); Chen Chiquan (Yunnan University)

When Entropy Fails and Centroids Mislead: Rethinking Active Learning for Short Texts via LLM-Guided Semantic Coverage

Xilei Tang (Wuhan University); Kai Liu (school of computer science, Wuhan University); Jing Xiao (school of artificial intelligence,Wuhan University)

CoQ-LLM: Exploiting Complex-Valued Representation for Post-Training Quantization of Large Language Models

Xia Junhao (Tsinghua University)

Robust Regularized Policy Iteration under Transition Uncertainty

Hongqiang Lin (Zhejiang University); Zhenghui Fu (Northwestern Polytechnical University); Weihao Tang (Zhejiang University); Pengfei Wang (Zhejiang University); Yiding Sun (Xi'an Jiaotong University); Qixian Huang (Sun Yat-sen University); Dongxu Zhang (Xi'an Jiaotong University)

Thursday, 17 September 2026

Congress Centre A | Artificial Intelligence and Machine Learning 6 – *Session Chair: Dominik Dold*

10:30 **HQA-Rec: Hyperbolic Quantization Alignment for Citation Recommendation**
Yan Liu (Nanyang Technological University); Yingpeng Du (Nanyang Technological University); Thanh-Son Nguyen (Agency for Science, Technology and Research (ASTAR)); Erik Cambria (Nanyang Technological University)

10:50 **Semantic Allocation in Ordered Bottlenecks: Predictive Residual Inference for Visual Representation Learning**
Erik Ayari (University of Tübingen); Manuel Traub (University of Tübingen); Martin V. Butz (University of Tübingen)

11:10 **Towards Detecting Inconsistencies in End-to-end Generated Task-Oriented Dialogues: A Constraint Satisfaction Approach**
Tiziano Labruna (Fondazione Bruno Kessler); Bernardo Magnini (Fondazione Bruno Kessler); Giovanni Bonetta (Fondazione Bruno Kessler)

11:30 **Data Augmentation as an Engine: A Multidimensional Few-Shot Analysis**
Maria Eduarda Mota (Centro de Informática, Universidade Federal de Pernambuco); Cleber Zanchettin (Centro de Informática, Universidade Federal de Pernambuco)

11:50 **A Lightweight Random Feature Framework for Efficient Image Classification**
Luca Grandi (University of Turin); Loris Signoretti (University of Turin); Lorenzo Sciandra (University of Turin); Bruno Casella (University of Turin); Marco Aldinucci (University of Turin); Roberto Esposito (University of Turin)

12:10 **Neural networks for physical measurement: evaluation of measurement reliability by Self-Organizing Maps**
Robin Matha (ISAE-SupAero); Aymane Hajjaoui (LEAT); Laurent Rodriguez (LEAT); Stéphane Barland (INPHYNI); Alain Pégatoquet (LEAT); Imourane Abdoulaye (LEAT)

Congress Centre B | Computer Vision 3 – *Session Chair: Simone Bonechi*

10:30 **Diffusion-Prior Synthetic RAW Data with ISO Assignment for Low-Light Image Denoising**
Zhou Zhou (Southern University of Science and Technology); Guohang He (Southern University of Science and Technology); Qinghai Guo (Huawei Technologies Co., Ltd.); Luziwei Leng (Huawei Technologies Co., Ltd.); Zheng Zhang (Huawei Technologies Co., Ltd.); Xuan Song (Jilin University); Yu Zhang (Southern University of Science and Technology)

10:50 **Learning from Mistakes: Reliability-Balanced Knowledge Distillation**
jinqi zhu (Tianjin Normal University); huilin liu (Tianjin Normal University); junlian jiang (Dalian Jiaotong University); renyv jiang (Tianjin Normal University); tongtong su (Tianjin Normal University)

11:10 **Hybrid Prototype-Statistical Replay for Image-Free Continual Adapter Tuning**
Boyu Wang (Syracuse University); Qinru Qiu (Syracuse University)

11:30 **DSH-Fuse: Dual-Stage Heterogeneous Framework for Multi-Modal Image Fusion**
Zhencheng Qi (Xiamen University of Technology); Jingjing Jingjing Xiao (Xiamen University of Technology); Jiahua Wu (Xiamen University of Technology); Yuyang Lin (Xiamen University of Technology); Sensen Wang (Xiamen University of Technology); Ruiqi Wang (Wuxi Taihu University)

11:50 **Shake, tilt, and predict: robotic manipulation for viscosity estimation using fluid segmentation**
Matthew Rolph (The University of Manchester); Federico Tavella (The University of Manchester); Angelo Cangelosi (The University of Manchester); Gabriella Pizzuto (The University of Liverpool); Amber Drinkwater (Amentum)

12:10 **Hybrid Analytical–Learned Representations for Preserving Machine-Readable Patterns in Gaussian Splatting**
Diram Tabaa (Carnegie Mellon University); Gianni Di Caro (Carnegie Mellon University)

Room T4 | Special session: Advances in Artificial Intelligence, Remote Sensing and Signal Processing for Urban and Earth Applications

10:30 **Strengths and Limits of Foundation Models for Land Use Land Cover Classification**
Magali Egger (Université de Lausanne)

10:50 **Impacts of Spatio-Temporal Data Scales on LSTM Streamflow Predictions**
Jason Kemp (University of Guelph); Stefan C. Kremer (University of Guelph); Genevieve Ali (McGill); Dan Gillis (University of Guelph)

11:10 **Integrating Data-Driven Symbolic Fundamental Diagrams into Physics-Informed Neural Networks for Traffic State Estimation**
Riccardo Cappi (University of Padua); Nicolo' Navarin (University of Padua); Alessandro Sperduti (University of Padua)

11:30 **Learning Cloud-Free Sentinel-2 Reconstruction via Hybrid CNN–GAN and SAR–Optical Fusion**
Sriram Sundar (PESU); Sai Abhinav Kommuri (PESU); Shreyas S (PESU); Siddhi Zanwar (PESU); Bhaskarjyoti Das (PESU)

11:50 **Mean-Field Variational Graph Autoencoders for Data Generation: An Application to Urban Environmental Exposure Data**
Esther Rodrigo Bonet (ETRO-VUB); Esther Rodrigo-Bonet (VUB); Mehdi Hedayatrasa (VUB); Nikos Deligiannis (VUB)

12:10 **Combining Traffic Simulators and Neural Networks to Design Mobility Policies at Ports**
Luca Alessandrini (Politecnico di Milano); Cristiano Cervellera (Consiglio Nazionale delle Ricerche); Alessio Tei (Università degli Studi di Genova); Giacomo Boracchi (Politecnico di Milano)

Room T2 | Large Foundational Models And Novel Neural Network Architectures –

Session Chair: Stefano Dettori

10:30 **An Attention Mechanism for Robust Multimodal Integration in a Global Workspace Architecture**
Roland BERTIN-JOHANNET (CNRS); Lara SCIPIO (CNRS); Leopold MAYTIÉ (ANITI); Rufin VanRullen (CNRS)

10:50 **GS-KAN: Parameter-Efficient Kolmogorov-Arnold Networks via Sprecher-Type Shared Basis Functions**
Oscar Eliasson (Chalmers University of Technology)

11:10 **A Stability-Aware Neural Network Architecture for Time Series Forecasting**
Eric Wang (Interlake HS); Jiang Li (Old Dominion Univerrsity)

11:30 **MedReasonSeg: Adaptive Reasoning Segmentation for Medical Images Using Multimodal Large Language Models**
Leon Bhupathi (Department of Graduate Computer Science and Engineering, Katz School of Science and Health, Yeshiva University); Ming Ma (Department of Graduate Computer Science and Engineering, Katz School of Science and Health, Yeshiva University)

11:50 **ModINSeg: Modality-Informed Universal Medical Image Segmentation**
Ashish Bhandari (Department of Graduate Computer Science and Engineering, Katz School of Science and Health, Yeshiva University); Rima Palli (Department of Graduate Computer Science and Engineering, Katz School of Science and Health, Yeshiva University); Manisha Yadav (Department of Graduate Computer Science and Engineering, Katz School of Science and Health, Yeshiva University); Ming Ma (Department of Graduate Computer Science and Engineering, Katz School of Science and Health, Yeshiva University)

Room T1 | Human-Computer Interaction And Robotics – *Session Chair: Kristína Malinovská*

10:30 **Quality-Gated Mask Attention for Exercise Recognition Under Speed Shift**
Kamil Warchol (AGH University of Science and Technology); Bogdan Kwolek (AGH University of Science and Technology)

10:50 **On the Efficiency of LoRA Fine-Tuning for Vision-Language-Action Models in Industrial Robotic Manipulation**
Finn Ferchau (Siemens AG); Daniel Pommer (Technische Hochschule Nürnberg); Cristian Axenie (Technische Hochschule Nürnberg)

11:10 **RGB and Geometry-aware Representations of Mouth Articulations for Sign Language Understanding**
Nurzhigit Ongalov (AGH University of Science and Technology); Bogdan Kwolek (AGH University of Science and Technology)

11:30 **Accessible Alt-Text Generation of 2D Graphs with Multimodal LLMs: Comparison and Evaluation**
Marco Cardia (University of Pisa); Camilla Pogginati (University of Pisa); Barbara Leporini (University of Pisa); Susanna Pelagatti (University of Pisa); Stefano Chessa (University of Pisa)

11:50 **Sample-efficient Low-level Motion Planning for Robotic Manipulation Tasks via Zero-shot Transfer Learning**
Yuanzhi He (School of Computer Science & Informatics, Cardiff University); Victor Romero-Cano (School of Computer Science & Informatics, Cardiff University); Jose Patino Minan (School of Computer Science & Informatics, Cardiff University); Juan Hernandez Vega (School of Computer Science & Informatics, Cardiff University); William Sawtell (School of Computer Science & Informatics, Cardiff University); Gualtiero Colombo (School of Computer Science & Informatics, Cardiff University)

12:10 **Mapping the Acoustic Alignment: Feature Correlation Analysis of Human and AI-Generated Music in Social Media**
Gianmarco Tonelli (University of Pisa); Marco Gori (University of Siena); Stefano Melacci (University of Siena)

Congress Centre A | Machine Learning for Graphs 2 – *Session Chair: Paolo Frazzetto*

14:00 **Benchmarking Intrinsic Dimension Estimation Methods on Real Feature Manifolds using Graph Convolutional Networks**
Alexandre Caro (University of Thessaly); Spiros Georgakopoulos (University of Thessaly); Sotiris Tasoulis (University of Thessaly); Vassilis Plagianakos (University of Thessaly)

14:20 **Tensor Channel Equivariant Graph Neural Networks for Molecular Polarizability Prediction**
Jean Philip Filling (Johannes Gutenberg University); Daniel Franzen (Johannes Gutenberg Univertsity); Michael Wand (Johannes Gutenberg Univertsity)

14:40 **Geometric Self-Supervised Pretraining on 3D Protein Structures using Subgraphs**
Michail Chatzianastasis (Ecole Polytechnique); Yang Zhang (Ecole Polytechnique); George Dasoulas (Harvard University); Iakovos Evdaimon (Ecole Polytechnique); Michalis Vazirgiannis (Ecole Polytechnique)

Congress Centre B | Large Language Models 3

14:00 **Do Mixture-of-Experts Improve Energy Efficiency? An Early-Stage Evaluation**
Artur Gil (Universidade da Coruña); Verónica Bolón-Canedo (Universidade da Coruña); Amparo Alonso-Betanzos (Universidade da Coruña); Brais Cancela (Universidade da Coruña)

14:20 **SLIP: Securing LLM's IP Using Weights Decomposition**
Yehonathan Refael (Microsoft); Adam Hakim (Microsoft); Lev Greenberg (Microsoft); Satya Lokam (Microsoft); Tal Aviv (Microsoft); Ben Fishman (Microsoft); Shachar Seidman (Independent Contributor); Racchit Jain (Microsoft); Jay Tenenbaum (Microsoft)

14:40 **Attention-Based Contrastive Learning for AI Text Detection**
Christopher Buratti (Università Politecnica delle Marche); Michele Marchetti (Università Politecnica delle Marche); Federica Parlapiano (Università Politecnica delle Marche); Davide Traini (Università di Modena e Reggio Emilia); Domenico Ursino (Università Politecnica delle Marche); Luca Virgili (Università Politecnica delle Marche)

15:00 **Proprietary Language Migration with LLMs: Syntax Learning and Knowledge-Augmented Translation**
Yannis WYPYCH (Divalto); Bilal Faye (LIPN); Hanene Azzag (LIPN); Mustapha Lebbah (LIPN)

Room T4 | Computer Vision 4 – *Session Chair: Joerg Frochte*

14:00 **Polynomial Dice Loss for Medical Image Segmentation**
Hiroaki Aizawa (Hiroshima University)

14:20 **Identifying the Unknown: Prompt-Free Open Vocabulary Anomaly Recognition for Robot-Object Interaction**
Philipp Allgeuer (University of Hamburg); Jan-Gerrit Habekost (University of Hamburg); Stefan Wermter (University of Hamburg)

14:40 **Evaluation of Randomization through Style Transfer for Enhanced Domain Generalization**
Dustin Eisenhardt (DKFZ Heidelberg); Timothy Schaumlöffel (Goethe University Frankfurt am Main); Alperen Kantarci (Goethe University Frankfurt am Main); Gemma Roig (Goethe University Frankfurt am Main)

15:00 **POLARIS-MoE: Reliability-Aware Mixture-of-Experts for Robust Polyp Segmentation**
Shreyan Kundu (Institute Of Engineering And Management, Kolkata); Nirban Roy (Institute Of Engineering And Management, Kolkata); Souradeep Mukhopadhyay (Arizona State University, Arizona, United States); Moutushi Singh (Institute Of Engineering And Management, Kolkata); Saanvi Agarwal (Arizona State University); Rammohan Mallipeddi (Kyungpook National University, South Korea)

Room T2 | Theory and Foundations of Neural Networks – *Session Chair: Matteo Olivato*

14:00 **Gradual Capacity Growth for Sparse Network Discovery**
Qihang Yao (Georgia Institute of Technology); Constantine Dovrolis (Georgia Institute of Technology)

14:20 **A Link between Shock-wave Theory and Symmetry-reduced Stochastic Gradient Descent for Artificial Neural Networks**
Taiki Miyagawa (NEC Corporation)

14:40 **GeometRep-SR: A 2D Representation Framework for Real-Time Unguided 3D Super-Resolution**
Ignasi Mas Méndez (I2Cat); Ramon Morros (UPC); Javier Ruiz-Hidalgo (UPC); Ivan Huerta (I2Cat)

15:00 **Hölder Regime in Gradient Descent**
Alessandro Betti (IMT School for Advanced Studies Lucca); Marco Gori (University of Siena); Stefano Melacci (University of Siena); Jinwei Zhao (University of Florence)

Room T1 | LLM, Speech and Language Processing – *Session Chair: Davide Rigoni*

14:00 **Enhancing Multi-Hop Question Answering with Hierarchical Knowledge Graphs**
Shan Zhong (School of Cyber Security, University of Chinese Academy of Sciences); Minghao Tang (School of Cyber Security, University of Chinese Academy of Sciences); Feifei Wang (School of Cyber Security, University of Chinese Academy of Sciences); Zhen Xu (School of Cyber Security, University of Chinese Academy of Sciences); Hongbo Xu (School of Cyber Security, University of Chinese Academy of Sciences)

14:20 **Hierarchical Latent-Domain Modeling for Multi-Domain Fake News Detection**
Hui Zhang (Nanjing University of Science and Technology); ZhiChao Lian (Nanjing University of Science and Technology)

14:40 **AMORE: Adaptive Multi-Objective Reward Engineering for Socratic Math Tutoring with Small Language Models**
Shruti Baghel (IIT Mandi); Yash Pratap Singh Rathore (IIT Mandi); Ritali Vatsi (IIT Mandi); Amit Shukla (IIT Mandi); Pawan Goyal (IIT Kharagpur)

15:00 **A Plug-and-Play Multi-Objective Framework for Human-Agent Collaboration in Dialogue State Tracking**
Zhuoxin Han (Beijing University of Posts and Telecommunications); Keyi Wang (Beijing University of Posts and Telecommunications); Caixia Yuan (Beijing University of Posts and Telecommunications); Xiaojie Wang (Beijing University of Posts and Telecommunications)

Poster (Lunch And Poster Area)

Poster viewing and discussion will take place during the coffee breaks (10:00–10:30 and 16:20–16:50) and in daily poster exhibition from 18:30.

FastAD: A Deployable Framework for Real-Time Visual Anomaly Detection
yuebin jing (shanghai university)

NGSRNet: Neighbor-Guided Semantic Refinement Network for Drowsy Driving Detection
Yisheng Liu (Beijing University of Posts and Telecommunications); Siming Jia (Beijing University of Posts and Telecommunications); Mu Wang (Beijing University of Posts and Telecommunications); Yiying Lin (Beijing University of Posts and Telecommunications); Minghua Sheng (Beijing Urban Construction Intelligent Control Co., Ltd.)

F3C: Feature Clusters Center Compression Based on Knowledge Distillation for Long-Tailed Recognition
Ziyao Meng (Universidade do Minho; jilin university); Jian Li (jilin university); Jingwen Wang (jilin university); Xue Gu (Universidade do Minho); Adriano Tavares (Universidade do Minho); Sandro Pinto (Universidade do Minho); Hao Xu (jilin university)

Text-Grounded Uncertainty Control for Composed Image Retrieval
yuyang cheng (Jianghan University); xun zhu (Jianghan University); hongtao deng (Jianghan University); siqi tian (Wuhan Polytechnic University); Yinxia Lou (Jianghan University)

From Scalar Rewards to Dense Feedback: Dense Reward Shaping for U-MLLM Post-Training
ming liu (iowa state university); hao chen (google); liwen wang (iowa state university); jindong wang (William & Mary); Bhiksha Raj (Carnegie Mellon University); wensheng zhang (iowa state university)

Beyond Smooth Darcy: Evaluation Changes the Conclusion in Sparse-Sensor Inverse Learning
Xinjie Cui (Shanxi Agricultural University); Qi Lu (Shanxi Agricultural University); Yule Wang (Shanxi Agricultural University); Xinyu Liang (Shanxi Agricultural University); Ruiyu Zhang (Shanxi Agricultural University)

Memory-Induced Attractor Dynamics in Liquid Time-Constant Networks

Bishal Swain (Kumoh National Institute of Technology); Jaeyeon Hwang (Kumoh National Institute of Technology); Jaepil Ko (Kumoh National Institute of Technology)

Verifier-Guided Risk-Aware Search for LLM Reasoning under Budget Constraints

Lujin Zhao (Beijing University of Posts and Telecommunications); Sujuan Qin (Beijing University of Posts and Telecommunications); Yijie Shi (Beijing University of Posts and Telecommunications)

Bi-DKD: Bidirectional Decoupled Knowledge Distillation

Yu Feng (Xidian University); Bo Li (Xidian University); Fen Wang (Xidian University); Yuan Liu (Xidian University); Baoyi Xu (Xidian University); Long Yang (Xidian University)

Revisiting Gradient Centralization: A Unified View of Mean Subtraction and Singular Spectrum Flattening

Koji Kamma (Wakayama University)

Latency Optimization in Production Voice AI Pipelines: A Systems Approach

Oysturn Vas (University of Waterloo) Carson Rodrigues (Voiceqube)

Unsupervised Industrial Defect Detection via Hilbert Latent Modulation and Affine Lie Group Equivariant Convolution

Zhongyi Yang

Contamination Source Isolation in Water Distribution Networks via Sensor-Only Contrastive Graph Learning

Xiaohan Chen (University of Cyprus); Stelios Vrachimis (University of Cyprus); Marios Polycarpou (University of Cyprus)

Dual-Selective Network for Domain-Incremental Change Detection

Yuzhi He (XIDIAN UNIVERSITY); Junxi Huang (XIDIAN UNIVERSITY); Haorui Wu (XIDIAN UNIVERSITY); Jiahui Qu (XIDIAN UNIVERSITY)

Role-Aware Tactile Path Perception from UAV Videos via Motion-Semantic Guidance

Yefan Wang (University of Shanghai for Science and Technology); Yusen Wu (Fujian University of Technology); Lingling Qu (Yangzhou University)

The Risks of Imperfect Knowledge: Reliability Trade-Offs in Physics-Aware Neural Networks for Climate Projections

Mengxue Zhang (Universitat de València); Kai-Hendrik Cohrs (Universitat de València); Miguel-Ángel Fernández-Torres (Universidad Carlos III de Madrid); Esther Rodrigo-Bonet (Universitat de València); Gustau Camps-Valls (Universitat de València)

Integrating Weather Station Data and Radar for Precipitation Nowcasting: SmaAt-fUsion and SmaAt-Krige-GNet

Jie Shi (Utrecht University); Aleksej Cornelissen (Utrecht University); Siamak Mehrkanoon (Utrecht University)

Symplectic-Mamba: Structured Recurrence for World-State Tracking

Xinjie Cui (Shanxi Agricultural University); Xinyu Liang (Shanxi Agricultural University); Xiaopeng Zhao (Shanxi Agricultural University); Tianyi Ren (Shanxi Agricultural University); Yawen Jia (Shanxi Agricultural University); Rui Yu (Shanxi Agricultural University)

SAFN: Sentiment-Aware Fine-grained Cross-modal Alignment for Multimodal Sentiment Analysis

Siyang Zhang (Anhui University of Science and Technology); shunxiang zhang (Anhui University of Science and Technology); jixu zhang (Anhui University of Science and Technology); guangli zhu (Anhui University of Science and Technology); meng xiao (Anhui University of Science and Technology); meng chen (Anhui University of Science and Technology)

SMART: A Statistic-Driven Semantic Alignment and Routing Framework for Multivariate Long-Term Forecasting

Dongze Song (Hefei University of Technology); Zhanglin Peng (Hefei University of Technology); Xiaonong Lu (Hefei University of Technology); Yu Kang (Hefei University of Technology); Shanlin Yang (Hefei University of Technology)

TFDF-Net: Time-Frequency Decomposition for Multivariate Time Series Forecasting

Dongming Chen (Northeastern University); Jingyi Chu (Northeastern University); Li Wang (Northeastern University); Di Wang (Northeastern University); Dongqi Wang (Northeastern University)

Batched Differentiable Rigid Body Dynamics in PyTorch for GPU-Accelerated Robot Learning

Yue Wang (University of Southampton); Yanran Xu (University of Southampton); Wenbo Wu (University of Southampton); Chuanhang Qiu (University of Southampton); Zhaoxing Li (University of Southampton)

Sparse Latent Action World Model for Vision-Language Navigation

Zhanjiang Yang (Shenzhen Technology University); Yueming Li (Shenzhen Technology University); Meng Li (Shenzhen Technology University); Lijun Sun (Shenzhen Technology University)

Direction-Aware Heterogeneous Graph Neural Networks with Dual-Conditioned Normalizing Flows for Spatio-Temporal Anomaly Detection

Shen WENWEN (zhejiang gongshang university)

MPCHG: A Meta-Path Context-Based Heterogeneous Graph Representation Learning Model

Dongming Chen (Northeastern University); Hongxun Wang (Northeastern University); Jiaming Liu (Northeastern University); Shuyue Zhang (Northeastern University); Dongqi Wang (Northeastern University)

Solve the Useless Link Problem in Graph Condensation by Mining Link Information from Single Nodes

Ziwei Li (UCAS); Jiang Zhou (UCAS); Xiaoyan Gu (UCAS); Weiping Wang (UCAS); Meng Dan (UCAS)

SkillCraft: Auditing Context-Dependent Legitimation of Malicious Skills in Claude Code

Haoke Han (Qingdao University); Zhenzhen Xie (Shandong University); Junjie Pang (QingDao University)

S^2-RAG: Decoupled Semantic and Structural Indexing for Long-Document Retrieval-Augmented Generation

Jianing Yang (National University of Defense Technology); Guojie Liu (National University of Defense Technology); Yiqi Wang (National University of Defense Technology); Songlei Jian (National University of Defense Technology); Jiafeng Zhang (National University of Defense Technology); Shuang Tan (National University of Defense Technology); Bao Li (National University of Defense Technology)

Never Too Rigid to Reach: Adaptive Virtual Model Control with LLM- and Lyapunov-Based Reinforcement Learning

Yangfei Chen (Zhejiang University); Yangyang Li (Massachusetts Institute of Technology); Guanwen Xie (Tsinghua University); Jingzehua Xu (Massachusetts Institute of Technology)

OSAFusion: An Optical Self-Attention Guided Dual-Stream Feature Decomposition Framework for Multi-Modal Image Fusion

zeyu chen (Zhejiang University of Technology); fei gao (Zhejiang University of Technology); libo weng (Zhejiang University of Technology)

Model Compression for Image Restoration: Pruning vs. Quantization

Colin Cockburn (Queen's University); Marcus Dipalma (Queen's University); Emma Heffernan (Queen's University); Marwa Kandil (Queen's University); Hazem Abbas (Queen's University)

CRITIC: Aligning LLMs with Human Rubrics via Score-Blind Distillation and Channel-Wise Adapters

Xinjin Li (Columbia University); Yuanzhe Yang (Columbia University); Yuhan Zhang (Bentley School); Ran Hao (Gillings School of Global Public Health); haibing zhang (Trine University); Ziqi Sha (University of Massachusetts Amherst); Yeyang Zhou (UC San Diego); Jinghan Cao (San Francisco State University); Yu Ma (Carnegie Mellon University)

Topology-Guided Mixture of Experts for Efficient Multimodal Sentiment Analysis

Jiazheng Zhou (Tokushima University); Xin Kang (Tokushima University); Weiping Ding (Nantong University); Kazuyuki Matsumoto (Tokushima University); Satoshi Nakagawa (University of Tokyo); Linhuang Wang (University of Tokyo); Xuefeng Shi (Nantong University); Fei Ding (Nantong University)

Social Activities

Welcome Reception – 18:00, Monday 14/09/2026

Lunch And Poster Area

ENNS Board Meeting – 12:30, Wednesday 16/09/2026

Reserved to ENNS Board Members

Gala Dinner – 20:00, Wednesday 16/09/2026

Caffe Pedrocchi, Via VIII Febbraio, 15, 35122 Padova PD

ENNS General Assembly – 16:50, Thursday 17/09/2026

Congress Centre A-B

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