IEEE EAIS 2024

IEEE International Conference on Evolving and Adaptive Intelligent Systems

Universidad Carlos III de Madrid, Spain

23 – 24 May 2024

Program

uc3m | Universidad Carlos III de Madrid

◆IEEE

IEEE SMC
Systems, Man, and Cybernetics Society

IEEE Computational Intelligence Society

Thursday May 23rd, 2024

9:00	**REGISTRATION**	🪪

9:15	**OPENING CEREMONY**	🚀

		Session 1 – AI and Automation in Controlled Environments 📍 Room: Salón de Grados		**SS4: Graph Neural Networks for Real–World Data** 📍 Room: 0.A.06
9:30	#4	**Adaptive Intelligent Supplemental Light Optimization based on Fluctuating Electricity Prices.** *Jan Sørensen and Eva Reybroeck*	#38	**Unveiling Graph Power: Segment Anything and GCN Synergy for Instance Segmentation and Classification.** *Vincenzo Mariano Scarrica and Antonino Staiano*
9:50	#82	**A brief Review on the Role of Context in Explainable AI.** *Rashmi Dutta Baruah and Mario Muñoz-Organero*	#63	**Bacteria Taxonomic Classification using Graph Neural Networks.** *Domenico Amato, Salvatore Calderaro, Giosuè Lo Bosco, Riccardo Rizzo and Filippo Vella*
10:10	#45	**Intelligent Resource Allocation in Power Grids: Leveraging Variable Neighborhood Search for Optimal Switch Allocation.** *Henrique Caetano, Matheus Fogliatto, Luiz Desuó Neto, Benvindo R. Pereira J., Marco Aiello and Carlos Maciel*	#64	**Supervised GNNs for Node Label Classification in Highly Sparse Network: Comparative Analysis.** 🌐 *Fathimah Syifa Nurkasyifah, Asep Kuswandi Supriatna and Asep Maulana*
10:30	#49	**Blockchain based configuration files backup system against ransomware.** *Shakhnazar-Sultan Manbay, Gulnazik Kubasheva, Alyara Abilbashar, Seitmurat Seitkul, Dana Utebayeva and Bauyrzhan Berlikozha*	#76	**Topological Adversarial Attacks on Graph Neural Networks via Projected Meta Learning.** *Mohammed Aburidi and Roummel Marcia*

10:50	**COFFEE BREAK**	☕

11:20 – 12:20	**PLENARY TALK	Keynote Speaker – Plamen Angelov** 📍 Room: Salón de Grados	🧍

		Session 2 – Computational Efficiency and Data Processing ◍ Room: Salón de Grados			SS5: Adaptive Technologies and Applications in Intelligent Transportation Systems ◍ Room: 0.A.06
12:30	#14	**Learning to Escape: Multi-mode Policy Learning for the Traveling Salesmen Problem.** *Myoung Hoon Ha, Seunggeun Chi and Sang Wan Lee*		#16	**What are the most influential factors in a Vehicle Platoon?** *Fernando Viadero-Monasterio*, Miguel Meléndez-Useros, Manuel Jiménez-Salas, Beatriz López Boada and María Jesús López Boada
12:50	#68	**EdgeCluster: A Resource-Aware Evolving Clustering for Streaming Data.** *Milena Angelova, Veselka Boeva and Shahrooz Abghari*		#34	**Situational Awareness I2X Pipeline Methodology for LiDAR-based Sensor Networks at the Edge of Internet of Things.** *Rogelio Hernandez*, Gabriel Mujica and Jorge Portilla
13:10	#19	**Learning the Dynamics of Future Marine Microgrids** 🌐 **Using Temporal Convolutional Neural Network.** *Xiaoyu Ge*, Ali Hosseinipour, Saskia Putri, Faegheh Moazeni and Javad Khazaei		#70	**A Multi-Layered Methodology for Driver Behavior Analysis Using TinyML and Edge Computing.** *Morsinaldo Medeiros*, Thommas Flores, Marianne Silva and Ivanovitch Silva

13:30	LUNCH 🍴

		Session 3 – Deep Learning and Evolutionary Modelst ◍ Room: Salón de Grados			SS2: Recent Advances on Text and Document Streams ◍ Room: 0.A.06
14:30	#5	**Recursive Level Set Fuzzy Modeling.** *Fernando Gomide and Leandro Maciel*		#40	**Evaluating Web Domain Credibility: A Multifactorial Score for Analyzing Online Reliability.** *Giuseppe Fenza*, Mariacristina Gallo, Vincenzo Loia and Claudio Stanzione
14:50	#23	**Convolutional neural networks to detect Parkinson's disease based on voice recordings and transfer learning.** *Daniel Francisco Merino Delgado*, María Jesús Rufo Bazaga, Alfonso Mateos Caballero and Carlos Javier Pérez Sánchez		#56	**A new Consensus Reaching Method for Group Decision-Making based on the Large Language Model Gemini for Detecting Hostility During the Discussion Process.** *José Ramón Trillo*, *Francisco Javier Cabrerizo*, Ignacio J. Perez, Juan Antonio Morente-Molinera and Enrique Herrera-Viedma
15:10	#26	**Using Genetic Algorithms for the Generation of Increasingly Challenging Terrain for Players to Navigate.** *Andrea Corradini* and Adam Broadbend		#67	**Updating knowledge in Large Language Models: an Empirical Evaluation.** *Alberto Roberto Marinelli*, Antonio Carta and Lucia Passaro

15:30	#27	Multi-Task YOLO for Vehicle Colour Recognition and Automatic License Plate Recognition. *Yin-Loon Khor, Yi Jie Wong, Mau-Luen Tham, Yoong Choon Chang, Ban-Hoe Kwan and Kok-Chin Khor*	#71	Understanding the Conceptual Structure of Large Language Models through Bibliographical Network. *Verónica Duarte, Ignacio Javier Pérez-Gálvez, Pietro Ducange and Manuel Jesus Cobo Martin*
15:50	#28	Online Design of Experiments with Fuzzy Confidence Interval for Identification of Nonlinear Dynamical Processes. *Miha Ožbot and Igor Škrjanc*	#75	Continuous Monitoring of Body Shaming Actions in Social Networks. *Pietro Ducange, Michela Fazzolari, Francesco Marcelloni, Martina Marino and Roberta Matrella*

16:10	**COFFEE BREAK**	☕

		Session 4 – Advanced Machine Learning Techniques 📍 Room: Salón de Grados		SS3: Advances in Fault Detection, Prediction, and Control 📍 Room: 0.A.06
16:40	#22	Clients Behavior Monitoring in Federated Learning via Eccentricity Analysis. *Tharuka Kasthuri Arachchige, Selim Ickin, Shahrooz Abghari and Veselka Boeva*	#29	Biological Trajectory Prediction of Beet Armyworm Larva Based on Computer Vision and Time-Series Forecasting Model. *Shih-Chun Deng, Hung-Jen Lin, Ping-Liang Chung, An-Chi Liu and Joe-Air Jiang*
17:00	#15	Enhanced K-means Color Clustering Based on SLIC Superpixels Merging incorporated within the Entomology Software: AInsectID. *Haleema Sadia and Parvez Alam*	#42	Enhancing Hotel Performance Prediction in Oman's Tourism Industry: Insights from Machine Learning, Feature Analysis, and Predictive Factors. *Rasha Abdulwahhab, Shqran Al Mansoory, Karan Jetly and Hilal Almaqbali*
17:20	#81	Correlation-enhanced Dynamic Graph Learning for Temporal Link Prediction. *Junzhe Chen, Zhiqiang Pan and Honghui Chen*	#72	Unsupervised context-sensitive anomaly detection on streaming data relying on multi-view profiling. *Fabian Fingerhut, Mathias Verbeke and Elena Tsiporkova*

20:00	**GALA DINNER – PALACIO DE ANGLONA**	🍽

Friday May 24th, 2024

		Session 5 – Robotics and Autonomous Systems Room: Salón de Grados		SS1: Model Explainability and Online Learning from Uncertain Data Streams (part 1) Room: 0.A.06
9:30	#10	**Autonomous Swarm Navigation Using Multi-Agent Reinforcement Learning and Neuro-Evolution.** *Álvaro Díez* and Fidel Aznar	#30	**Knowledge extraction in auction verification employing techniques from machine learning and fuzzy neural networks.** *Paulo Vitor De Campos Souza* and Mauro Dragoni
9:50	#12	**A Robot-Assisted Missing Child Search Approach.** Abdel Alqaddoumi, Anisha Mulinti, Srivalli Penagamuri, Yousef Ghaly, Sanjana Chitnis, Weitian Wang and *Michelle Zhu*	#31	**On the transferability of local model-agnostic explanations of machine learning models to unseen data.** Alba López-Gonzalez and *Esteban García-Cuesta*
10:10	#37	**Reflected PSO for Robot Path Planing.** *Ali Rodan*	#47	**Quantifying uncertainty in Bayesian Networks structural learning.** Vitor Barth, *Henrique Caetano*, Carlos Maciel and Marco Aiello
10:30	#60	**Study a deep learning-based audio classification for detecting the distance of UAV.** *Dana Utebayeva* and Assel Yembergenova	#51	**Leveraging Incremental Decision Trees and In-Vivo Biosensors for an Explainable Plant Health Monitoring System.** *Giovanni Panella*, Pietro Ducange, Manuele Bettelli, Filippo Vurro, Michela Fazzolari and *Riccardo Pecori*

10:50	**COFFEE BREAK**

11:20 – 12:20	**Author Workshop – Springer** Room: Salón de Grados

		Session 6 – Innovations in Medical Technology and Applications 📍 Room: Salón de Grados		SS6: Generative AI and Applications 📍 Room: 0.A.06
12:30	#18	**Towards Certifiable AI in Medicine: Illustrated for Multi-label ECG Classification Performance Metrics.** *Miriam Elia*, Fabian Stieler, Fabian Ripke, Marius Nann, Sarah Dopfer and Bernhard Bauer	#36	**Harmony Orchid Unleashed: Single-Rate Control for Superior Circular and Figure-8 Tracking in Stepper Motors.** *Marwa Hassan*
12:50	#33	**HypoTreat: Reducing Hypoglycemia in Artificial Pancreas Simulation.** *Miriam Chlumsky-Harttmann*, Ahmad Ayad and Anke Schmeink	#43	**A Searching Methodology for A Secure Identifying Block Location in Blockchain.** *Abdulrahman Alamer*
13:10	#55	**Generation and Evaluation of Medical Images Based on Diffusion Models.** *Jose Antonio Iglesias*, José María Monterrubio, María Paz Sesmero and Araceli Sanchis	#58	**Speech Audio Deepfake Detection via Convolutional Neural Networks.** *Lucas Pedrosa Valente*, Marcelo Marques Simões de Souza and Alan Marques da Rocha

13:30	LUNCH 🍴

		Session 7 – Real Time Monitoring and Prediction 📍 Room: Salón de Grados		SS1: Model Explainability and Online Learning from Uncertain Data Streams (part 2) 📍 Room: 0.A.06
14:20	#11	**Towards safer indoor spaces: A machine learning based CO_2 forecasting approach for smart systems.** Evangelos Athanasakis, Kyriaki Pantelidou, Nikos Siopis, Paschalis Bizopoulos, Antonis Lalas, Konstantinos Votis and Dimitrios Tzovaras	#54	**Towards Analysing Climate Change Temperature Patterns through Stream Clustering Methods.** *Asier Urio-Larrea*, Graçaliz Dimuro, Javier Andreu-Perez, Heloisa Camargo and Humberto Bustince
14:40	#35	**Adapting Random Simple Recurrent Network for Online Forecasting Problems.** *Mohammed Elmahdi Khennour*, Abdelhamid Bouchachia, Mohammed Lamine Kherfi, Khadra Bouanane and Oussama Aiadi 🌐	#57	**A Human-centric Approach to Explain Evolving Data: A Case Study on Education.** *Gabriella Casalino*, Giovanna Castellano, Daniele Di Mitri, Katarzyna Kaczmarek-Majer and Gianluca Zaza

15:00	#61	**Edge Implementation of Unsupervised Self-evolving Vision Classifier.** *Agil Aghasanli* and *Plamen Angelov*	#59	**Explainable Risk Prediction on Streaming Data: a LSTMs application to SARS-CoV-2 Patients.** *Esteban García-Cuesta*, Javier Huertas Tato, Pablo Cardinal-Fernández and José Barberán
15:20	#62	**Bringing computation to the data: A MOEA-driven approach for optimizing data processing in the context of the SKA and SRCNet.** *Manuel Parra-Royón*, Alvaro Rodriguez-Gallardo, Javier Moldón, Laura Darriba-Pol, Susana Sánchez-Expósito, Jesús Sánchez-Castañeda, Julián Garrido, Lourdes Verdes-Montenegro Atalaya and Mángeles Mendoza	#73	**EGNN-C+: Interpretable Evolving Granular Neural Network and Application in Classification of Weakly-Supervised EEG Data Streams.** *Daniel Leite*, Alisson Silva, Gabriella Casalino, Arnab Sharma, Danielle Fortunato and Axel-Cyrille Ngomo
15:40	#83	**Contextual Approaches to Data-Driven Fault Detection in Solar Photovoltaic System.** *Diganta Baruah, Ritocheta Roy, Raunak Ahmed, Senthilmurugan Subbiah, Sonali Chouhan and Kumaresan Angappan*		

15:40	**COFFEE BREAK**	☕

	SS7: Advances in Evolving and Adaptive Fuzzy Cognitive Maps 📍 Room: Salón de Grados	
16:00	#7	**Privacy-preserving distributed learning with chaotic maps.** *Irina Arévalo*, *Jose L. Salmeron* and Ivan Romero
16:20	#13	**Long Short-term Cognitive Networks: An Empirical Performance Study.** *Gonzalo Nápoles* and Ise Grau
16:40	#21	**A Large Reservoir Computing Forecasting Method based on Randomized Fuzzy Cognitive Maps Omid.** *Orang, Fabricio Erazo-Costa, Petrônio Cândido de Lima E Silva, Guilherme Barreto and Frederico Guimarães*

17:10	**AWARDS & CLOSING CEREMONY**	🏅

18:30 – 20:30	**GUIDED TOUR AROUND MADRID CITY**	📷

IEEE
EAIS
2024

uc3m | Universidad **Carlos III** de Madrid

IEEE

IEEE **SMC** Systems, Man, and Cybernetics Society

IEEE **Computational Intelligence Society**