

IDEAL 2025 SESSION PROGRAM			
Paper #ID	Title	Authors	Mode
Session 01: Data Generation, Augmentation, and Imputation Room: Building C1 - Salón de Grados 1 , Time: 11:00-13:00 CET, 13th Nov.			
119	A Hybrid LSTM–Attention Approach for Missing Data Imputation in IoT Time Series	Ammara Laeeq, Usman Adeel, Jie Li and Eleanor Starkey	
52	PT-PT Synthetic Speech Detection	Rafael Geraldo dos Santos, Joana Sousa and José Valente de Oliveira	
78	Synthetic Data Augmentation for COD Prediction in WTPs: A Comparative Study of Deep Learning Models with VARMA and TTS-GAN	Afonso Bessa, Pedro Oliveira, Millena Santos, Sérgio A. Silva and Paulo Novais	
91	Sparse GAIN: Imputation Methods to Handle Missing Values with Sparse Initialization	Brian van Oers, Işıl Baysal Erez and Maurice van Keulen	
100	AI-Based Data Augmentation for Cleft Lip Assessment: Generating Realistic Synthetic Videos to Improve Clinical Outcomes	Julian Puga, Malena Loza, David Chushig-Muzo, Luis Bote and Felipe Grijalva	Virtual
64	Event Causality Identification via Prompt Learning with Knowledge and Memory	Fei Cai, Wanyu Chen, Shen Wang, Guowang Li, Weijie Chen and Junxian Liu	Virtual
Session 02: Transfer Learning and Domain Adaptation Room: Building D1- Sala de Juntas, Time: 17:30-18:30 CET, 13th Nov.			
55	Fast and Frugal Transfer Learning via Precomputed Features and Adaptive Normalization	Daniel Vila de la Cruz, Verónica Bolón Canedo and Laura Morán Fernández	
9	Mitigating Class Imbalance in Multiclass Educational Data: A Hybrid One-vs-One and Density-Based Resampling Approach	John-Bosco Diekuu, Mekala M S, John Isaacs and Eyad Elyan	Virtual
13	On the Impact of Greyscale ImageNet Pre-training for Chest X-ray Model Transferability	Sophie Haynes, Pam Johnston and Eyad Elyan	virtual
Session 03: Causality and Counterfactuals Room: Building C1-Salón de Grados 2, Time: 17:30-18:30 CET, 13th Nov.			
32	FUCO: Fuzzy Counterfactuals Examples	Francisco Javier Cantero Zorita, Victor Aceña, Rubén R. Fernández, Isaac Martín de Diego and Javier M. Moguerza	Virtual
110	Causality in Categorical Data Using Geometric Complexity	Alexandra M. Carvalho, Diogo S. Cruz, Paulo Mateus and Bruno Mera	Virtual
47	Analyzing Urban Green Space Perception Through Predictive Classification of Google Maps Reviews: The Case of Casa de Campo Park	Ziwei Shu, Cristina Sánchez-Figueroa, Pablo Villarrubia Sánchez and Álvaro Carrasco-Aguilar	Virtual
Session 04: Emotion-sensitive and behavior-aware intelligent systems Room: Building D1- Sala de Juntas, Time: 12:00-13:00 CET, 14th Nov.			
81	A Computational Framework for Emotion-Sensitive Behavioral Metrics Using a Gamified Task	Diego Riofrío-Luzcando, Miguel De Andrés, Victoria López, Matilde Santos and Diego Urgelés	
123	Causal Inference and Predictive Modeling for Evaluating the Effectiveness of Online Marketing Campaigns	Antoine Marmonier and Carlos Monserrat Aranda	Virtual
51	Leveraging Sentiment Analysis for Improved Financial Distress Forecasting in Vietnamese-Listed Firms	Van Thanh Pham, Duy Hung Phan and Cong Doan Truong	virtual
Session 05: Automation, optimization, and management of machine learning pipelines Room: Building C1-Salón de Grados 2, Time: 12:00-13:00 CET, 14th Nov.			
50	Machine Learning Lifecycle Management Using Dataspace for Optimized Machine Parameterization in Recycled Plastic Packaging	Alexander Nasuta, Sylwia Olbrych, Christoph Quix, Tim Kaluza, Florian Schaller, Sabrina Steinert, Hans Aoyang Zhou, Anas Abdelrazaq and Robert H. Schmitt	
105	Efficient Goal Selection in Automated Planning: A Case Study on Tourist Route Optimization	Sergio Marti, Victor Sánchez-Anguix, Jaume Jordán, Juan M. Alberola, Vicente Julián and Vicente Botti	
56	Influence of External Dependency Retrieval and Prompt Engineering in Test Case Generation using LLMs	David Lenke, Javier Ferrer and Francisco Chicano	Virtual
Session 06:AI-Driven Modeling and Learning for Smart Systems and Healthcare Room: Building C1-Salón de Grados 1, Time: 12:00-13:00 CET, 14th Nov.			
22	Synthetic Data Generation for Clustering Models: A Case Study in Mental Health Monitoring	Victoria Lopez and María Vidiella	
75	HealthRAG: Knowledge-Driven Medical QA System	Nguyen Manh Tuan, Tran Ba Cuong, Le Viet Hung, Truong Huu Nhat and Phan Duy Hung	Virtual
37	Inverse Reinforcement Learning for Reward Function in Traffic Signal Control	Do Thai Giang, Truong Cong Doan and Phan Duy Hung	Virtual

Session 07: Representation Learning and sequential AI Room: Building C1- Salón de Grados 2, Time: 14:40-16:40 CET, 14th Nov.			
80	Contrastive Learning for Correlating Network Incidents	Jeremias Dötterl	
21	On the Use of Smooth-L1 approximation in Echo State Networks for Sparse and Efficient Temporal Modeling	Gengcheng Lyu, Manuel Röder and Frank-Michael Schleif	
120	Auto-Encoder Architecture for Dynamic Knowledge Graph Construction in Multi-Agent Systems	Aleksandra Vatian, Artem Isakov, Ivan Tomilov and Natalia Gusarova	Virtual
3	Generalizable Denoising of Microscopy Images using Generative Adversarial Networks and Contrastive Learning	Félix Fuentes-Hurtado, Jean-Baptiste Sibarita and Virgile Viasnoff	Virtual
90	Semantic Intelligence: Graph RAG-Driven Agents for Time Series Analytics	Alexander Graß, Christopher Pack, Diego Collarana, Stefan Decker and Christian Beecks	Virtual
41	Knowledge Modeling and Distribution Refinement in Pre-trained Model for Class-Incremental Learning	Hae-Rin Byeon and Sung-Bae Cho	Virtual
Session 08: Advanced decision-tree models and structure-aware learning. Room: Building D1-Sala de Juntas, Time: 17:10-18:30 CET, 14th Nov.			
103	Towards Integrating Monotonicity Constraints into Hoeffding Trees for Binary Classification	Mieszko Mirgos and Maciej Grzenda	Virtual
62	MIHT: A Hoeffding Tree for Time Series Classification using Multiple Instance Learning	Aurora Esteban, Amelia Zafra and Sebastián Ventura	Virtual
59	Memory combination-based approaches for multi-label classification on non-stationary data streams	Xihui Wang, Hugo Peuzet, Pascale Kuntz, Frank Meyer and Vincent Lemaire	Virtual
28	Continuous User Identification Across Devices Using Keystroke Dynamics	Nabila Mansouri, Salwa Sahnoun, Fkih Hedi, Ahmed Ben Ali and Ahmed Fakhfakh	Virtual
Session 09: Physics-Guided and Intelligent Learning Systems for Energy and Automation Room: Building C1-Salón de Grados 2, Time: 17:10-18:30 CET, 14th Nov.			
49	Exponential and quadratic state discretizations for Wind Turbine Collective Pitch Control based on Q-learning	Matilde Santos Peñas, Alberto Gil Maciá and Jesús Enrique Sierra García	
117	Integrating Physical Laws and Deep Learning: A Comparative Study of CNN and LSTM PINNs for Wind Energy	Pablo-Andrés Buestán-Andrade, Matilde Santos, Jesús-Enrique Sierra-García and Nathalia-Michelle Peralta-Vásconez	Virtual
132	Improved Deep Learning-based Optical Mark Recognition for automated correction	Mohamed Labrassi and Aziz Ouaraab	Virtual
SS02a: Recent Advances in Generative Artificial Intelligence Room: Building C1-Salón de Grados 2, Time: 09:00-10:20 CET, 14th Nov.			
8	When to Use Discriminator Ensembles? Cross-Domain Evidence of Multi-Adversarial Learning	Benjamin Schindler, Melle Mendikowski, Thomas Schmid and Sam Verboven	
25	Using LLM Agents for Data Integration in Cybersecurity Incidents	Natalia Madrueño, Jaime Rueda, Javier García-Ochoa, Alberto Fernández-Isabel, Isaac Martín de Diego and Romy R. Ravines	
43	Towards an Evaluative AI Framework for Hypothesis-Driven Strategic Decision-Making in SMEs	Ginés Molina-Abril, Laura Calvet and Daniel Riera	
89	Automatic Evaluation of Hallucinations in Large Language Models with Semantic Inference	Teilor Castro and Alberto Fernández-Isabel	
SS02b: Recent Advances in Generative Artificial Intelligence Room: Building C1-Salón de Grados 1, Time: 17:10:40-18:10 CET, 14th Nov.			
125	Multi-Dependence Conditional Vector - Boosting Categorical Fidelity in Tabular-Data GANs	Melle Mendikowski, Benjamin Schindler, Thomas Schmid, Ralf Möller and Mattis Hartwig	Virtual
6	Reputation: Generative Bootstrapping	Peter Mitic	Virtual
115	Personalized and Age-Appropriate Speech Synthesis for Nonverbal Children Using Diffusion-Based Voice Cloning and Parametric Vocoding	Kevin Landázuri, Miguel Benavides, Eduardo Cepeda, Fernando Villalba, Cesar Guevara and Diego Almeida	Virtual
SS03: The 2nd International Workshop on Anomaly Detection with Machine Learning Room: Building C1-Salón de Grados 2, Time: 09:00-10:20 CET, 14th Nov.			
58	VQ-GCAE: Vector-Quantized Graph Convolutional Autoencoder for Early Anomaly Detection in Multivariate Time Series	Gwanpil Kim and Jason Jung	Virtual

96	Toward Explainable Industrial AI: The Role of Knowledge Graphs	Sabri Manai, Szymon Bobek, Grzegorz J. Nalepa, Krzysztof Kutt, Luiz Do Valle Miranda and Jason J. Jung	Virtual
107	A Comparative Study of Machine Learning Models for Two-Tier Android Malware Classification with Dynamic Behavioral Analysis	Jorge Torres, Felipe Grijalva, David Chushig-Muzo, Luis Bote and Malena Loza	Virtual
116	Detecting IT Infrastructure Anomalies in Cold Start Scenarios	Aleksandra Vatian, Artem Beresnev, Natalia Gusarova and Artem Isakov	Virtual
57	Anomaly Detection in Wind Turbine Gearbox Vibrations Using Actor-Critic Reinforcement Learning and Bayesian Optimization	Dennys Coronel, Cesar Guevara and Matilde Santos	Virtual
SS04: Federated Learning, Intelligent Fusion and Applications (FLIFA) Room: Building C1-Salón de Grados 2, Time: 15:00-17:00 CET, 13th Nov.			
24	DeCoL-DSS: Integrating Decentralised Collaborative Machine Learning into Decision Support System	Sylvia Olbrych, Johanna Lauwigi, Hans Aoyang Zhou, Anas Abdelrazeq and Robert H. Schmitt	
102	Heterogeneous Communication in Decentralized Federated Learning	Jaime Andres Rincon Arango, Carlos Carrascosa, Giancarlo Lucca and Cedric Marco-Detchart	
88	IoT Cyberattack Detection in microcontrollers	Sara Abejón, Jaime Andrés Rincón and Daniel Urda	
87	Towards Intelligent and Immersive Healthcare: Edge-AI, IoMT, and Digital Twins in the Metaverse	Cedric Marco Detchart, Leticia Elena Curiel Herrera, Daniel Urda Muñoz and Jaime Andres Rincon Arango	
71	Evaluating Open-Source Language Models for Sensitive Content Detection in Social Media	Carmengelys Cordova García, Aaron Pico Pascual, Elena del Val Noguera and Joaquin Taverner Aparicio	Virtual
112	Deep Reinforcement Learning for Client Selection and Resource Allocation in Federated Learning: A Comprehensive Survey	Mohammed Amir Messioud, Abdelhamid Malki and Samir Ouchani	Virtual
SS05a: Workshop on Intelligent Decision and Recommender Systems Room: Building C1-Salón de Grados 1, Time: 15:00 -17:00 CET, 13th Nov.			
38	The Impact of Contexts in Contextual Matrix Factorization Models	Alejandro Bellogin	
53	Fuzzy Logic for Layer-wise Explainability in Deep Neural Networks: A First Approach	Arturo Fernández-Mora, Juan Moreno-Garcia, David Muñoz-Valero and Luis Martínez	
92	Advancing Sustainable Tourism Recommendations through Innovative Hierarchical Evaluation and Data Acquisition Methods	Monir Yahya Salmony, Antonio Moreno and Aida Valls	
118	Mitigating overfitting in recommender systems via intra-domain transfer learning	Eva Blanco-Mallo, Pablo Pérez-Núñez, Veronica Bolón-Canedo and Beatriz Remeseiro	
31	Empirical Comparison of Four Recommendation Models for Course Selection	Diego Cheuquepán-Maldonado and Jordi Escayola Mansilla	
133	Post-hoc recommendation explanations in e-learning: An empirical study using fuzzy tools	Ouahiba Remadnia, Raciél Yera, Rosa M. Rodríguez and Faiz Maazouzi	
SS05b: Workshop on Intelligent Decision and Recommender Systems Room: Building D1- Sala de Juntas, Time: 09:00 -10:20 CET, 14th Nov.			
35	A comparative fairness study in news recommendation systems	Marta Salcedo Serrano and Alejandro Bellogin	
138	GREX: A platform for supporting explanations in grouprecommender systems	Mateus Toledo, Raciél Yera, Manuel J. Barranco, Bapi Dutta	
143	Feature-Importance Aware Deep Neural Network Model for Explainable Recommender Systems	Pragya Gupta, Aishwaryaprajna Aishwaryaprajna, Debashree Guha and Debjani Chakraborty	Virtual
63	Monte Carlo-based Interval TOPSIS for Navigating Decision Support Under Uncertainty	Jingda Ying, Christian Wagner, Isaac Triguero and Shaily Kabir	Virtual
SS06a: Artificial Intelligence Applied to Image Analysis Room: Building D1- Sala de Juntas, Time: 11:00-13:00 CET, 13th Nov.			
145	Dynamic Feature Filtering for Robust Monocular Visual SLAM	Marton Gonczy, Kieran Wood and Hujun Yin	
97	Assessing olive tree detection performance in UAV images	Pablo Latorre-Hortelano, Francisco Daniel Pérez-Cano, David Jurado-Rodríguez and Gema Parra-Cabrera	
82	Hybrid Machine Vision-Digital Twin Approach for Quality Control	Sergio Illana-Rico, Silvia Satorres-Martínez, Elisabet Estévez-Estévez, Alejandro Sánchez-García and Diego Manuel Martínez-Gila	
77	Defect Segmentation in OCT scans of ceramic parts for non-destructive inspection using deep learning	Andrés Laveda-Martínez, Natalia P. García-de-la-Puente, Fernando García-Torres, Niels Møller Israelsen, Ole Bang, Dominik Brouczek, Niels Benson, Adrián Colomer and Valery Naranjo	Virtual

29	Severity Classification of Lumbar Spine Degeneration in Radiographic Images Using 3D Voxel Grids and Vision Transformers	Le Dinh Huynh, Truong Cong Doan and Phan Duy Hung	Virtual
39	EquiNet: Fair and Robust Blood Pressure Estimation	Nguyen Dinh Hieu, Do Ngoc Bich and Phan Duy Hung	Virtual
SS06b: Artificial Intelligence Applied to Image Analysis Room: Building C1-Salón de Grados 1, Time: 17:30 -18:30 CET, 13th Nov.			
70	AI-Assisted Endometriosis Diagnosis: A Multi-CNN Laparoscopic Image Analysis	Dayana Murillo, Salomé Verdugo, Anthony Anrango, Luis Zhinin-Vera, Cesar Guevara, Lenin Ramírez-Cando, Carolina Cadena, Diego Almeida Galárraga, Paulo Navas, Andrés Tirado Espín and Fernando Villalba Meneses	Virtual
67	RGB-Based Olive Variety Classification Using Deep Learning	Alba Gómez-Liébana and Lidia Ortega Alvarado	Virtual
129	Automated Eucalyptus Inventory: Comparison of Manual, CHM and LiDAR Methods	Daniela Freire, Adimara Colturato, Luis Pelin, Vesa Palmu, Cristiano Reis and Andre de Carvalho	Virtual
SS08a: Trustworthy and Explainable Artificial Intelligence: an interdisciplinary perspective Room: Building C1-Salón de Grados 2, Time: 11:00-13:00 CET, 13th Nov.			
66	A practical framework for auditing fairness in medical AI	Andreea Madalina Oprescu, Jorge Vindel-Alfageme, Erik Campos-Espinosa, Marta Caro-Martínez, Belén Díaz-Agudo, Mcarmen Romero-Ternero and Juan A. Recio-García	
73	Uncovering & Correcting XAI's Misconceptions -- Logic to the Rescue	Joao Marques-Silva	
79	Reducing Experimentation Training Overhead in Time Series Forecasting through LLM Adaptation	Manuel Germán Morales, Antonio Jesús Rivera Rivas, Maria Jose Del Jesus and Cristobal J. Carmona	
109	Personalized Counterfactual Explanations via Cluster-based Fine-tuning of GANs	Ahmed A. Fares and João Mendes Moreira	
46	Toward Insightful Evaluation of Speech-to-Text Technology using Explainable AI	Najla Althuniyan, Souad Larabi-Marie-Sainte, Lamia Berriche, Jalila Zouhair, Arwa A. Bawazir and Lubaba R. Raed	
111	Multi-Layer Trust and Privacy Architecture for Decentralized AI Systems	Jiban Kumar Ray and Sheikh Sharfuddin Mim and Doina Lagofatu	Virtual
SS08b: Trustworthy and Explainable Artificial Intelligence: an interdisciplinary perspective Room: Building C1-Salón de Grados 1, Time: 14:40-16:40 CET, 14th Nov.			
26	Semantic Synchronisation of Fuzzy Labels in Federated Evolutionary Fuzzy Systems: A Preliminary Study	María Asunción Padilla-Rascón, Ángel Miguel García-Vico and Cristobal J. Carmona	
14	Attribute Importance in Association Rule-Based Explanations for Time Series Forecasting	Ángela del Robledo Troncoso-García, M. Martínez-Ballesteros, F. Martínez-Álvarez and A. Troncoso	
94	Preliminary analysis of loss functions in generative model inversion attacks	Fernando Moreno Jiménez, Antonio Jesús Rivera Rivas, María Dolores Pérez Godoy and María José del Jesus Díaz	
83	Taxonomy and Evaluation of XAI Tools for Explainable Machine Learning	Paola Montenegro-Cantos, Aurora Ramírez, Carlos García-Martínez and José Raúl Romero	
128	Physics-Informed Neural Networks for modelling Rheumatoid Arthritis Progression	Daniela Freire, Guilherme Megeto, Lucas Gessoni, Irene Fantini, Ricardo Dutra, Heloisa Leão, Maira Pitta and André de Carvalho	Virtual
68	Explainable Multi-Fault Predictive Maintenance through Analysis of Wrong Predictions	Aurora Esteban, Aurora Ramírez, Carlos García-Martínez and Amelia Zafra	Virtual
SS09: Trustworthy and Intelligent Data Infrastructures: Distributed Ledger Technologies and Cybersecurity for automated Learning Systems Room: Building D1- Sala de Juntas, Time: 15:00-17:00 CET, 13th Nov.			
147	Evaluating AI Agents for Cyber Defense: A Comparison of Deep Reinforcement Learning and LLM Approaches	Hassan Chowdhry, Jaume Manero and Srini Sampalli	
141	A self-sovereign identity framework using blockchain for privacy-preserving data management	Manuel Garrido-Funez, Bruno Ramos-Cruz, Jessica Zaqueros-Martínez, Manuel José Barranco, Pedro J. Sánchez	
139	A real-time traceability system based on Blockchain and IoT technologies	Juan Antonio Torres De La Chica, Bruno Ramos-Cruz, Pedro José Sánchez and Luis Martínez	
146	Trustworthy Emergency Management in Radiation Oncology: A Blockchain-Powered System with AI and IoT Integration	Cristina Muñoz Higuera, Pilar Moreno Colmenero, Bruno Ramos Cruz, Jessica Zaqueros Martínez and Francisco José Quesada Real	
86	Governing Data Lakehouses – An Alternative Model	André Martins, Bruno Oliveira and Orlando Belo	Virtual
34	Guided and Federated RAG: Architectural Models for Trustworthy AI in Data Spaces	Carlos Mario Braga Ortuño, Manuel A. Serrano and Eduardo Fernandez-Medina	Virtual

SS10: Hybrid Intelligent Decision-Making: Integrating AI and MCDM for Real-World Applications			
Room: Building D1- Sala de Juntas, Time: 14:40-16:40 CET, 14th Nov.			
140	FC Assistant. Enhancing Squad Selection in EA SPORTS FC Ultimate Team with an Intelligent Decision Support System	Juan Carlos Vargas Camacho, Francisco José Quesada Real and Álvaro Labella Romero	
144	Intelligent multicriteria classification of EFTs	Pavel Anselmo Alvarez Carrillo, Manuel Muñoz, María Bernal and Tanya García	
48	Statistical–Fuzzy Hybrid Framework for Handling Uncertainty in Medical Data Processing	Zulmary Carolina Nieto Sánchez and Antonio José Bravo Valero	Virtual
114	Application of Machine Learning Methods for Classification of Appeals in the Field of Housing and Communal Inspection	Denis Skvortsov, Andrey Lemanov and Dmitriy Fedorov	Virtual
124	Towards Bitcoin Trend Prediction: A Machine Learning Approach Using Blockchain-Derived Data	Arthur Bubolz, Marcos Freitas, Giancarlo Lucca, Rafael Berri, Eduardo Borges and Bruno Dalmazo	Virtual
18	Machine Learning vs. Randomness: Challenges in Predicting Binary Options Movements	Gabriel M. Arantes, Rafael Berri, Giancarlo Lucca, Bruno Dalmazo, Eduardo Borges, Richard Pinto, Viviane Mattos and Fabian Cardoso	Virtual