

Program of IFSA-NAFIPS 2025

Saturday, August 16

8:00-8:40 am Registration

8:40-9:00 am Opening

Plenary Talk 1

9:00-10:00 am **Human-in-the-loop XAI: a Natural Playground for Fuzzy Logic**

Marie-Jeanne Lesot, Sorbonne Université – LIP6, Paris, France

Chair: Sabrina Senatore

10:00-10:20 am Break

10:20-12:20 am Parallel Sessions Sa1A-Sa1D

Session Sa1A: Human Aspects of Fuzzy: Emotions, Humor, Expert Opinions

Chairs: Guy De Tre and Jan Stocklasa

10:20-10:40 am Modeling Emotional Uncertainty with Intuitionistic Fuzzy Sets

Ruba Almahasneh, Boldizsár Tuu-Szabó, and László Kóczy

10:40-11:00 am Fuzzy-Based Emotion Analysis with Fuzzy Sets

Ruba Almahasneh, Boldizsár Tuu-Szabó, and László Kóczy

11:00-11:20 am Computational Humor with LLMs: Knowledge of Stereotypes and Joke Competence

Julia Rayz

11:20-11:40 am Towards a more lossless representation of expert evaluations in distance-based multiple-criteria multi-expert evaluation problems through the idea of a fuzzy valued distance

Jana Stoklasová, Jan Stoklasa, and Pasi Luukka

11:40-12:00 pm Fuzzy sets as summaries of multi-expert evaluations a search for directions in multi-expert inputs treatment

Alisa Lancaster, Jan Stoklasa, and Shahid Bhat

12:00-12:20 pm Ranking L-grades for Veracity Handling in Logic Reasoning

Maxime Deforche and Guy De Tre

Session Sa1B: Candidates for the Best Student Paper Award

Chairs: Timothy Arnett and Jingtao Yao

- 10:20-10:40 am LLM-as-a-Fuzzy-Judge: Fine-Tuning Large Language Models as a Clinical Evaluation Judge with Fuzzy Logic
Weibing Zheng, Laura Turner, Jess Kropczynski, Murat Ozer, Tri Nguyen, and Shane Halse
- 10:40-11:00 am A Novel Interpretable Fuzzy Model using Explainable Lifelong Streaming Learning
Yang Li, Chu Kiong Loo, and Wei Shiung Liew
- 11:00-11:20 am Game-theoretic Shadowed Sets for Reliable Pet Activity Classification
Harsh Mendpara and Jingtao Yao
- 11:20-11:40 am Hybrid Genetic Fuzzy-LQR Controlled Robotic Manipulator for In-Space Servicing
Nathan Steffen, Wilhelm Louw, Nicholas Ernest, Timothy Arnett, and Kelly Cohen
- 11:40-12:00 pm Fuzzy Logic-Based Scheduling System for Part-Time Workforce
Tri Nguyen and Kelly Cohen
- 12:00-12:20 pm Improving Psychiatric Consultation Prediction through Feature Engineering and SHAP-Based Feature Selection
Tri Nguyen, Wilhelm Louw, and Kelly Cohen

Session Sa1C: Classification and Clustering

Chairs: Barbara Pekala and Pasi Luukka

- 10:20-10:40 am Mutual information-based feature redundancy weighting for local means fuzzy k-nearest neighbor
Mahinda Mailagaha Kumbure and Pasi Luukka
- 10:40-11:00 am Combining ensemble feature selection and ensemble feature weighting for fuzzy k-nearest-neighbor classification
Christoph Lohrmann and Mahinda Mailagaha Kumbure
- 11:00-11:20 am Improving Partially Supervised Hidden Markov Models with Soft Labels from Temporal Fuzzy Clustering
Filip Wichrowski and Katarzyna Kaczmarek-Majer
- 11:20-11:40 am Utilization of VAT for Hot-start of TSP solutions
Scott Phillips and Kelly Cohen
- 11:40-12:00 pm Data-Driven Player Role Classification in Football Using Fuzzy C-Means Clustering
Bartłomiej Grzelak, Tomasz Górecki, Barbara Pękala, and Krzysztof Dyczkowski
- 12:00-12:20 pm A fuzzy clustering-based tour construction heuristic for the Capacitated Vehicle Routing Problem
Boldizsár Tuu-Szabó, Ruba Almahasneh, Peter Foldesi, and Laszlo T. Koczy

Session Sa1D: online talks

Chairs: Piotr Jabłoński and Patryk Zywica

- 9:00-9:20 am FOCUS: Fuzzy-Optimized Chunk Understanding and Selection for Retrieval-Augmented Generation Performance
Maciej Czajka, Konrad Pierzyński, and Piotr Jabłoński
- 9:20-9:40 am Fuzzy similarity as a foundation of imprecise cognitive process
Joanna Siwek, Konrad Pierzynski, and Patryk Zywica

12:20-1:50 pm Lunch

Plenary Talk 2

1:50-2:50 pm **Fuzzy Sets Turn Sixty: Time for a Health Check-up**

Bernard De Baets, KERMIT, Department of Data Analysis and Mathematical Modelling Ghent University, Ghent, Belgium

Chair: Vladik Kreinovich

2:50-3:00 pm Break

3:00-5:00 pm Parallel Sessions Sa2A-Sa2C

Session Sa2A: Machine Learning

Chairs: Chang-Shing Lee and Jin Hee Yoon

3:00-3:20 pm 2-additive Choquet distances

Adnan Theerens, Yvan Saeys, and Chris Cornelis

3:20-3:40 pm Fuzzy Estimation Agent with Knowledge Graph and Quantum Fuzzy Inference Engine for Taiwanese-English Co-Learning

Chang-Shing Lee, Mei-Hui Wang, Chao-Cyuan Yue, Guan-Ying Tseng, and Yusuke Nojima

3:40-4:00 pm Fractional Loss Functions in Neural Networks: A New Perspective on Learning Dynamic

Zahra Alijani and Vojtech Molek

4:00-4:20 pm Fuzzy SVM Based on Iterative Multi-Criteria Classification with Normalized-Distance Reciprocal Membership Functions

Jin Hee Yoon, Yoo Young Koo, Wonkyung Lee, and Dae Jong Kim

4:20-4:40 pm A First Investigation on Automated Machine Learning for Optimized Fuzzy Transform-based Compression

Jan Timko, Stefania Tomasiello, Radwa El Shawi, and Taysan Gedara

Session Sa2B: Candidates for the Best Paper Awards

Chairs: Uzay Kaymak and John Salisbury

3:00-3:20 pm Jailbreak Detection in Clinical Training LLMs Using Feature-Based Predictive Models

Tri Nguyen, Lohith Srikanth Pentapalli, Magnus Sieverding, Laurah Turner, Seth Overla, Weibing Zheng, Chris Zhou, David Furniss, Danielle Weber, Michael Gharib, Matt Kelleher, Michael Shukis, Cameron Pawlik, and Kelly Cohen

3:20-3:40 pm Energy-Efficient Multimodal Framework for Fake News Detection

Tayasan Milinda Hewadaunda Gedara, Vincenzo Loia, Stefania Tomasiello, and Nadeeka Malkanthi Kiringoda Arachchige

3:40-4:00 pm Benchmarking a Gradient-Optimized Fuzzy Classifier Against State-of-the-Art Models

Magnus Sieverding, Nathan Steffen, and Kelly Cohen

4:00-4:20 pm Phishing Detection with an Explainable Gradient-Optimized TSK Fuzzy Model

Lohith Srikanth Pentapalli, Jon Salisbury, Josette Riep, and Kelly Cohen

4:20-4:40 pm Explainable Fuzzy GNNs for Leak Detection in Water Distribution Networks

Qusai Khaled, Pasquale De Marinis, Moez Louati, David Ferras, Laura Genga, and Uzay Kaymak

Session Sa2C: Explainable AI

Chairs: Scott Dick and Sabrina Senatore

- 3:00-3:20 pm Introduction of an Explanation Interface for a Deep Neuro-Fuzzy Inference System
Mojtaba Yeganejou, Scott Dick, Neda Sharifzadeh, and Michael Lipsett
- 3:20-3:40 pm An Explainable Outlier Detection Framework for Noisy Training Removal from a Fuzzy Explanation Interface
Rozan Charadoli, Mojtaba Yeganejou, and Scott Dick
- 3:40-4:00 pm Interpretable Fuzzy Multi-Agent Architecture for Precision Agriculture: Enhancing Adaptability, Transparency, and Farmer Trust
Wilhelm Louw, Jared Burton, Tushar Kulkarni, and Kelly Cohen
- 4:00-4:20 pm A Fuzzy-GA Decision-Support Model for Interpretable Urban Housing Valuation
Barbara Cardone, Ferdinando Di Martino, and Sabrina Senatore
- 4:20-4:40 pm Partial Interpretable Models using a Fuzzy Classifier and Random Forest
Yusuke Nojima, Ayato Tomofuji, Eric Vernon, and Naoki Masuyama
- 4:40-5:00 pm Using the lenses of interpretability for analyzing FRBMs trained on electronic health records
Lynn Pickering, Yusuke Nojima, Kelly Cohen, and Bernard De Baets

- 5:00-5:20 pm Break
- 5:20-6:40 pm Parallel Sessions Sa3A-Sa3C

Session Sa3A: Decision Making

Chairs: Francisco Javier Cabrerizo and Jan Stoklasa

- 5:20-5:40 pm Quantification of uncertainty of TOPSIS derived ranking using De Luca Termini Entropy and Fuzzy Variance
Zoheb Rahman, Jan Stoklasa, and Matteo Brunelli
- 5:40-6:00 pm From Moderation to Collaboration: Integrating Large Language Models in Group Consensus Processes
Ignacio Javier Pérez, Ruben Heradio, Sergio Alonso, and Francisco Javier Cabrerizo
- 6:00-6:20 pm A Consensus Model For Group Decision-Making Based on Granular Computing and Blockchain
Juan Carlos González-Quesada, Ignacio Javier Perez, Francisco Mata, and Francisco Javier Cabrerizo
- ***6:20-6:40 pm CONSBOT – A Platform for Experimenting with the Consensus Reaching Models under Imprecise Information
Janusz Kacprzyk, Maciej Wysocki, and Slawomir Zadrozny

Session Sa3B: Medicine

Chairs: Julia Rayz and Vinícius Wasques

- 5:20-5:40 pm A Fuzzy Set framework for modeling near-wall regions of 4D Flow MRI velocimetry
Caroline Althouse, Julia Rayz, and Vitaliy Rayz
- 5:40-6:00 pm Efficient Bound Propagation Applied to Fuzzy Trees for Verification of Breast Cancer Classification
Jared Burton and Kelly Cohen

6:00-6:20 pm A case study for melanoma image segmentation using thresholding, k-means and fuzzy C-means methods
Beatriz Borges and Vinícius Wasques

6:20-6:40 pm Deep Learning for Detecting Diabetic Retinopathy
Thanh-Minh-Tam Nguyen, Thi-Thu-Huong Tran, Huu-Tien Nguyen, and Hoang-Phuong Nguyen

Session Sa3C: Control

Chairs: Svetlana Asmuss and Petr Musilek

5:20-5:40 pm Intelligent Control Strategies for DSTATCOM: A Comparative Analysis of PI, Fuzzy-PI, and ANFIS-Based Controllers
Eveth Gonzalez and Petr Musilek

5:40-6:00 pm On the concept of value of information provided by expert-based system for optimal control under uncertainty
Svetlana Asmuss, Olga Grigorenko, Dmitry Gromov, and Mārtiņš Zemlītis

6:00-6:20 pm Fuzzy logic enabled assured autonomy for air traffic control
Hugo Henry, Bharadwaj Dogga, Nicholas Ernest, and Kelly Cohen

***6:20-6:40 pm Genetic Algorithm Optimization of Fuzzy Inference System for AI Controller in Asteroids Derived Game
Garrison Wettengel

7:00-9:00 pm Welcome Reception

Sunday August 17

8:00-8:30 am Registration

Plenary Talk 3

8:30-9:30 am **Fuzzy Pattern Recognition in Data Analysis**

Sansanee Auephanwiriyakul, Computer Engineering Department, Biomedical Engineering Institute
Chiang Mai University, Chiang Mai, Thailand

Chair: Yusuke Nojima

9:30-9:50 am Break

Panel 1

9:50-11:20 am **Why industry finds Fuzzy based systems attractive and incorporating them in current/future products**

Coordinator: *Nick Ernest*, Chief Architect, Thales Avionics, The Thales Group

Panelists:

- *Maxim Serezhin*, Founder, Chairman and CEO, Cybernetic Intelligence
- *Jon Salisbury*, Founder & CEO, NEXIGEN
- *Tushar Kulkarni*, Founder & CEO, Big Kitty Labs
- *John Walker*, Technical Director, FLX UK, Thales Group
- *Hank Hudepohl*, Founder & COO, Brandrank

11:20-12:20 pm Parallel Sessions Su1A-Su1C

Session Su1A: Energy Engineering

Chairs: Christoph Lohrmann and Wilhelm Louw

11:20-11:40 am A Fuzzy-CNN Hybrid Model for Real-Time Fault Detection and Classification in Distribution Grids

Fathima Razeeya Mohamed Razick and Petr Musilek

11:40-12:00 pm Fuzzy Dijkstra's algorithm for measuring uncertainty in energy infrastructure modelling

Christoph Lohrmann and Alena Lohrmann

12:00-12:20 pm Genetic Fuzzy Logic System for Optimal Control of Power Grid Demand Response Using Bitcoin Mining (Part 2)

Max Serezhin, Ivan Serezhin, Wilhelm Louw and Kelly Cohen

Session Su1B: Numerical Methods

Chairs: Michal Baczynski and Nilmara Pinto

11:20-11:40 pm Interactive Fuzzy Newton-Raphson Method for Finding Zeros of Fuzzy Function

Nilmara Pinto, Vinicius Wasques, and Washington Oliveira

- 11:40-12:00 pm Adaptive neuro-fuzzy inference system for determining and optimizing a fuzzy rule-based systems: application in drilling a well with good flow
Matheus Monteiro and Vinícius Wasques
- 12:00-12:20 am On the Threshold-Based Approximate Reasoning
Michał Baczynski and József Dombi

Session Su1C: Applications to Economics and Finance

Chairs Pasi Luukka and Petr Musilek

- 11:20-11:40 am Interval valued type-two possibility based real option valuation
Pasi Luukka, Jan Stoklasa, and Mikael Collan
- 11:40-12:00 pm Genetic Cascading Fuzzy Inferencing System for Interpretable Prediction of Forward-Looking Price-to-Earnings Ratio
Connor Horn and Kelly Cohen
- 12:00-12:20 pm Fuzzy-Enhanced LSTM Models for Short-Term Load Forecasting: A Case Study of a Tourism-Driven Rural Community
Adrian Barradas and Petr Musilek

12:20-1:50 pm Lunch

Plenary Talk 4

- 1:50-2:50 pm **Evolving Learning Frameworks for Adaptive Control and Monitoring in Different Application Areas**
Igor Škrjanc, Laboratory for Autonomous and Mobile Systems University of Ljubljana, Ljubljana, Slovenia
Chair: Marek Reformat

2:50-3:00 pm Break

3:00-5:00 pm Parallel Sessions Su2A-Su2C

Session Su2A: Fuzzy Education

Chairs: Christian Servin and Weibing Zheng

- 3:00-3:20 pm A Fuzzy Supervisor Agent Design for Clinical Reasoning Assistance in a Multi-Agent Educational Clinical Scenario Simulation
Weibing Zheng, Laura Turner, Jess Kropczynski, Murat Ozer, Seth Overla, and Shane Halse
- 3:20-3:40 pm Enhancing Understanding of Responsible AI through Video Assignment: Follow-up study
Palak Shah and Kelly Cohen
- 3:40-4:00 pm Reducing Student Distraction Through Fuzzy Logic Based Seating Arrangements
Garrett Olges and Kelly Cohen
- 4:00-4:20 pm Can Fuzzy Logic Match Human Insight? A pilot study towards bias-free syllabi
Palak Shah, Lohith Srikanth Pentapalli, Josette Riep, and Kelly Cohen

- 4:20-4:40 pm How Sense of Belonging Affects Student Success
Christian Servin, Olga Kosheleva, and Vladik Kreinovich
- 4:40-5:00 pm Towards a Fuzzy Logic Framework for Modeling Sense of Belonging: An Application in Computer Science Education
Christian Servin, Jesus Ramirez, Emiliano Garcia, and J.J. Childress

Session Su2B: Fuzzy Techniques, Part 1

Chairs: László T. Kóczy and Vladik Kreinovich

- 3:00-3:20 pm “At Least k out of n ” under Fuzzy Uncertainty: Efficient Algorithm for General “And”-Operations
Julia Liepold, Olga Kosheleva, Vladik Kreinovich, and Klaus-Peter Adlassnig
- 3:20-3:40 pm Operations on Fuzzy Distribution Sets
Ildar Batyrshin, Luis A. Villa-Vargas, Nailya Kubysheva, Olga Kosheleva, Muhammad Ahmad, and Imre J. Rudas
- 3:40-4:00 pm Large Language Models, Seven Plus Minus Two Law, Fuzzy Logic, Zipf Law, and Principal Components Analysis of Word Embedding: How Is All This Possibly Related
Miroslav Svitek, Olga Kosheleva, and Vladik Kreinovich
- 4:40-4:20 pm Interactive Fuzzy Bernstein Polynomials
Vinícius Wasques, Nilmara Pinto, Washington Oliveira, and Vladik Kreinovich
- 4:20-4:40 pm The connection between entropy and inclusion measures for type-2 fuzzy sets
Francisco Javier Talavera, Carmen Torres-Blanc, Pedro Huidobro, Susana Cubillo, Pablo Hernandez, and Jorge Elorza
- 4:40-5:00 pm Masonry strength assessment applying an approach of fuzzy signatures with geometric structure
András Kaszás, Vanda O. Pomezanski, and László T. Kóczy

Session Su2C: Miscellaneous

Chairs: Vilem Novak and Marek Reformat

- 3:00-3:20 pm Addressing some problems of mining time series using fuzzy modeling methods
Vilém Novák
- 3:20-3:40 pm LLM-based Fuzzy Information Retrieval in GraphRAG System
Yongfan Wang and Marek Reformat
- 3:40-4:00 pm GraphRAG System: Confidence and Fuzzy Implication in Retrieved Context
Michal Baczynski and Marek Reformat
- 4:00-4:20 pm A monotone nonparametric fuzzy regression method
William Chung
- 4:20-4:40 pm SIMREG: Similarity-based nearest neighbor regression method
Pasi Luukka and Mahinda Mailagaha Kumbure
- 4:40-5:00 pm Fuzzy Decisions on Fluid Instabilities: Autoencoder-Based Reconstruction Meets Rule-Based Anomaly Classification
Bharadwaj Dogga, Gibin Raju, Wilhelm Loww, and Kelly Cohen

- 5:00-5:20 pm Break
- 5:20-6:40 pm Parallel Sessions Su3A-Su3C

Session Su3A: Fuzzy Techniques, Part 2

Chairs: Jesus Medina and Martin Stepnicka

- 5:20-5:40 pm On-Policy Optimization of ANFIS Policies Using Proximal Policy Optimization
Kaaustaub Shankar, Wilhelm Louw, and Kelly Cohen
- 5:40-6:00 pm Adding relational data sets from fuzzy formal concept analysis
Roberto G. Aragón, Jesús Medina, and Samuel Molina-Ruiz
- 6:00-6:20 pm Lower boundary approach to partial fuzzy logics - meeting the residuated lattice properties
Nhung Cao and Martin Stepnicka
- 6:20-6:40 pm Fuzzy Rule-based Knowledge Acquisition from Solutions of Constrained Problems
Yusuke Nojima, Renji Ono, and Naoki Masuyama

Session Su3B: Interval Uncertainty, Part 1

Chairs: Juan Carlos Figueroa-García and Chenyi Hu

- 5:20-5:40 pm How do we sort an interval-valued dataset?
Chenyi Hu
- 5:40-6:00 pm A new approach from Deif Method in the Interval Principal Component Analysis
Lucas Monte, Weldon Lodwick, and Ricardo Coelho
- 6:00-6:20 pm Random Simulation of the Interval TOPSIS method
Juan Carlos Figueroa-García, Roman Neruda, Yurilev Chalco-Cano, and Carlos Franco
- 6:20-6:40 pm Relation between Multiplication and Division of Linearly Interactive Intervals and Fuzzy Numbers
Petra Stevuliakova and Zahra Alijani

Session Su3C: Applications, Part 1

Chairs: Ricardo Coelho and Kelly Cohen

- 5:20-5:40 pm Academic-Administrative Efficiency of Brazilian Federal Universities (IFES) in Northeast Brazil: A Fuzzy Multi-criteria Approach
Maria Aline Freitas Barreto, Joao De Deus Mendes Da Silva, and Ricardo Coelho
- 5:40-6:00 pm Brand Health Prognostics: A Fuzzy Logic Approach
Hank Hudepohl and Kelly Cohen
- 6:00-6:20 pm Fuzzy-RRT for Obstacle Avoidance in a 2-DOF Semi-Autonomous Surgical Robotic Arm
Kaaustaub Shankar, Wilhelm Louw, Bharadwaj Dogga, Nick Ernest, Tim Arnett, and Kelly Cohen
- 6:20-6:40 pm Adaptive CLIK Control for Robotic Arm Capture of Tumbling Satellites Via Genetic Fuzzy Trees
Nathan Steffen, Sarah Hudson, Hugo Henry, and Kelly Cohen

- 7:00-9:00 pm Dinner meeting of industry representatives with NAFIPS and IFSA Leadership

Monday August 18

8:30-9:00 am Registration

Plenary Talk 5

9:00-10:00 am **Data fusion**

Humberto Bustince, Dpt. Automatica y Computacion, Universidad Publica de Navarra (UPNa), Pamplona, Spain

Chair: Kelly Cohen

10:00-10:20 am Break

Panel 2

10:20-11:50 am **On the Role of Fuzzy Systems in making AI more Responsible**

Coordinator: *Kelly Cohen*, Brian H. Rowe Endowed Chair & Director, AI Bio Lab, Digital Futures, University of Cincinnati

Panelists:

- *Josette Riep*, Chair, Enablement Community of Practice & Assistant Vice-President, Digital Technology Solutions, University of Cincinnati, & Board Member, Cincinnati AI Catalyst
- *Scott Phillips*, Vice Nerd & Head of Engineering, NEXIGEN
- *John Cavanaugh*, Founder & Executive Director, Plunk Foundation
- *Adam Phillips*, Managing Partner at Capital Advisory Ventures, a boutique consulting firm based in Washington, DC, New York, and Boston
- *Wilhelm Louw*, Founder & CEO, Pyramidion, new startup in Fuzzy Logic-based AI

Highlighted Talk

11:50-12:20 pm Research talk

by *Juan Carlos Figueroa Garcia*, Recipient of the 2024 NAFIPS Early Career Award

Chair: Julia Rayz

12:20-1:50 pm Lunch

1:50-3:20 pm NAFIPS Annual Meeting and IFSA Assembly, everyone is welcome

3:30-6:30 pm Excursion (time tentative)

6:30-9:30 pm Banquet (time tentative)

Tuesday August 19

8:30-9:00 am Registration

Plenary Talk 6

9:00-10:00 am **A Data-Knowledge Unified Environment in Machine Learning: A Perspective of Granular Computing**
Witold Perdydz, Department of Electrical and Computer Engineering, University of Alberta, Edmonton, Canada
Chair: Vilem Novak

10:00-10:20 am Break

10:20-12:00 pm Parallel Sessions Tu1A-C

Session Tu1A: Interval Uncertainty, Part 2

Chairs: Vladik Kreinovich and Christian Servin

10:20-10:40 am Why Interval-Valued (and Type-2) Fuzzy Methods Are Often More Effective
Christian Servin, Olga Kosheleva, and Vladik Kreinovich

10:40-11:00 am Why Convex Combinations of Interval Endpoints: Related Explanations for Cases of Data Processing and Decision Making
Christian Servin, Olga Kosheleva, and Vladik Kreinovich

11:00-11:20 am For Which Activation Functions, Any Neural Network Is Equivalent to a Takagi-Sugeno Fuzzy System with Constant or Linear Outputs?
Barnabas Bede, Olga Kosheleva and Vladik Kreinovich

11:20-11:40 am Why u^m and $u \cdot \log(u)$ Are the Most Effective Nonlinear Functions in Fuzzy Clustering: Theoretical Explanation of the Empirical Fact
Olga Kosheleva, Vladik Kreinovich, and Yuchi Kanzawa

11:40-12:00 pm Why F-transform is more effective than a general convolution
Tam Pham, Irina Perfilieva, Olga Kosheleva, and Vladik Kreinovich

Session Tu1B: Fuzzy Techniques, Part 3

Chairs: Fabian Castiblanco and Sabrina Senatore

10:20-10:40 am Introducing the Stigmergic Miner, a temporal extension of the Fuzzy Miner based on computational stigmergy
Mario G. C. A. Cimino, Francesco Hudema, Sabrina Senatore, Francesco Lupi, Pierfrancesco Foglia, and Cosimo Antonio Prete

10:40-11:00 am A validation function for fuzzy partitions
Fabian Castiblanco, Javier Montero, J. Tinguaro Rodríguez and Daniel Gómez

Section Tu1C: Applications, Part 2

Chairs: Kelly Cohen and Sangmoon Lee

10:20-10:40 am Enhancement of Safety in Aviation utilizing Fuzzy-based AI Systems

Lucía Vilar Nuô, Hugo Henry, Bharadwaj Dogga, Wilhelm Louw, and Kelly Cohen

10:40-11:00 am Integrating Fuzzy Logic into Reinforcement Learning for Action Correction in Quadruped Locomotion

Chanwook Jeon and Sangmoon Lee

11:00-11:20 am Biomechanical Intelligence: Hierarchical Genetic Fuzzy Systems for Wearable-Based Osteoarthritis Risk Prediction

Ruchika Pissay and Kelly Cohen

11:20-11:40 am Fuzzy Interpretability in Brain Tumor Classification: A Comparative Perspective

Henry Hudepohl, Hugo Henry, Wilhelm Louw, and Kelly Cohen

12:00-12:20 pm Closing

12:20-1:50 pm Lunch