

MDAI 2019
modeling decisions



**The 16th International Conference on
Modeling Decisions for Artificial Intelligence
Milan, September 4 – 6, 2019**

Università degli Studi di Milano-Bicocca
Building U4, Room 08 (“Aula Luisella Sironi”)
Piazza della Scienza, Milan, Italy

<http://www.mdai.cat/mdai2019>



September 4th, 2019

09:00 – 10:00 Registration

10:00 – 10:30 Opening (U4 - Room 08 “Aula Luisella Sironi”)

10:30 – 11:30 Plenary (U4 - Room 08 “Aula Luisella Sironi”). Prof. Jérôme Lang

Chair: Gabriella Pasi

Incomplete Knowledge in Computational Social Choice

11:30 – 12:00 Coffee Break

12:00 – 13:00 Parallel sessions

Session A. Aggregation Operators I (U4 - Room 08 “Aula Luisella Sironi”)

Chair: Yuji Yoshida

Fuzzy Confirmation Measures (a)symmetry properties

Emilio Celotto, Andrea Ellero, Paola Ferretti

Betweenness spaces: morphism and aggregation functions

Marta Cardin

Set-based extended functions

Radko Mesiar, Anna Kolesárová, Adam Šeliga, Javier Montero, Daniel Gómez

Session B. Clustering I (U3 – Room 04)

Chair: Tomoharu Nakashima

On Application of Entropy Regularized Fuzzy c-Varieties Method with Noise Terms to Distribution Route Setting Problem

Satoru Ota, Yasunori Endo, Tsutomu Suzuki

On Collaborative Filtering with Possibilistic Clustering for Spherical Data Based on Tsallis Entropy

Yuchi Kanzawa

k-medoids Clustering based on Kernel Density Estimation and Jensen-Shannon Divergence

Yukihiro Hamasuna, Yuto Kingetsu, Shusuke Nakano

13:00 – 14:30 Lunch

14:30 – 15:30 Parallel sessions

Session A. Fuzzy Measures and Integrals (U4 - Room 08 “Aula Luisella Sironi”)

Chair: Marta Cardin

Derivative for discrete Choquet integrals

Yasuo Narukawa, Vicenç Torra

General Chebyshev type inequality for seminormed fuzzy integral

Michal Boczek, Anton Hovana, Ondrej Hutník

Convergence in measure theorems of the Choquet integral revisited

Jun Kawabe

Session B. Data Science I (U3 – Room 04)

Chair: Marco Viviani

A Non-Negative Matrix Factorization for Recommender Systems Based on Dynamic Bias

Wei Song, Xuesong Li

Forecasting water levels of Catalan reservoirs

Raül Parada, Jordi Font, Jordi Casas-Roma

A predictive model for microRNA expressions in pediatric Multiple Sclerosis detection

Gabriella Casalino, Giovanna Castellano, Arianna Consiglio, Maria Liguori, Nicoletta Nuzziello, Davide Primiceri

15:30 – 16:00 Coffee Break

16:00 – 17:00 Parallel sessions

Session A. Fuzzy Measures and Integrals – Applications (U4 - Room 08 “Aula Luisella Sironi”)

Chair: Jun Kawabe

Relations between Normalized Interval Vector and Belief Functions

Masahiro Inuiguchi

An Approach to Interaction Analysis of Pains using Onomatopoeia and the Fuzzy Measure

Takaaki Nakagawa

Choquet-integral Centrality Using the Maximum Cardinality of Stable Sets

Yoshifumi Kusunoki, Vicenç Torra

Session B. Data Science II (U3 – Room 04)

Chair: Yuchi Kanzawa

Identifying Consumption Pattern Change During Extreme Climate Event from Bank Transactions Data

Miguel Nunez-del-Prado, Hugo Alatrasta-Salas, Vincent Gauthier, John Atkinson

The Quantitative Risk Analysis in Multimodal Freight Transportation System: An empirical study

Kwanjira Kaewfak, Van-Nam Huynh, Veeris Ammarapala, Chayakrit Charoensiriwath

Investigation of SAX-based approaches for handwriting characters recognition using mobile device

Mariem Taktak, Slim Triki

September 5th, 2019

09:30 – 10:30 Plenary (U4 - Room 08 “Aula Luisella Sironi”). Prof. Salvatore Greco

Chair: Vicenç Torra

**As simple as possible but not simpler in Multiple Criteria Decision Analysis:
the robust stochastic level dependent Choquet integral approach**

10:30 – 11:30 Parallel sessions

Session A. Aggregation operators and Decision Making I (U4 - Room 08 “Aula Luisella Sironi”)

Chair: Martin Kalina

Aggregation operators based on a fuzzy metric introduced via multiple criteria evaluation

Pavels Orlovs, Svetlana Asmuss

Risk-Sensitive Markov Decision under Risk Constraints with Coherent Risk Measures

Yuji Yoshida

Individual, Coalitional and Structural Influence in Group Decision-making

Hang Luo

Session B. Data science III (U3 – Room 04)

Chair: Miguel Nunez-del-Prado

An infinite replicated Softmax model for topic modeling

Nikolas Alexander Huhnstock, Alexander Karlsson, Maria Riveiro, H. Joe Steinhauer

Fake News Detection in Microblogging through Quantifier-guided Aggregation

Marco De Grandis, Gabriella Pasi, Marco Viviani

Multilayer Identification: combining n-grams, TI-ILF and Monge-Elkan in massive real time processing

Ignacio González, Alfonso Mateos

11:30 – 12:00 Coffee Break

12:00 – 13:00 Parallel sessions

Session A. Aggregation Operators II (U4 - Room 08 “Aula Luisella Sironi”)

Chair: Yasuo Narukawa

On idempotent n-ary uninorms

Jimmy Devillet, Gergely Kiss, Jean-Luc Marichal

On aggregation of risk levels using t-conorms

Maris Krastins

Uninorms and nullnorms and their idempotent versions on bounded posets

Martin Kalina

13:00 – 14:30 Lunch

14:30 – 15:50 Parallel sessions

Session A. Data Science IV (U4 - Room 08 “Aula Luisella Sironi”)

Chair: Kusunoki Yoshifumi

Evaluating Uncertainty in Pedestrian Simulation Models: The Entropy Map

Luca Crociani, Giuseppe Vizzari, Stefania Bandini.

An approach to the Analysis of group work aptitude using the “Group Egogram”

Hiroto Matsuki, Makoto Ohki

An construction to derivation method of the “Group Egogram” using the Stress method

Junta Iriguchi, Makoto Ohki

Anomaly Detection in Dynamic Networks: comparison and benchmarking

Alessandro Bregoli, Francesco Canonaco, Andrea Magrinelli

Session B. Privacy (U3 – Room 04)

Chair: Jordi Casas-Roma

De-identification for Transaction Data Secure against Re-identification Risk Based on Payment Records

Satoshi Ito, Reo Harada, Hiroaki Kikuchi

Efficient Near-Optimal Variable-Size Microaggregation

Jordi Soria-Comas, Josep Domingo-Ferrer, Rafael Mulero

Mitigating the Curse of Dimensionality in Data Anonymization

Jordi Soria-Comas, Josep Domingo-Ferrer

The impact of data anonymization on machine learning

Navoda Senavirathne, Vicenç Torra

15:50 – 16:20 Coffee Break

16:20 – 17:20 Parallel sessions

Session A. Data Science – Deep Learning (U4 - Room 08 “Aula Luisella Sironi”)

Chair: Seiki Ubukata

Applications of Different CNN Architectures for Dorsal Hand Vein Identification

Szidónia Lefkovits, László Lefkovits, László Szilágyi

Use of deep learning techniques for automatic summarization of video sequences

Nouha Dammak, Yassine BenAyed

19:00 – Walk (Navigli, Metro Station: Porta Genova) and dinner (Ristorante Boccino)

September 6th, 2019

10:00 – 11:00 Parallel sessions

Session A. Aggregation operators and Decision Making II (U4 - Room 08 “Aula Luisella Sironi”)

Chair: Masahiro Inuiguchi

Making Decisions with Knowledge Base Repairs

Rafael Peñaloza

Biases affecting Human Decision Making in AI-supported second opinion settings

Federico Cabitza

Programmed Inefficiencies in DSS-supported Human Decision Making

Federico Cabitza, Andrea Campagner, Davide Ciucci, Andrea Seveso

Session B. Data Science V (U3 – Room 04)

Chair: Hiroaki Kikuchi

Estimating Optimal Values for Intentional-Value-Substitution Learning

Takuya Fukushima, Taku Hasegawa, Tomoharu Nakashima

Analysing the Impact of Rationality on the Italian Electricity Market

Sara Bevilacqua, Célia da Costa Pereira, Eric Guerri, Frédéric Precioso, Claudio Sartori

Analysis of abstention in the elections to the Catalan Parliament by means of Decision Trees

Eva Armengol, Zaida Vicente

11:00 – 11:30 Coffee Break

11:30 – 12:30 Parallel sessions

Session A. Fuzzy Rule-Based Systems (U4 - Room 08 “Aula Luisella Sironi”)

Chair: Eva Armengol

Mamdani fuzzy rule-based system classification to partition urban systems

Barbara Cardone, Ferdinando Di Martino

Towards an adaptive defuzzification: using numerical Choquet integral

Vicenç Torra, Joaquin Garcia-Alfaro

Session B. Clustering II (U3 – Room 04)

Chair: László Szilágyi

A Study on Introducing Co-clustering Concept into Fuzzy Bag-of-Words Model

Katsuhiko Honda, Takuya Youkawa, Seiki Ubukata, Akira Notsu,

Noise Rejection Scheme for Rough Set-Based C-Means Clustering

Seiki Ubukata, Sho Sekiya, Akira Notsu, Katsuhiko Honda

An Evidential Clustering for Collaborative Filtering based on Users' Preferences.

Raoua Abdelkhalek, Imen Boukhris and Zied Elouedi

12:30 – 12:40 Closing ceremony (U4 - Room 08 “Aula Luisella Sironi”)

12:40 – 14:30 Lunch

Wi-Fi Access

The campus is covered by the **Eduroam wi-fi network**.

It is also possible to access the **University of Milano-Bicocca Wi-Fi network** with the following credentials:

Wi-Fi Name: unimib

Username: the one that has been sent to you via e-mail

Password: the one that has been sent to you via e-mail

Organization

General chairs:	Gabriella Pasi (University of Milano-Bicocca) Marco Viviani (University of Milano-Bicocca)
Program co-chairs:	Vicenç Torra (Maynooth University, Ireland) Yasuo Narukawa (Tamagawa University, Japan)
Advisory Board:	D. Dubois, J. Dujmovic, L. Godo, K. Hirota, J. Kacprzyk, S. Miyamoto, M. Sugeno, R. R. Yager
Program Committee:	Eva Armengol, Edurne Barrenechea, Gloria Bordogna, Humberto Bustince, Francisco Chiclana, Susana Díaz, Josep Domingo-Ferrer, Yasunori Endo, Zoe Falomir, Katsushige Fujimoto, Michel Grabisch, Enrique Herrera-Viedma, Aoi Honda, Van-Nam Huynh, Masahiro Inuiguchi, Simon James, Aránzazu Jurío, Yuchi Kanzawa, Petr Krajča, Marie-Jeanne Lesot, Xinwang Liu, Jun Long, Jean-Luc Marichal, Radko Mesiar, Andrea Mesiarová-Zemánková, Toshiaki Murofushi, Guillermo Navarro-Arribas, Jordi Nin, Pierangela Samarati, Sandra Sandri, H. Joe Steinhauer, László Szilágyi, Aida Valls, Zeshui Xu, Yuji Yoshida.

Organization chair: Fabio Stella (University of Milano-Bicocca)

Local organizing committee: Elias Bassani, Emanuele Cavenaghi, Magdalena Nikola, Francesco Stranieri

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Sponsorships

DISCO: Department of Informatics, Systems, and Communication



UNIMIB: University of Milano-Bicocca



Axioms MDPI: Axioms - Open Access Journal. Axioms sponsors a Best Paper Award.



EUSFLAT: European Society for Fuzzy Logic and Technology



ACIA: Associació Catalana d'Intelligència Artificial



SOFT: Japan SOciety for Fuzzy Theory and intelligent informatics



UNESCO Chair in Data Privacy

