
MDAI 2015
modeling decisions

**12th International Conference on
Modeling Decisions for
Artificial Intelligence**
Skövde, Sweden
September 21–23, 2015
<http://www.mdai.cat/mdai2015>

Monday September 21st (morning)

8:30 – 9:00 Registration

9:00 – 9:30 Opening

Room G110 Jörgen Hansson, Director, School of Informatics, U. of Skövde
Yasuo Narukawa, PC Chair
Vicenç Torra, PC and General Chair
Anders Dahlbom, Organization Chair

9:30 – 10:30 Plenary

Room G110 Preference Learning: Machine Learning meets Preference Modeling
Eyke Hüllermeier
University of Paderborn (Germany)
Chair: Vicenç Torra

10:30 – 11:00 Coffee

11:00 – 12:00 **Parallel Session A: Aggregation Operators and Decision Making**

Room G110 Chair: José Luis García-Lapresta
Weighted quasi-arithmetic mean on two-dimensional regions and their applications
Yuji Yoshida
Multi-Criteria portfolio evaluation ensuring fairness in crisis management
Bénédicte Goujon, Christophe Labreuche
On a Representation of Fuzzy Weigh for Triple Inner Dependence AHP
Shin-ichi Ohnishi, Takashi Furukawa, Takahiro Yamanoi

Room G111 Parallel session B: Clustering

Chair: Yasunori Endo
On Possibilistic Clustering Methods Based on Shannon/Tsallis-entropy for
Spherical Data and Categorical Multivariate Data
Yuchi Kanzawa
On Cluster Validity Measures based x-means
Yukihiro Hamasuna Yasunori Endo
A unified theory of fuzzy c-means clustering models with improved partition
Laszlo Szilagyí

12:00 – 13:30 Lunch (Götasalen)

Monday September 21st (afternoon)

13:30 – 14:30 Plenary

Room G110 **Game-Theoretic Approaches to Decision Making in Cyber-Physical Systems Security**

Weiru Liu

Queen's University Belfast (UK)

Chair: Masahiro Inuiguchi

14:30 – 15:30 Plenary

Room G110 **Statistical forecasting using belief functions**

Thierry Denoeux

Université de Technologie de Compiègne (France)

Chair: Yasuo Narukawa

15:30 – 16:00 Coffee

16:00 – 17:20 **Parallel session A: Clustering**

Room G110 Chair: Yukihiro Hamasuna

Spherical k-Means++ Clustering

Yasunori Endo, Sadaaki Miyamoto

A Note on Non-Hierarchical Linguistic-based clustering

Naohiko Kinoshita, Yasunori Endo, Yuchi Kanzawa, Sadaaki Miyamoto

Semi-Supervised Switching and Sequential Regression Models Based on Least Absolute Deviations

Hengjin Tang Sadaaki Miyamoto, Yasunori Endo

Reduction of Points for Clustering Network Data

Sadaaki Miyamoto, Yusuke Tamura, So Miyahara

Parallel Session B: Social networks and privacy

Room G111 Chair: Jun Long

An Evaluation of Edge Modification Techniques for Privacy-Preserving on Graphs

Jordi Casas-Roma

Co-Utile Collaborative Anonymization of Microdata

Jordi Soria-Comas, Josep Domingo-Ferrer

Generalization based k-anonymization

Eva Armengol, Vicenc Torra

Randomization of graphs preserving subgraphs and degrees

Julián Salas

18:30 – 21:00 Dinner Skövde Cultural Centre

Sällskapet | Skövde Kulturhus <http://sallskapetskovde.se/>

Tuesday September 22nd

8:45 – 9:25 **Parallel Session A: Logics**

Room G110 Chair: Eva Armengol

The Complexity of 3-Valued Łukasiewicz Rules
Miquel Bofill, Felip Manyà, Amanda Vidal, Mateu Villaret
Information Theory for Subjective Logic
Tim Muller, Dongxia Wang, Audun Jøsang

Parallel Session B: Computational intelligence and optimization

Room G111 Chair: Yuchi Kanzawa

Comparing Multi-Objective Approaches for Air Route Planning in Hostile Environments
Tina Erlandsson
Optimized and Parallel Query Processing in Similarity-based Databases
Petr Krajca

9:30 – 10:30 **Plenary**

Room G110 **Classifying large graphs with differential privacy**

Devdatt Dubhashi

Chalmers University of Technology (Sweden)

Chair: Anders Dahlbom

10:30 – 11:00 Coffee

11:00 – 12:00 **Parallel Session A: Fuzzy Integrals**

Room G110 Chair: Katsushige Fujimoto

A comparison of the GAI model and the Choquet integral w.r.t. a k-ary capacity
Christophe Labreuche, Michel Grabisch
Distances on non-additive measures using the numerical Choquet integral
Vicenç Torra, Yasuo Narukawa
Inclusion-exclusion integral
Aoi Honda, Yoshiaki Okazaki

Parallel Session B: Computational intelligence and optimization

Room G111 Chair: Petr Krajca

The Stochastic Quasi-Gradient Method for Solving Possibilistic-Probabilistic optimization problems
Yulia Egorova, Alexandr Yazenin
The important features of anomaly detection based on visual acquisition technology
Qijia Zhao, Jun Long, Feng Fang, Zhiping Cai
Hesitant fuzzy sets in medical application
Laya Aliahmadipour, Esfandiar Eslami, Mahdi Eftekhari

12:00 – 13:30 Lunch (Götasalen)

13:30 – 14:30 **Plenary**

Room G110 **Modeling the Complex Search Space of Data Privacy Problems**

Bradley A Malin

Vanderbilt University (USA)

Chair: Josep Domingo-Ferrer

15:30 – 23:00 Excursion to Läckö Castle (Departure 15:30 near Hotel Majoren)

Tour (from 17:00)

Dinner at Hvita Hjorten (19:00)

<http://www.lackoslott.se/>

Wednesday September 23rd

8:30 – 9:30 **Parallel session A: Preferences**

Room G110 Chair: Yuji Yoshida

Estimating unknown values in reciprocal intuitionistic preference relations
via asymmetric fuzzy preference relations

Francisco Chiclana, Raquel Ureña, Hamido Fujita, Enrique Herrera-Viedma

Handling Risk Attitudes for Preference Learning and Intelligent Decision Support

Camilo Franco, Jens Leth Hougaard, Kurt Nielsen

Representation of ordinal preferences over infinite products

Marta Cardin

Parallel session B: Data mining and decision making

Room G111 Chair: Jordi Casas-Roma

Semi-robust ordinal regression by an interval UTA method

M. Inuiguchi, A. Okumura, R. Slowinski, S. Greco

New results on hesitant fuzzy sets: score functions

Yasuo Narukawa, Vicenç Torra

The notion of Pre-aggregation functions

Giancarlo Lucca, José Antonio Sanz, Graçaliz Pereira Dimuro,

Benjamín Bedregal, Radko Mesiar, Anna Kolesárová, Humberto Bustince

9:30 – 10:30 **Plenary**

Room G110 **Privacy and Transparency for Decision Making**

Simone Fischer-Huebner

Karlstad University (Sweden)

Chair: Klara Stokes

10:30 – 11:00 Coffee

11:00 – 11:40 **Parallel session A: Aggregation Operators**

Room G110 Chair: Marta Cardin

Aggregating opinions in non-uniform qualitative scales

José Luis García-Lapresta and David Pérez-Román

Effective MVU via central prototypes and kernel ridge regression

Carlotta Orsenigo

11:40 – 12:00 Closing ceremony

Room G110

12:00 – 13:30 Lunch (Götasalen)