



CALL for Papers Special Session on:

“Learning from Static and Dynamic Data with Fuzzy Techniques”

To be organized at the [EUSFLAT 2013 Conference](#)
Milano, Italy, 11th to 13th of September 2013

by the [EUSFLAT working group on Machine Learning and Data Mining \(DAMI\)](#)

Organizers (alphabetically):

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Important Dates

- **March 1, 2013: Paper submission (through conference website)**
- May 1, 2013: Notification of acceptance
- June 15, 2013: Full paper submission

Aim

The special session on ***Learning from Static and Dynamic Data with Fuzzy Techniques*** to be held as part of the [EUSFLAT'2013](#) conference in Milano intends to provide an opportunity for researchers and practitioners to discuss the novelties pertaining to various issues in the field of fuzzy machine learning, to exchange ideas, concepts and approaches, and to identify promising future research directions in this field.

The special session is dedicated to new methods, algorithms and challenges in the field of extracting models, patterns and knowledge **from (static) data** using fuzzy methodologies (fuzzy logic, fuzzy sets

and fuzzy systems), which are connected with **machine learning and data-driven modelling** approaches.

A special emphasis will be placed on **learning methods from dynamic data**, where incremental learning of parameters, **evolving structures and adaptive knowledge extraction** play a central role to account for permanently changing system dynamics and emergence of new states of the system, operating conditions and environmental influences. Moreover, the application of these methods is also appealing when dealing with web mining, huge data bases or social networks, cloud computing, where data is expected to be that huge that it cannot be process at once in batch manner.

Scope

Topics of interest include but are not limited to:

- **Fuzzy Learning from Static Data**
 - - Data preprocessing
 - - Feature extraction and selection
 - - Handling of incomplete and heterogeneous data
 - - Learning predictive models
 - - Ordered, hierarchical and multi-label classification
 - - Preference learning and ranking
 - - Kernel-based methods
 - - Ensemble methods
 - - Multi-objective and multi-instance learning
 - - Data, text, and web mining methods
 - - Mining at multiple levels of abstraction,
 - - Database querying and ad-hoc data mining,

- **Fuzzy Learning from Dynamic Data**
 - *Novel fuzzy modelling methods in dynamic environments*
 - Adaptive fuzzy regression and classification techniques
 - Evolving fuzzy systems
 - Evolving rule-based classifiers
 - Evolving neuro-fuzzy systems
 - Evolving type-2 fuzzy systems
 - *Enhanced issues in dynamic fuzzy methods*
 - Techniques to address Concept Drift and Shift
 - On-line feature selection and weighting approaches
 - Stability, process-safety and computation aspects
 - Interpretability Issues
 - Active and semi-supervised learning

- **Real-World Applications**
 - On-Line Modelling and Identification,
 - Fault Detection and Quality Control
 - Database and Web Mining
 - Decision Support Systems
 - Image Classification, Visual Inspection
 - Robotics
 - Control Systems
 - Data Stream Mining and Adaptive Knowledge Discovery
 - Forecasting in Financial Domains, Time-Series Prediction