



Program

DS'08, 11th International Conference
Discovery Science
co-located with
ALT'08, 19th International Conference on
Algorithmic Learning Theory
Budapest, Hungary, October 13-16, 2008

Tutorials and invited talks are shared by ALT'08 and DS'08.

Monday October 13th

- 13:30-15:30** **Tutorial 1 by Saso Dzeroski**
Constraint-based data mining and inductive queries
- 15:30-16:00 Break
- 16:00-18:00** **Tutorial 2 by Joao Gama**
Mining from data streams: Issues and challenges
- 18:30-20:00 Steering Committee Meeting

Tuesday October 14th

- 9:00-10:00** **Invited Talk by Heikki Mannila**
Finding total and partial orders from data for seriation
Session chair: Jean-François Boulicaut
- 10:00- 10:15 Coffee break
- 10:15- 11:30** **Session Learning 1**
Session chair: Saso Dzeroski
- 10:15 Unsupervised Classifier Selection Based on Two-Sample Test
Timo Aho, Tapio Elomaa and Jussi Kujala
- 10:40 An Empirical Investigation of the Trade-Off Between Consistency and
Coverage in Rule Learning Heuristics
Frederik Janssen and Johannes Furnkranz
- 11:05 Ensemble-Trees: Leveraging Ensemble Power inside Decision Trees
Albrecht Zimmermann
- 11:30- 11:40 Short break

11:40- 12:30 Session Feature Selection

Session chair: Vincent Corruble

- 11:40 Smoothed Prediction of the Onset of Tree Stem Radius Increase Based on Temperature Patterns
Mikko Korpela, Harri Mäkinen, Mika Sulkava, Pekka Nojd, and Jaakko Hollmen
- 12:05 Feature Selection in Taxonomies with Applications to Paleontology
Gemma C. Garriga, Antti Ukkonen, and Heikki Mannila

12:30- 14:00 Lunch break

14:00- 15:00 Invited Talk by Tom Mitchell

Computational Models of Neural Representations in the Human Brain

Session chair: Michael Berthold

15:00- 15:10 Short break

15:10- 16:50 Session Learning 2

Session chair: Jaakko Hollmen

- 15:10 Empirical Asymmetric Selective Transfer in Multi-Objective Decision Trees
Beau Piccart, Jan Struyf and Hendrik Blockeel
- 15:35 A comparison between neural network methods for learning aggregate functions
Werner Uwents and Hendrik Blockeel
- 16:00 Learning Model Trees from Data Streams
Elena Ikononovska and Joao Gama
- 16:25 String Kernels Based on Variable-Length-Don't-Care Patterns
Kazuyuki Narisawa, Hideo Bannai, Kohei Hatano, Shunsuke Inenaga and Masayuki Takeda
- 16:50- 17:10 Coffee Break

17:10- 18:25 Session Learning and chemistry

Session chair: Heikki Mannila

- 17:10 Active Learning for High Throughput Screening
Kurt De Grave, Jan Ramon, and Luc De Raedt
- 17:35 Mining Graph Intervals to Extract Characteristic Reaction Patterns
Frederic Pennerath, Geraldine Polailon, and Amedeo Napoli
- 18:00 An Efficiently Computable Graph-based Metric for the Classification of Small Molecules
Leander Schietgat, Jan Ramon, Maurice Bruynooghe, and Hendrik Blockeel

19:00- Business Meeting

Wednesday October 15th

9:00-10:00 Invited Talk by Lazlo Lovasz

Some Mathematics behind Graph Property Testing

Session chair: Janos Csirik

10:00- 10:15 Coffee break

10:15- 11:30 Session Discovery processes

Session chair: Hiroshi Motoda

10:15 A Framework for Knowledge Discovery in a Society of Agents
Gauvain Bourgne and Vincent Corruble

10 :40 Learning from each other
Christopher Dartnell, Eric Martin, and Jean Sallantin

11:05 Comparative Evaluation of Two Systems for the Visual Navigation of Encyclopedia
Knowledge Spaces
Wolfgang Kienreich and Peter Kraker

11:30- 11:40 Short break

11:40- 12:30 Session Association Rules

Session chair: Daniel Keim

11:40 Deduction Schemes for Association Rules
Jose L. Balcazar

12:05 Constructing Iceberg Lattices from Frequent Closures Using Generators
Laszlo Szathmary, Petko Valtchev, Amedeo Napoli, and Robert Godin

12:30- 14:00 Lunch break

14:00-15:00 Invited Talk by Daniel Keim

Visual Analytics: Combining Automated Discovery with Interactive Visualizations

Session chair: Tamas Horvath

15:00- 15:10 Short break

15:10- 16:50 Session Clustering

Session chair: Joao Gama

15:10 Refining Pairwise Similarity Matrix for Cluster Ensemble Problem with Cluster Relations
Natthakan Iam-on, Tossapon Boongoon, and Simon Garrett

15:35 An Integrated Graph and Probability Based Clustering Framework for Sequential Data
Haytham Elghazel, Tetsuya Yoshida, and Mohand-Said Hacid

16:00 Input noise robustness and sensitivity analysis to improve large datasets clustering by
using the GRID
Alberto Faro, Daniela Giordano, and Francesco Maiorana

16:25 Cluster analysis in remote sensing spectral imagery through graph representation and
advanced SOM visualization
Kadim Tasdemir and Erzsebet Merenyi

16:50- 17:10 Coffee break

17:10- 18:25 “Impromptu talks”

Any participant can propose to give a short talk within this session

19:00- Banquet

Thursday October 16th

9:00 -10:00 **Invited Talk by Imre Csiszar**

On Iterative Algorithms with an Information Geometry Background

Session chair: Laszlo Györfi

10:00- 10:15 Coffee Break

10:15- 11:30 **Session Structured data**

Session chair: Jose Balcazar

10:15 Mining Unordered Distance-constrained Embedded Subtrees

Fedja Hadzic, Henry Tan, and Tharam Dillon

10:40 A Modeling Approach using Multiple Graphs for Semi-Supervised Learning

Akihiko Izutani and Kuniaki Uehara

11:05 Finding Frequent Patterns from Compressed Tree-structured Data

Seiji Murakami, Koichiro Doi, and Akihiro Yamamoto

11:30- 11:40 Short break

11:40- 12:30 **Session Text Analysis**

Session chair: Amedeo Napoli

11:40 A probabilistic neighbourhood translation approach for non-standard text categorization

Ata Kaban

12:05 Unsupervised Spam Detection by Document Complexity Estimation

Takashi Uenura, Daisuke Ikeda, and Hiroki Arimura

12:30- 14:00 Lunch break

14:00- 15:00 **Adjorn**