



POLITECHNIKA

Warsaw University of Technology, June 26 -29

ISMIS 2017

Conference Agenda

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Monday, 26.06.2017

8:30-9:10	Registration	
9:10-9:30	ISMIS 2017 Opening	133
9:30-10:30	Plenary talk 1 (Chair: Annalisa Appice) 133 <i>Professor Paola Mello</i> Abductive Reasoning on Compliance: A Balance between Flexibility and Regulation	
10:30-11:30	Plenary talk 2 (Chair: Marzena Kryszkiewicz) 133 <i>Professor Osmar R. Zaiane</i> Classification by Association	
11:30-11:50	Coffee break	
11:50-13:10	Machine Learning I Chair: Andrzej Skowron 133	Big Data Analytics and Stream Data Mining Chair: Martin Atzmueller 118
	Actively Balanced Bagging for Imbalanced Data, <i>Jerzy Blaszczynski and Jerzy Stefanowski</i>	Scalable Framework for the Analysis of Population Structure Using the Next Generation Sequencing Data, <i>Anastasiia Hryhorzhevska, Marek Wiewiórka, Michał Okoniewski and Tomasz Gambin</i>
	A Comparison of Four Classification Systems Using Rule Sets Induced from Incomplete Data Sets by Local Probabilistic Approximations, <i>Patrick G. Clark, Cheng Gao and Jerzy W. Grzymala-Busse</i>	Modification to K-Medoids and CLARA for Effective Document Clustering, <i>Phuong T. Nguyen, Kai Eckert, Azzurra Ragone and Tommaso Di Noia</i>
	Robust Learning in Expert Networks: A Comparative Analysis, <i>Ashiqur Khudabukhsh, Jaime Carbonell and Peter Jansen</i>	Co-training Semi-supervised Learning for Single-target Regression in Data Streams Using AMRules, <i>Ricardo Sousa and João Gama</i>
	Efficient All Relevant Feature Selection with Random Ferns, <i>Miron B. Kursa</i>	Time-series Data Analytics Using Spark and Machine Learning, <i>Patcharee Thongtra and Alla Sapronova</i>
13:10-14:40	Lunch	
14:40-16:00	Knowledge-Based Systems Chair: Henryk Rybinski 133	Granular and Soft Clustering for Data Science Chair: Pawan Lingras 118
	Rule-Based Reasoning with Belief Structures, <i>Lukasz Bialek, Barbara Dunin-Keplicz and Andrzej Szalas</i>	Scalable Machine Learning with Granulated Data Summaries: A Case of Feature Selection, <i>Agnieszka Chadzyska-Krasowska, Paweł Betlinski and Dominik Ślęzak</i>
	Combining Machine Learning and Knowledge-Based Systems for Summarizing Interviews, <i>Angel Luis Garrido, Oscar Cardiel, Andrea Aleyxendri and Ruben Quilez</i>	Clustering Ensemble for Prioritized Sampling Based on Average and Rough Patterns, <i>Matt Triff, Ilya Pavlovski, Zhixing Liu, Lori-Anne Morgan and Pawan Lingras</i>
	Validity of Automated Inferences in Mapping of Anatomical Ontologies, <i>Milko Krachunov, Peter Petrov, Maria Nisheva and Dimitar Vassilev</i>	C&E Re-clustering: Reconstruction of Clustering Results by Three-way Strategy, <i>Pingxin Wang, Xibei Yang and Yiyu Yao</i>



	An Experiment in Causal Structure Discovery. A Constraint Programming Approach, <i>Antoni Ligęza</i>	Multi-criteria based Three-way Classifications with Game-theoretic Rough Sets, <i>Yan Zhang and Jingtao Yao</i>
20:00-23:00	Welcome reception	

Tuesday, 27.06.2017

9:00-10:00	Plenary talk 3 (Chair: Zbigniew Raś) 133 <i>Professor Marek Rusinkiewicz</i> <i>Security of Cyber-Physical Systems</i>	
10:00-11:00	Machine Learning II 133 Chair: Hiroshi Motoda	Bioinformatics and Health Informatics I 118 Chair: Tomasz Gambin
	Pathway Computation in Models Derived from Bio-Science Text Sources, <i>Troels Andreassen, Henrik Bulskov, Per Anker Jensen and Jørgen Fisher Nilsson</i>	Multi-Level 3D Chromatin Interactions Prediction using Epigenomic Profiles, <i>Ziad Al Bkhetan and Dariusz Plewczynski</i>
	Evaluating difficulty of multi-class imbalanced data, <i>Mateusz Lango, Krystyna Napierala and Jerzy Stefanowski</i>	A Supervised Model for Predicting the risk of Mortality and Hospital Readmissions for Newly Admitted Patients, <i>Mamoun Almardini and Zbigniew W. Ras</i>
	Extending Logistic Regression Models with Factorization Machines, <i>Mark Pijenburg and Wojtek Kowalczyk</i>	An Expert System Approach to Eating Disorder Diagnosis, <i>Stefano Ferilli, Anna Maria Ferilli, Floriana Esposito, Domenico Redavid and Sergio Angelastro</i>
11:00-11:20	Coffee break	
11:20-13:00	Data Mining Methods 133 Chair: Tadeusz Morzy	Theoretical Aspects of Formal Concept Analysis: 118 Chair: Sergei O. Kuznetsov
	Selection of Initial Modes for Rough Possibilistic K-Modes Methods, <i>Asma Ammar and Zied Elouedi</i>	A Formal Context for Acyclic Join Dependencies, <i>Jaume Baixeries</i>
	Accelerating Greedy K-medoids Clustering Algorithm with L1 Distance by Pivot Generation, <i>Takayasu Fushimi, Kazumi Saito, Tetsuo Ikeda and Kazuhiro Kazama</i>	On Containment of Triclusters Collections Generated by Quantified Box Operators, <i>Dmitrii Egurnov, Dmitry Ignatov and Engelbert Mephu Nguifo</i>
	On the Existence of Kernel Function for Kernel- Trick of k-Means, <i>Mieczysław Kłopotek</i>	The Inescapable Relativity of Explicitly Represented Knowledge: an FCA Perspective, <i>David Flater</i>
	Using Network Analysis to Improve Nearest Neighbor Classification of Non-Network Data, <i>Maciej Piernik, Dariusz Brzezinski, Tadeusz Morzy and Mikolaj Morzy</i>	Blocks of the Direct Product of Tolerance Relations, <i>Christian Jaekel and Stefan Schmidt</i>



	An Accurate and Efficient Method to Detect Critical Links to Maintain Information Flow in Network, <i>Kazumi Saito, Kouzou Ohara, Masahiro Kimura and Hiroshi Motoda</i>	Viewing Morphisms Between Pattern Structures via Their Concept Lattices and via Their Representations, <i>Lars Lumpe and Stefan Schmidt</i>
13:00-14:30	Lunch	
14:30-15:30	Intelligent Information Systems I Chair: Alicja Wieczorkowska 133	Bioinformatics and Health Informatics II Chair: Dariusz Plewczynski 118
	User-based Context Modeling for Music Recommender Systems, <i>Imen Ben Sassi, Sadok Ben Yahia and Sehl Mellouli</i>	Multimodal System for Diagnosis and Polysensory Stimulation of Subjects with Communication Disorders, <i>Adam Kurowski, Piotr Ody, Piotr Szczuko, Michał Lech, Paweł Spaleniak, Bożena Kostek and Andrzej Czyzewski</i>
	Comparative Analysis of Musical Performances by Using Emotion Tracking, <i>Jacek Grekow</i>	Acute Kidney Injury Detection: An Alarm System to Improve Early Treatment, <i>Ana Nogueira, Carlos Ferreira and João Gama</i>
	On the Gradual Acceptability of Arguments in Bipolar Weighted Argumentation Frameworks with Degrees of Trust, <i>Andrea Paziienza, Stefano Ferilli and Floriana Esposito</i>	New Method of Calculating SRCM Chirality Measure, <i>Przemysław Szurmak and Jan Mulawka</i>
16:10	Guided tour	

Wednesday, 28.06.2017

9:00-10:00	Plenary talk 4 (Chair: Dominik Ślęzak) 133 <i>Professor Perfecto Herrera Boyer</i> Elements of Musical Intelligence for the Next Generation of Digital Musical Tools	
10:00-11:00	Deep Learning Chair: Antoni Ligęza 133	Formal Concept Analysis for Knowledge Discovery I Chair: Amedeo Napoli 118
	Continuous Embedding Spaces for Bank Transaction Data, <i>Ali Batuhan Dayıoğlu and Yusuf Sinan Akgül</i>	On-demand Generation of AOC-posets: Reducing the Complexity of Conceptual Navigation, <i>Alexandre Bazin, Jessie Carbonnel and Giacomo Kahn</i>
	Shallow Reading with Deep Learning: Predicting Popularity of Online Content Using Only its Title, <i>Wojciech Stokowiec, Tomasz Trzcinski, Krzysztof Wolk, Krzysztof Marasek and Przemysław Rokita</i>	From Meaningful Orderings in the Web of Data to Multi-level Pattern Structures, <i>Quentin Brabant, Miguel Couceiro, Amedeo Napoli and Justine Reynaud</i>
	Recurrent Neural Networks for Online Video Popularity Prediction, <i>Tomasz Trzcinski, Paweł Andruszkiewicz, Tomasz Bochenski and Przemysław Rokita</i>	On Locality Sensitive Hashing for Sampling Extent Generators, <i>Victor Codocedo and My Thao Tang</i>



11:00-11:20	Coffee break	
11:20-13:00	Mining Temporal, Spatial and Spatio-Temporal Data I Chair: Christoph F. Eick 133	Formal Concept Analysis for Knowledge Discovery II Chair: Jaume Baixeries 118
	OptiLocator: Discovering Optimum Location for a Business Using Spatial Co-location Mining and Spatio-Temporal Data, <i>Robert Bembenik, Jacek Sz waj and Grzegorz Protaziuk</i>	An application of AOC-posets: Indexing Large Corporuses for Text Generation under Constraints, <i>Alain Gutierrez, Michel Chein, Marianne Huchard and Pierre Pompidor</i>
	Activity Recognition Model Based on GPS Data, Points of Interest and User profile, <i>Igor Da Penha Natal, Rogerio Cordeiro and Ana Cristina Bicharra Garcia</i>	On Neural Networks Architecture Based on Concept Lattices, <i>Sergei O. Kuznetsov, Nurtas Makhazhanov and Maxim Ushakov</i>
	Extended Process Models for Activity Prediction, <i>Stefano Ferilli, Floriana Esposito, Domenico Redavid and Sergio Angelastro</i>	Query-based versus Tree-based Classification: Application to Banking Data, <i>Alexey Masyutin and Yuri Kashnitsky</i>
	Automatic Defect Detection by One-Class Classification on Raw Vehicle Sensor Data, <i>Julia Hofmockel, Felix Richter and Eric Sax</i>	Using Formal Concept Analysis for Checking the Structure of an Ontology in LOD: the Example of DBpedia, <i>Pierre Monnin, Mario Lezoche, Amedeo Napoli and Adrien Coulet</i>
	Visualizing Switching Regimes Based on Multinomial Distribution in Buzz Marketing Sites, <i>Yuki Yamagishi and Kazumi Saito</i>	A Proposal for Classifying the Content of the Web of Data Based on FCA and Pattern Structures, <i>Justine Reynaud, Mehwish Alam, Yannick Toussaint and Amedeo Napoli</i>
13:00-14:30	Lunch	
14:30-16:10	Mining Temporal, Spatial and Spatio-Temporal Data II Chair: Łukasz Skonieczny 133	ISMIS 2017 Data Mining Competition on Trading Based on Recommendations Chairs: Andrzej Janusz and Kamil Żbikowski 118
	Time-Frequency Representations for Speed Change Classification: a Pilot Study, <i>Alicja Wieczorkowska, Elzbieta Kubera, Danijel Korzinek, Tomasz Slowik and Andrzej Kuranc</i>	ISMIS 2017 Data Mining Competition: Trading Based on Recommendations, <i>Mathurin Ache, Andrzej Janusz, Kamil Żbikowski, Dominik Slezak, Marzena Kryszkiewicz, Henryk Rybinski and Piotr Gawrysiak</i>
	"Serial" versus "Parallel": a Comparison of Spatio-temporal Clustering Approaches, <i>Yongli Zhang, Sujing Wang, Amar Mani Aryal and Christoph F. Eick</i>	Predicting Stock Trends Based on Expert Recommendations Using GRU/LSTM Neural Networks, <i>Przemysław Buczkowski</i>
	Supporting the Page-Hinkley Test with Empirical Mode Decomposition for Change Detection, <i>Raquel Sebastião and José Maria Fernandes</i> <u>(paper from the special session Big Data Analytics and Stream Data Mining)</u>	Using Recommendations for Trade Returns Prediction with Machine Learning, <i>Ling Cen, Dymitr Ruta and Andrzej Ruta</i>



		Heterogeneous Ensemble of Specialised Models - A Case Study in Stock Market Recommendations, <i>Michał Kozielski, Katarzyna Dusza, Józef Flakus, Krzysztof Kozłowski, Sebastian Musiał and Bartłomiej Szwej</i>
		Algorithmic Daily Trading Based on Experts' Recommendations, <i>Andrzej Ruta, Dymitr Ruta and Ling Cen</i>
19:30-23:30	Gala dinner	

Thursday, 29.06.2017

9:00-11:00	Industrial Session I (Data Mining) Chair: Robert Bemberek	133	Industrial Session II (Complex Systems) Chair: Konrad Ciecierski	118
	ISMIS'17 Data Mining Competition: Trading Based on Recommendations - XGBoost Approach with Feature Engineering, <i>Katarzyna Baraniak</i>		Automatic Legal Document Analysis: Improving the Results of Information Extraction Processes using an Ontology, <i>María G. Buey, Cristian Román, Angel Luis Garrido, Carlos Bobed and Eduardo Mena</i>	
	An HMM-Based Framework for Supporting Accurate Classification of Music Datasets, <i>Alfredo Cuzzocrea, Enzo Mumolo and Gianni Vercelli</i>		High Performance Computing By the Crowd, <i>Nunziato Cassavia, Sergio Flesca, Michele Ianni, Elio Masciari, Giuseppe Papuzzo and Chiara Pulice</i>	
	Classification of Musical Genres by Means of Listening Tests and Decision Algorithms, <i>Aleksandra Dorochowicz, Piotr Hoffmann, Bożena Kostek and Agata Majdańczuk</i>		Zero-overhead Monitoring of Remote Terminal Devices, <i>Jerzy Chrzęszcz</i>	
	Fast Discovery of Generalized Sequential Patterns, <i>Marzena Kryszkiewicz and Łukasz Skonieczny</i>		Asynchronous Specification of Production Cell Benchmark in Integrated Model of Distributed Systems, <i>Wiktoria Daszczyk</i>	
	Seismic Attributes Similarity in Facies Classification, <i>Marcin Lewandowski and Łukasz Słonka</i>		Implementing the Bus Protocol of a Microprocessor in a Software-Defined Computer, <i>Grzegorz Mazur and Julia Kosowska</i>	
	Redefinition of Significance Measures Used for Discovering Sequential Patterns from Event-Based Spatio-Temporal Data, <i>Piotr S. Maciąg</i>		Event Processing and Analytics in SOA Architecture for Real Time Financial Decision System, <i>Dominik Ryżko and Paweł Gławiński</i>	
11:00-11:20	Coffee break			



11:20-13:00	Text and Web Mining Chair: Piotr Andruszkiewicz 133	Industrial Session III (Artificial Intelligence) Chair: Przemysław Rokita 118
	Semantic Enriched Short Text Clustering, <i>Marek Kozłowski and Henryk Rybicki</i>	Non-linear Forecasting of Energy Futures: Oil, Coal and Natural Gas, <i>Germán Creamer</i>
	Exploiting Web Sites Structural and Content Features for Web Pages Clustering, <i>Fabiana Lanotte, Fabio Fumarola, Donato Malerba and Michelangelo Ceci</i>	Implementation of Generic Steering Algorithms for AI Agents in Computer Games, <i>Mateusz Modrzejewski and Przemysław Rokita</i>
	Concept-enhanced Multi-view Co-clustering of Document Data, <i>Valentina Rho and Ruggero G. Pensa</i>	The Dilemma of Innovation–Artificial Intelligence Trade-off, <i>Mieczysław Muraszewicz</i>
	Filtering Decision Rules with Continuous Attributes Governed by Discretisation, <i>Urszula Stanczyk</i>	Can We Build Recommender System for Artworks Evaluation? <i>Cezary Pawłowski, Anna Gelich and Zbigniew Ras</i>
		Evolution Algorithm for Community Detection in Social Networks Using Node Centrality, <i>Krista Ritzman Žalik</i>
13:00-14:30	Lunch	
14:30-15:50	Intelligent Information Systems II: Chair: Wiktor Daszczuk 133	Industrial Session IV (Medical Applications) Chair: Mieczysław Muraszewicz 118
	Uncalibrated Visual Servo for the Remotely Operated Vehicle, <i>Chi-Cheng Cheng and Tsan-Chu Lu</i>	Unsupervised Machine Learning in Classification of Neurobiological Data, <i>Konrad Ciecierski and Tomasz Mandat</i>
	Automated Web Services Composition with Iterated Services, <i>Alfredo Milani and Rajdeep Niyogi</i>	Incorporating Fuzzy Logic in Object-Relational Mapping Layer for Flexible Medical Screenings, <i>Dariusz Mrozek and Bożena Małysiak-Mrozek</i>
	Automatic Defect Detection by Classifying Aggregated Vehicular Behavior, <i>Felix Richter, Oliver Hartkopp and Dirk C. Mattfeld</i>	Multimodal Learning Determines Rules of Disease Development in Longitudinal Course with Parkinson's Patients, <i>Andrzej Przybyszewski, Stanisław Szłufik, Piotr Habela and Dariusz Koziorowski</i>
	Automatic Speech Recognition Adaptation to the IoT Domain Dialogue System, <i>Maciej Zembruski, Heesik Jeon, Joanna Marhula, Katarzyna Beksa, Szymon Sikorski, Tomasz Latkowski and Paweł Bujnowski</i>	Comparison of Methods for Real and Imaginary Motion Classification from EEG Signals, <i>Piotr Szczuko, Michał Lech and Andrzej Czyżewski</i>
15:50-16:10	Coffee break	
16:10-17:10	Industrial Session V (Image Processing) Chair: Tomasz Trzciniński 133	Industrial Session VI (Text processing) Chair: Grzegorz Protaziuk 118
	Procedural Generation of Multilevel Dungeons for Application in Computer Games Using Schematic Maps and L-system, <i>Izabella Antoniuk and Przemysław Rokita</i>	Towards Entity Timeline Analysis in Polish Political News, <i>Katarzyna Baraniak and Marcin Sydow</i>



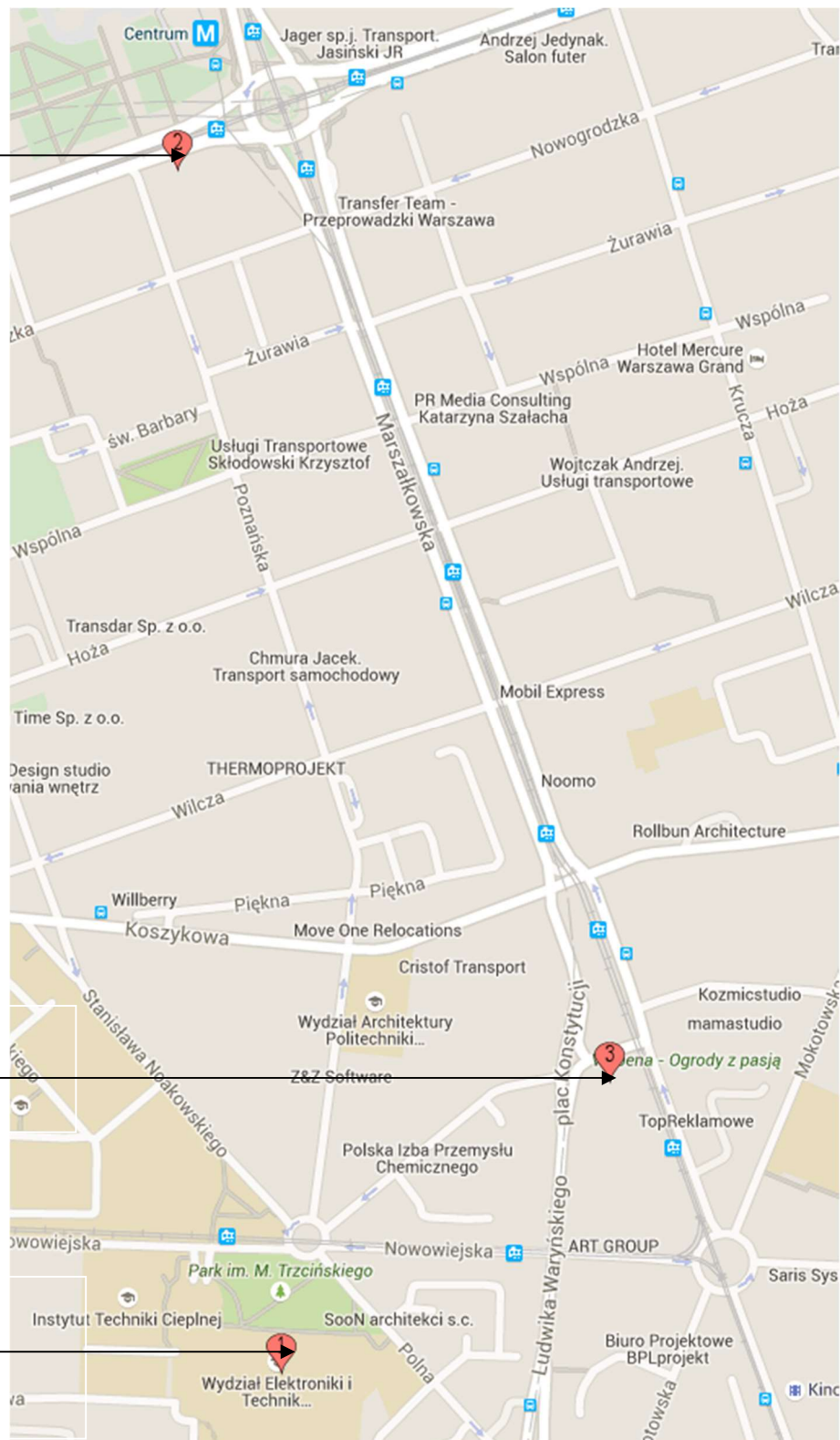
	Handwritten Signature Verification System Employing Wireless Biometric Pen, <i>Michał Lech and Andrzej Czyżewski</i>	To improve, or not to Improve; How Changes in Corpora Influence the Results of Machine Learning Tasks on the Example of Datasets Used for Paraphrase Identification, <i>Krystyna Chodorowska, Barbara Rychalska, Katarzyna Pakulska and Piotr Andruszkiewicz</i>
		Context Sensitive Sentiment Analysis of Financial Tweets: A New Lexicon Dictionary, <i>Narges S. Tabari and Mirsad Hadzikadic</i>
17:10	Closing	



Venues

Gala Dinner

Polonia Palace Hotel
Al. Jerozolimskie 45



Lunch, Welcome Reception

MDM Hotel
Plac Konstytucji 1

Conference

Faculty of Electronics and
Information Technology
Nowowiejska 15/19



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