MIKE 2014
THE SECOND INTERNATIONAL CONFERENCE ON
MINING INTELLIGENCE AND KNOWLEDGE EXPLORATION

Science Foundation Ireland Endorsed INDUSTRY WORKSHOP on Computational Creativity and Knowledge Discovery

VENUE: Clarion Hotel, Cork, Ireland

AGENDA

8.30AM - 9.15 AM - MIKE 2014 Registration and Networking

9:15 AM – 9:30 AM - Opening Address: University College Cork, Ireland

09:30 AM – 10:30 AM – Prof. Sudeshna Sakar, Indian Institute of Technology

Keynote Address: Harnessing Unstructured Data

Today, most data is unstructured and much of it is in text form. Over 90% of the data that exists today has been created in the last 2 years alone. This creates enormous issues for organisations. While there is a wealth of information online in websites, news, social media, reports, articles, an organisation needs to be able to effectively mine, analyse and harness this data to create business value. Extracting information from the vast body of unstructured data can facilitate organizational knowledge discovery and innovation. Professor Sarkar will discuss the important issues, challenges and solutions for organisation’s in order to enable them to successfully harness data to drive future innovations and competitive advantage.

10:30 AM – 11:10 AM – Dr. Silvio LaPorta, Lead Researcher, EMC Research Europe

Keynote Address: Working with Data – R&D in EMC An insight into the latest R&D initiatives and solutions emerging in the Data Business arena from EMC

11:10 AM – 11:30 AM - Coffee and Networking

11:30 Noon – 12:15 PM - Prof. Bjorn Gamback, NTNU, Trondheim, Norway

Keynote Address: Computational Linguistic Creativity: The Ultimate Artificial Intelligence Challenge or (Already) State-of-the-Art?

Professor Gamback will provide insights on how computers can themselves be creative, in designing and developing new products/services. He will discuss the current state of play of computational creativity as well as the future prospects and challenges of the field: What can we expect from present and future systems in terms of understanding, mimicking and producing innovations? What types of data, data processing and data access methods are needed? What are the potential economic benefits of this approach?

12:15 Noon - 1:00 PM Panel “Computational Creativity”

Members: Prof. Paolo Rosso, Prof. Bjorn Gamback, and Prof. Sudesha Sarkar

An interactive panel whereby the members will discuss how using approaches from Machine Learning, Information Retrieval, Social Networks and Business Intelligence can assist organisation’s in such tasks as:

- Understanding consumer behaviour
- Real time data processing techniques to extract specific information
- Smart Approaches to exploring unstructured textual data and visualization
- Data analytics to enable smart business decisions

1:00 PM - 2:00 PM - Lunch and Networking
Session - 1

14:00 - 14:25 hrs
45 - Rob Gleasure and Joseph Feller
Observations of Non-Linear Information Consumption in Crowdfunding

14:25 - 14:50 hrs
4 - Mohamed Ben Khalifa, Rebeca P. Díaz-Redondo, Ana Fernández Vilas, Rafael López Serrano and Sandra Servia-Rodríguez
Is there a crowd? Experiences in using Density-based Clustering and Outlier Detection

14:50 - 15:15 hrs
24 - Yongmou Li, Dianxi Shi, Bo Ding and Dongbo Liu
Unsupervised Feature Learning for Human Activity Recognition Using Smartphone Sensors

15:15 - 15:30 hrs: TEA Break

Session - 2

15:30 - 15:55 hrs
62 - Kathirvalavakumar Thangairulappan, Karthigai Selvi M and Palaniappan R
Efficient Handwritten Numeral Recognition System Using Leaders of Separated Digit and RBF Network

15:55 - 16:20 hrs
58 - Isis Bonet, Widerman Montoya, Andrea Mesa-Munera and Juan Fernando Alzate
Iterative Clustering Method for Metagenomic Sequences

16:20 - 16:45 hrs
53 - Olivier Janssens, Steven Verstockt, Erik Mannens, Sofie Van Hoecke and Rik Van de Walle
Influence of Weak Labels for Emotion Recognition of Tweets

16:45 - 17:10 hrs
8 - Ragunathan M and Vijayavel P
Design and Implementation of Key Distribution Algorithms of Public Key Cryptography for Group Communication in Grid Computing

End of the day
11 DECEMBER 2014

9:00 - 09:50 hrs – Keynote TALK

Prof. Paolo Rosso
Universitat Politècnica de València, València, Spain

**TITLE:** Author profiling in social media: age, gender and personality

**ABSTRACT:** Given a document, what are the author's traits? Is it possible to predict an author's demographics from her writing? May an author's style reveal her age and gender? Her personality? Her native language? Author profiling is the task that distinguishes between classes of authors studying their sociolect aspect, that is, how language is shared by people. This helps in identifying profiling aspects such as gender, age, personality type or native language. In this talk I will focus mainly on age and gender identification, also addressing the impact of emotions, although I will mention also other aspects such as personality recognition. At the end, I will give an overview of the author profiling state-of-the-art systems that participated in the 2013 and 2014 shared tasks that we organised at PAN on age and gender identification: http://pan.webis.de/. In 2015 the task will consider age, gender as well as personality in Twitter: http://personality.altervista.org/mypersonalitwit.htm

**Session - 3**

09:50 - 10:10 hrs

60 - Monika Joshi, Hui Wang and Sally McClean
Generating Object-Oriented Semantic Graph for Text Summarisation

10:10 - 10:30 hrs

15 - Anny Martínez, Marcelo Yannuzzi, René Serral-Gracià and Wilson Ramirez
Ontology-Based Information Extraction from the Configuration Command Line of Network Routers

10:30 - 10:50 hrs

18 - Richárd Farkas, András Dobó, Zoltán Kurai, István Miklós, Ágoston Nagy, Veronika Vincze and János Zsibrita
Information Extraction from Hungarian, English and German CVs for a Career Portal

10:05 - 11:05 hrs: TEA Break

**Session - 4**

11:05 - 11:25 hrs

20 - Sandeep Chougule, Trupti Dhat, Veena Deshmukh and Rahul Kelkar
Knowledge Acquisition for Automation in IT Infrastructure Support

11:25 - 11:45 hrs

13 - Evgenii Evseev and Ivan Kovalev
Fuzzy Cognitive Map of Research Team Activity

11:45 - 12:05 hrs

55 - Yvonne O'Connor, Timothy O’Sullivan, Joe Gallagher, Ciara Heavin and John O’Donoghue
Developing eXtensible mHealth Solutions for Low Resource Settings
12:05 - 12:25 hrs
64 - Dumitru Roman, Claudia Daniela Pop, Roxana Roman, Bjørn Magnus Mathisen, Leendert W. M. Wienhofen, Brian Elvesæter and Arne J. Berre
The Linked Data AppStore: A Software-as-a-Service Platform Prototype for Data Integration on the Web

12:25 - 12:45 hrs
66 - Shanmugavelan Velan

12:45 - 13:45 hrs - LUNCH Break

Session - 5

13:45 - 14:05 hrs
68 - Chaman L. Sabharwal and Jennifer L. Leopold
Qualitative Spatial Reasoning in 3D: Spatial Metrics for Topological Connectivity in a Region Connection Calculus

14:05 - 14:25 hrs
40 - Suet-Peng Yong, Said Jadid Abdulkadir, Maran Marimuthu and Fong-Woon Lai
Hybridization of Ensemble Kalman Filter and Non-linear Auto-regressive Neural Network for Financial Forecasting

14:25 - 14:45 hrs
57 - Silpi Borah and Hrishikesh Dewan
A Hybrid PSO model for solving Continuous p-median Problem

14:45 - 15:05 hrs
54 - Yassine Drias and Samir Kechid
Bees Swarm Optimization for Web Information Foraging

15:05 - 15:25 hrs
39 - Lebogang Mashiloane
Using Association Rule Mining to Find the Effect of Course Selection on Academic Performance in Computer Science I

15:25 - 15:40 hrs: TEA Break

Session - 6

15:40 - 16:00 hrs
14 - K. Rakesh and Rajarshi Pal
Detecting Background Line as a Pre-processing for Offline Signature Verification

16:00 - 16:20 hrs
29 - Sanjay Chatterji, Sreedhara G S and Maunendra Sankar Desarkar
An Efficient Tool for Syntactic Processing of English Query Text

16:20 - 16:40 hrs
30 - Sanjay Chatterji, Subrangshu Sengupta, Bagadhi Gopal Rao and Debarghya Banerjee
A Tool for Converting Different Data Representation Formats

16:40 - 16:50 hrs

33 - Zakaria Saoud, Samir Kechid and Radia Amrouni
Exploring Folksonomy Structure for Personalizing the Result Merging Process in Distributed Information Retrieval

16:50 - 17:10 hrs

2 - Trisevgeni Liontou
Focused Information Retrieval & English Language Instruction: A New Text Complexity Algorithm for Automatic Text Classification

19:00 – 23:00 hrs

**CONFERENCE BANQUET (Gala Dinner)**

END of the DAY
Prof. Nirmalie Wiratunga  
Robert Gordon University  
Aberdeen, Scotland, UK  

**TITLE: Supporting Decision Making with Social Media Mining**  
**ABSTRACT:** Social media when harvested carefully can inform better decision making. In this talk I will present a prototype system that combines classification and sentiment analysis algorithms to support the management of social media for the Aberdeen City Council. A novel semantic indexing scheme, supervised sub-spacing is employed to classify relevant social media content into services offered by the Council. Thereafter analysis of peoples’ opinions toward such services is possible using a lexicon-based sentiment analyser. A key innovation involves the dynamic generation of sentiment lexicons using the EM algorithm for opinion mining. Finally I will summarise our findings from comparative studies in classification and sentiment analysis.

**Session - 7**

09:50 - 10:10 hrs  
5 - Albert Pla, Jordi Coll, Natalia Mordvaniuk and Beatriz López  
Context-Aware Case-Based Reasoning

10:10 - 10:30 hrs  
35 - Chaman L. Sabharwal and Jennifer L. Leopold  
Modeling Cardinal Direction Relations in 3D for Qualitative Spatial Reasoning

10:30 - 10:45 hrs: TEA Break

**Session - 8**

10:45 - 11:05 hrs  
28 - Hai Thanh Nguyen, Martin Havig, Herman Schistad, Thomas Almenningen, Anders Kofod-Petersen, Helge Langseth and Heri Ramampiaro  
Learning to Rank for Personalized Fashion Recommender Systems via Implicit Feedback

11:05 - 11:25 hrs  
19 - Arohi Kumar, Amit Meher and Sudeshna Sarkar  
Personalized Search over Medical Forums

11:25 - 11:45 hrs  
16 - Ilyes Khennak, Habiba Drias and Hadia Mosteghanemi  
An Effective Term-ranking Function for Query Expansion Based on Information Foraging Assessment

11:45 - 12:05 hrs  
21 - Hai Nguyen and Anders Kofod-Petersen  
Using Multi-armed Bandit to Solve Cold-start Problems in Recommender Systems at Telco
12:05 - 12:25 hrs
47 - Chhabi Rani Panigrahi, Mayank Tiwari, Bibudhendu Pati and Rajendra Prasath
Malware Detection in Big Data Using Fast Pattern Matching: A Hadoop based Comparison on GPU

12:25 - 13:30 hrs: LUNCH Break

**Session - 9**

13:30 - 13:50 hrs
44 - Xiaoyun Wang and Lu Qian
An Improved Collaborative Filtering Model Based on Rough Set

13:50 - 14:05 hrs
65 - Anil Kumar Vuppala
Application of Zero-Frequency Filtering for Vowel Onset Point Detection

14:05 - 14:25 hrs
34 - Lida Barba and Nibaldo Rodríguez
Forecast of Traffic Accidents Based on Components Extraction and a Neural Network with Levenberg-Marquardt

14:25 - 14:45 hrs
49 - Fenglu Ge, Wayne Moore and Michael Antolovich
Convergence Problem in GMM related Robot Learning from Demonstration

14:45 - 15:10 hrs
31 - Turki Turki, Muhammad Amimul Ihsan, Nouf Turki, Jie Zhang, Usman Roshan and Zhi Wei
Top-k Parametrized Boost

41 - Raja Prakash, R Ponnuamy and J Pandurangan
Determining the Customer Satisfaction in Automobile Sector using the Intuitionistic Fuzzy Analytical Hierarchy Process

17 - Akilandeswari A and Sobha Lalitha Devi
Anaphora Resolution in Tamil Novels

22 - Ganesh Jayabal, Geetha TV, Ranjani Parthasarathi and Balaji J
Pattern based Bootstrapping Technique for Tamil POS Tagging

15:10 - 15:30 hrs: TEA Break

15:30 - 15:45 hrs

**Dr. Rajendra Prasath**
What's up? Next MIKE 2015

15:45 - 16:15 hrs

**CLOSING Ceremony - MIKE 2014**