



Challenge Track @ International KEYSTONE Conference

Challenge Track
Košice 11 – 12 May 2015

Sanda Martinčić-Ipšić
University of Rijeka



Challenge Track

- ▶ Any challenge in the scope of KEYSTONE project is welcome.
 - ▶ What open issues do you see?
 - ▶ What unresolved keyword search problems are you facing?
- ▶ **fully interactive session** on
 - ▶ **open issues and**
 - ▶ **research challenges**
 - ▶ in development of keyword search



Challenge Track

▶ GOAL

- ▶ foster **joint research ideas** and **proposals** which are needed in the KEYSTONE COST action
 - ▶ STSM networking
 - ▶ joint publications
 - ▶ new project proposals
- ▶ to **identify** interesting (i.e. open) **research issues**

▶ CONSTRAINT

- ▶ at least **2** members from **different** countries



Challenge Track

▶ Submissions

- ▶ **2 page abstracts** (LNCS format, Springer)
- ▶ authors will express their choice of preference
 - ▶ published at the web page of KEYSTONE Conference

▶ Presentations @ Challenge Track

- ▶ 5 minute talks +
- ▶ 10 minutes of feedback and in-depth discussion from the audience
- ▶ expected to accept **6 talks**

▶ Track chairs

- ▶ Sanda Martincic - Ipsic, University of Rijeka, HR
- ▶ Marko Horvat, Polytechnics of Zagreb, HR



Interactive part

Challenge Track

▶ 2 Posters

- ▶ Knowledge Representation Models / Linked Data
- ▶ Natural Language Processing / Information Retrieval
- ▶ not exhaustive list

▶ Each participant

- ▶ please write
 - ▶ **one open issue** (research question) regarding keyword search in structured data sources) and
 - ▶ **your name**



RESULTS

▶ **Tomorrow**

- ▶ presentation of open issues – grouped together
- ▶ encourage participants to start working on **abstracts / submissions** to Track Challenge



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Challenge Track Interactive Part Results

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Challenge Track

Interactive Part Results

- ▶ 40+ participants
- ▶ 40+ ideas
- ▶ grouped around 4 main topics on posters
 - ▶ **Linked Data**
 - ▶ **Knowledge Representation Models**
 - ▶ **Information Retrieval**
 - ▶ **Natural Language Processing**
 - ▶



Linked Data

- ▶ **Javier Fernandez**
 - ▶ Modelling Keywords in Standard Query languages (SPARQL)
 - ▶ Modeling Archives of Linked Data – general architecture
- ▶ **Gilles Falquet**
 - ▶ Keyword search over multiple SPARQL endpoints
- ▶ **Raquell Trillo Lado**
 - ▶ Translating Keyword Queries without knowing all Instances stored in the dataset
- ▶ **Antonio Farina**
 - ▶ generic Architecture for handling RDF stores (incompact/plain forms) and supporting SPARQL querying



Linked Data II

- ▶ Raquell Trillo Lado
 - ▶ Discovering the most relevant Data Sources for a Keyword Query
- ▶ Francesco Guerra
 - ▶ finding the best source according to the users keywords (NLP & IR techniques adopted)
- ▶ Omar Boucelma
 - ▶ keyword search on linked data
 - ▶ APPLICATION – keyword search as an efficient alternative to matchmaking
- ▶ John Breslin
 - ▶ keyword search on linked data from social media and /or sensors



Knowledge Representation Models

- ▶ Gorgon Dorian
 - ▶ combination of Keyword based search and
 - ▶ Visual human analytics (visual assisted keyword based)
- ▶ Peter Butka
 - ▶ How to use concept lattices for representation of query results for structured input datasets?
 - ▶ How to use such representations for visualization of results?
- ▶ Teodor Stefanut
 - ▶ Keyword based search results visualization
 - ▶ User expertise based search assistance
- ▶ Costantin Nadra
 - ▶ representing/indexing effectively multiple types of relevant information
- ▶ Julian Szymansky
 - ▶ sub symbolic representation s of a text



- ▶ Alexandre Miguel Pinto
 - ▶ Unsupervised learning of semantic topic models
- ▶ Gjorgji Madjarov
 - ▶ Knowledge based query expansion (domain knowledge)
- ▶ Tomche Delev
 - ▶ Knowledge based query expansion on known domain
- ▶ Marina Ivasic Kos
 - ▶ Knowledge based query expansion on domain knowledge
- ▶ Miran Pobar
 - ▶ Knowledge based query expansion on domain knowledge



- ▶ Julian Szymanski
 - ▶ Language models based on neural networks
- ▶ Marius Sajgalik & Maria Bielikova
 - ▶ Vector-based representation of words/documents in form of latent features
 - ▶ Semantic resolution
- ▶ Hussain Mahdi
 - ▶ How to combine bag-of-words and bag-of-concepts to achieve optimal text representation model
- ▶ Yaakov Hacoheh-Kerner
 - ▶ Text classification and clustering using key phrases



Information Retrieval

- ▶ Victor Bacu
 - ▶ Big data challenges – distributed approaches in IR
- ▶ Atanas Hristov
 - ▶ Keyword search over social media data
- ▶ Hubert Zarzycki
 - ▶ Identifying familiar strangers in social ne

- ▶ Sanda Martincic-Ipsic
 - ▶ Graph enabled keyword extraction
- ▶ Yannis Velegrakis
 - ▶ Keyword queries on graphs



- ▶ **Nicola Ferro**
 - ▶ Correlation between online/offline evaluation ?user
 - ▶ Information Unit to be retained for evaluating keyword-search
- ▶ **Wouter Addink**
 - ▶ Aging of data: combining data and assessing fitness for use difficult
- ▶ **Sergio Ilarri**
 - ▶ Design and evaluation of context aware recommendation systems
- ▶ **Andreas Nurnberger**
 - ▶ Interactive structuring and exploration



Information Retrieval / NLP

- ▶ **Mihai Lupu**
 - ▶ How to extract facts from scientific and technological publications?
 - ▶ Distributional semantics as a tool to support human annotations and information extraction
- ▶ **Raquel Amaro**
 - ▶ Explore ontologies, semantics and syntactic knowledge already in lexical resources in a specific semantic keyword-based search



Natural Language Processing

- ▶ Elena Demidova
 - ▶ Alignment of multilingual information to support retrieval in multilingual data collection
- ▶ Javier Lacasta
 - ▶ Multilingual data/keyword integration for IR
 - ▶ alignment /translation of keywords for multilingual search system
 - ▶ Language dependent vs. language independent data collections
- ▶ Ranka Stanković
 - ▶ multilingual search and summarization
- ▶ Hussain Mahdi
 - ▶ How to best approach the problem of keyword disambiguity as applied to different languages
- ▶ Yaakov Hacoheh-Kerner
 - ▶ POS (part-of-speech) characterization of words in keyphrases



- ▶ Dragan Ivanovic
 - ▶ Adaptive user profiling for personalized keyword search on structured data sources
 - ▶ Resolving ambiguity of queries
- ▶ Francesco Guerra
 - ▶ User profiling based on keywords
- ▶ Georgia Kapitsaki
 - ▶ Utilizing linked data (and various sources of information) to create context profiles (for users, Devices, applications) extending user modelling concepts

- ▶ Olivera Kitanovic
 - ▶ Geotaging of textual resources



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