SIXTH INTERNATIONAL WORKSHOP ON
HEALTH TEXT MINING AND
INFORMATION ANALYSIS
(LOUHI)

Proceedings of the workshop

17 September 2015
Lisbon, Portugal
Preface

The Sixth International Workshop on Health Text Mining and Information Analysis provides an interdisciplinary forum for researchers interested in automated processing of health documents. Health documents encompass electronic health records, clinical guidelines, spontaneous reports for pharmacovigilance, biomedical literature, health forums/blogs or any other type of health related documents. The Louhi workshop series fosters interactions between the Computational Linguistics, Medical Informatics and Artificial Intelligence communities. It started in 2008 in Turku, Finland and has been organized five times: Louhi 2010 was co-located with NAACL in Los Angeles, CA; Louhi 2011 was co-located with Artificial Intelligence in Medicine (AIME) in Bled, Slovenia; Louhi 2013 was held in Sydney, Australia during NICTA Techfest; and Louhi 2014 was co-located with EACL in Gothenburg, Sweden.

The aim of the Louhi 2015 workshop is to bring together research work on topics related to text mining of health documents, particularly emphasizing multidisciplinary aspects of health documentation and the interplay between nursing and medical sciences, information systems, computational linguistics and computer science. The topics include, but are not limited to, the following Natural Language Processing techniques and related areas:

- Techniques supporting information extraction, e.g. named entity recognition, negation and uncertainty detection
- Classification and text mining applications (e.g. diagnostic classifications such as ICD-10 and nursing intensity scores) and problems (e.g. handling of unbalanced data sets)
- Text representation, including dealing with data sparsity and dimensionality issues
- Domain adaptation, e.g. adaptation of standard NLP tools (incl. tokenizers, PoS-taggers, etc) to the medical domain
- Information fusion, i.e. integrating data from various sources, e.g. structured and narrative documentation
- Unsupervised methods, including distributional semantics
- Evaluation, gold/reference standard construction and annotation
- Syntactic, semantic and pragmatic analysis of health documents
- Anonymization / de-identification of health records and ethics
- Supporting the development of medical terminologies and ontologies
- Individualization of content, consumer health vocabularies, summarization and simplification of text
• NLP for supporting documentation and decision making practices
• Predictive modeling of adverse events, e.g. adverse drug events and hospital acquired infections

The call for papers encouraged authors to submit papers describing substantial and completed work but also focus on a contribution, a negative result, a software package or work in progress. We also encouraged to report work on low-resourced languages, addressing the challenges of data sparsity and language characteristic diversity.

We received 39 submissions, an unprecedented high number for the LOUHI series. Each submission went through a double-blind review process which involved three program committee members. Based on comments and rankings supplied by the reviewers, we accepted 19 papers (11 long papers and 8 short papers). The overall acceptance rate is 49% and the acceptance rate for long papers is 50%. During the workshop, 8 papers have been presented orally, and 11 papers have been presented as posters.

Finally, we would like to thank the members of the program committee for the quality of theirs reviews in a very short period. We are very grateful to Marie-Francine Moens for accepting to give an invited talk. We would also like to thank the authors for their submissions and the quality of their work.

Cyril Grouin, Thierry Hamon, Aurélie Névéol, Pierre Zweigenbaum
Organizers:

Cyril Grouin, LIMSI-CNRS, Orsay, France
Thierry Hamon, LIMSI-CNRS, Orsay, France & Université Paris 13
Aurélie Névéol, LIMSI-CNRS, Orsay, France
Pierre Zweigenbaum, LIMSI-CNRS, Orsay, France

Program Committee:

Sophia Ananiadou, University of Manchester, U.K.
Sabine Bergler, Concordia University, Canada
Thomas Brox Røst, Norwegian University of Science and Technology, Norway
Kevin B. Cohen, University of Colorado/School of Medicine, USA
Francisco Couto, University of Lisbon, Portugal
Hercules Dalianis, Stockholm University, Sweden
Louise Deléger, INRA, France
Gaël Dias, Normandie University, France
Martin Duneld/Hassel, Stockholm University, Sweden
Richárd Farkas, Institute of Informatics, Hungary
Filip Ginter, University of Turku, Finland
Natalia Grabar, CNRS UMR 8163, STL Université de Lille3, France
Gintarė Grigonytė, Stockholm University, Sweden
Aron Henriksson, Stockholm University, Sweden
Rezarta Islamaj, NIH/NLM/NCBI, USA
Antonion Jimeno Yepes, IBM Research, Australia
Jussi Karlgren, KTH, Royal Institute of Technology, Sweden
Dimitrios Kokkinakis, University of Gothenburg, Sweden
Maria Kvist, Stockholm University, Sweden
Alberto Lavelli, Fondazione Bruno Kessler, Italy
David Martínez, University of Melbourne and MedWhat.com, Australia
Beáta Megyesi, Uppsala University, Sweden
Marie-Jean Meurs, UQAM & Concordia University, QC, Canada
Fleur Mougin, Université de Bordeaux, ERIAS, Centre INSERM U897, ISPED, France
Danielle L Mowery, University of Utah, USA
Henning Müller, University of Applied Sciences Western Switzerland, Switzerland
Mariana Neves, Hasso-Plattner-Institute at the University of Potsdam, Germany
Jong C. Park, KAIST Computer Science, Korea
Jon D. Patrick, Health Language Laboratories, Australia
Sampo Pyysalo, University of Turku, Finland
Stefan Schulz, Graz General Hospital and University Clinics, Austria
Tapio Salakoski, University of Turku, Finland
Sanna Salanterä, University of Turku, Finland
Isabel Segura-Bedmar, Universidad Carlos III de Madrid, Spain
Maria Skeppstedt, Gavagai and Linnaeus University, Sweden
Hanna Suominen, NICTA, Australia
Suzanne Tamang, Stanford University School of Medicine, USA
Özlem Uzuner, MIT, U.S.A.
Sumithra Velupillai, Stockholm University, Sweden
Karin Verspoor, University of Melbourne, Australia
Mats Wirén, Stockholm University, Stockholm, Sweden

**Invited Speaker:**

Marie-Francine Moens, Department of computer Science, Katholieke Universiteit Leuven
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Thursday, September 17, 2015

09:00–10:30  Session I - Corpus creation

In-depth annotation for patient level liver cancer staging
Wen-wai Yim, Sharon Kwan and Meliha Yetisgen

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Is it possible to recover personal health information from an automatically de-identified corpus of French EHRs?
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11:00–12:30  Session II - Poster

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Noa P. Cruz Diaz and Manuel Maña López

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**12:30–14:00**  Lunch break

**14:00–15:30**  Session III - Invited talk

Information Extraction from Biomedical Texts: Learning Models with Limited Supervision
Marie-Francine Moens

**16:00–17:30**  Session IV - Corpus processing

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