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Statistical Language and Speech Processing

4th International Conference, SLSP 2016
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Proceedings

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Preface

These proceedings contain the papers that were presented at the 4th International Conference on Statistical Language and Speech Processing (SLSP 2016), held in Pilsen, Czech Republic, during October 11–12, 2016.

SLSP deals with topics of either theoretical or applied interest, discussing the employment of statistical models (including machine learning) within language and speech processing, namely:

- Anaphora and coreference resolution
- Authorship identification, plagiarism, and spam filtering
- Computer-aided translation
- Corpora and language resources
- Data mining and semantic web
- Information extraction
- Information retrieval
- Knowledge representation and ontologies
- Lexicons and dictionaries
- Machine translation
- Multimodal technologies
- Natural language understanding
- Neural representation of speech and language
- Opinion mining and sentiment analysis
- Parsing
- Part-of-speech tagging
- Question-answering systems
- Semantic role labeling
- Speaker identification and verification
- Speech and language generation
- Speech recognition
- Speech synthesis
- Speech transcription
- Spelling correction
- Spoken dialog systems
- Term extraction
- Text categorization
- Text summarization
- User modeling

SLSP 2016 received 38 submissions. Each paper was reviewed by three Program Committee members and also a few external reviewers were consulted. After a thorough and vivid discussion phase, the committee decided to accept 11 papers (which represents

an acceptance rate of about 29 %). The conference program included three invited talks and some presentations of work in progress as well.

The excellent facilities provided by the EasyChair conference management system allowed us to deal with the submissions successfully and handle the preparation of these proceedings in time.

We would like to thank all invited speakers and authors for their contributions, the Program Committee and the external reviewers for their cooperation, and Springer for its very professional publishing work.

July 2016

Pavel Král
Carlos Martín-Vide

Organization

SLSP 2016 was organized by the Department of Computer Science and Engineering and the Department of Cybernetics, University of West Bohemia, and the Research Group on Mathematical Linguistics (GRLMC) of Rovira i Virgili University, Tarragona.

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Identifying Sentiment and Emotion in Low Resource Languages

(Invited Talk)

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Abstract. When disaster occurs, online posts in text and video, phone messages, and even newscasts expressing distress, fear, and anger toward the disaster itself or toward those who might address the consequences of the disaster such as local and national governments or foreign aid workers represent an important source of information about where the most urgent issues are occurring and what these issues are. However, these information sources are often difficult to triage, due to their volume and lack of specificity. They represent a special challenge for aid efforts by those who do not speak the language of those who need help especially when bilingual informants are few and when the language of those in distress is one with few computational resources. We are working in a large DARPA effort which is attempting to develop tools and techniques to support the efforts of such aid workers very quickly, by leveraging methods and resources which have already been collected for use with other, High Resource Languages. Our particular goal is to develop methods to identify sentiment and emotion in spoken language for Low Resource Languages.

Our effort to date involves two basic approaches: (1) training classifiers to detect sentiment and emotion in High Resources Languages such as English and Mandarin which have relatively large amounts of data labeled with emotions such as anger, fear, and stress and using these directly or adapted with a small amount of labeled data in the LRL of interest, and (2) employing a sentiment detection system trained on HRL text and adapted to the LRL using a bilingual lexicon to label transcripts of LRL speech. These labels are then used as labels for the aligned speech to use in training a speech classifier for positive/negative sentiment. We will describe experiments using both such approaches, comparing each to training on manually labeled data.

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