

EMNLP 2016

**Second Workshop on
Computational Approaches to Code Switching**

Proceedings of the Workshop

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Austin, Texas, USA

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Introduction

Code-switching (CS) is the phenomenon by which multilingual speakers switch back and forth between their common languages in written or spoken communication. CS is pervasive in informal text communications such as news groups, tweets, blogs, and other social media of multilingual communities. Such genres are increasingly being studied as rich sources of social, commercial and political information. Apart from the informal genre challenge associated with such data within a single language processing scenario, the CS phenomenon adds another significant layer of complexity to the processing of the data. Efficiently and robustly processing CS data presents a new frontier for our NLP algorithms on all levels. The goal of this workshop is to bring together researchers interested in exploring these new frontiers, discussing state of the art research in CS, and identifying the next steps in this fascinating research area.

The workshop program includes exciting papers discussing new approaches for CS data and the development of linguistic resources needed to process and study CS. We received a total of 12 regular workshop submissions of which we accepted nine for publication four of them as workshop talks and five as posters. The accepted workshop submissions cover a wide variety of language combinations from languages such as English, Hindi, Swahili, Mandarin, Dialectal Arabic and Modern Standard Arabic. The majority of the papers focus on social media data such as Twitter, and discussion fora.

Another component of the workshop is the Second Shared Task on Language Identification of CS Data. The shared task focused on social media and included two language pairs: Modern Standard Arabic-Dialectal Arabic and English-Spanish. We received a total of 14 system runs from nine different teams. All teams except one submitted a shared task paper describing their system. All shared task systems will be presented during the workshop poster session and two of them will also present a talk. We would like to thank all authors who submitted their contributions to this workshop and all shared task participants for taking on the challenge of language identification in code switched data. We also thank the program committee members for their help in providing meaningful reviews. Lastly, we thank the EMNLP 2016 organizers for the opportunity to put together this workshop.

See you all in Austin, TX at EMNLP 2016!

Workshop co-chairs,

Mona Diab
Pascale Fung
Mahmoud Ghoneim
Julia Hirschberg
Thamar Solorio

Publications & Shared Task Chairs,

Fahad AlGhamdi
Mahmoud Ghoneim
Giovanni Molina

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Nicolas Rey Villamizar, University of Houston
Victor Soto, Columbia University
Borja Navarro Colorado, Universidad de Alicante
Rabih Zbib, BBN Technologies
Barbara Bullock, University of Texas at Austin

Invited Speakers:

Monojit Choudhury, Microsoft Research Lab India.
Kalika Bali, Microsoft Research Lab India

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Workshop Program

Tuesday, November 1, 2016

Session 1: Opening Session

08:45–09:00 *Welcome Remarks*

09:00–10:00 *Keynote Talk*

NLP for Code-switching: Why more data is not necessarily the solution

Monojit Choudhury and Kalika Bali

10:00–10:30 *Challenges of Computational Processing of Code-Switching*

Özlem Çetinoğlu, Sarah Schulz and Ngoc Thang Vu

10:30–11:00 **Coffee Break**

Session 2: Workshop Talks

11:00–11:30 *Simple Tools for Exploring Variation in Code-switching for Linguists*

Gualberto A. Guzman, Jacqueline Serigos, Barbara E. Bullock and Almeida Jacqueline Toribio

11:30–12:00 *Word-Level Language Identification and Predicting Codeswitching Points in Swahili-English Language Data*

Mario Piergallini, Rouzbeh Shirvani, Gauri S. Gautam and Mohamed Chouikha

12:00–12:30 *Part-of-speech Tagging of Code-mixed Social Media Content: Pipeline, Stacking and Joint Modelling*

Utsab Barman, Joachim Wagner and Jennifer Foster

12:30–14:00 **Lunch**

Session 3: Shared Task

14:00–14:30 *Overview for the Second Shared Task on Language Identification in Code-Switched Data*

Giovanni Molina, Fahad AlGhamdi, Mahmoud Ghoneim, Abdelati Hawwari, Nicolas Rey-Villamizar, Mona Diab and Thamar Solorio

Tuesday, November 1, 2016 (continued)

14:30–15:00 *Multilingual Code-switching Identification via LSTM Recurrent Neural Networks*
Younes Samih, Suraj Maharjan, Mohammed Attia, Laura Kallmeyer and Thamar Solorio

15:00–15:30 *A Neural Model for Language Identification in Code-Switched Tweets*
Aaron Jaech, George Mulcaire, Mari Ostendorf and Noah A. Smith

15:30–16:00 Coffee Break

Session 4: Panel Discussion and Poster Session

16:00–16:45 Panel Discussion

16:45–18:00 Poster Session

SAWT: Sequence Annotation Web Tool

Younes Samih, Wolfgang Maier and Laura Kallmeyer

Accurate Pinyin-English Codeswitched Language Identification

Meng Xuan Xia and Jackie Chi Kit Cheung

Unraveling the English-Bengali Code-Mixing Phenomenon

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