ACL 2016

The 54th Annual Meeting of the Association for Computational Linguistics

Proceedings of the 14th SIGMORPHON Workshop on Computational Research in Phonetics, Phonology, and Morphology

August 11, 2016
Berlin, Germany

©2016 The Association for Computational Linguistics

Order copies of this and other ACL proceedings from:

Association for Computational Linguistics (ACL)
209 N. Eighth Street
Stroudsburg, PA 18360
USA
Tel: +1-570-476-8006
Fax: +1-570-476-0860
acl@aclweb.org

ISBN 978-1-945626-08-1

Introduction

Welcome to the 14th SIGMORPHON Workshop on Computational Research in Phonetics, Phonology, and Morphology. The workshop aims to bring together researchers interested in applying computational techniques to problems in morphology, phonology, and phonetics. Our program this year highlights the ongoing and important interaction between work in computational linguistics and work in theoretical linguistics. We received 23 submissions and accepted 11.

The volume of submissions made it necessary to recruit several additional reviewers. We'd like to thank all of these people for agreeing to review papers on what seemed like impossibly short notice.

This year also marks the first SIGMORPHON shared task, on morphological reinflection. The shared task received 9 submissions, all of which were accepted, and greatly advanced the state of the art in this area.

We thank all the authors, reviewers and organizers for their efforts on behalf of the community.

Organizers:

Micha Elsner, The Ohio State University
Sandra Kübler, Indiana University

Program Committee:

Adam Albright, MIT
Kelly Berkson, Indiana University
Damir Cavar, Indiana University
Grzegorz Chrupała, Tilburg University
Çağrı Çöltekin, University of Tübingen
Ewan Dunbar, Laboratoire de Sciences Cognitives et Psycholinguistique, Paris
Jason Eisner, Johns Hopkins University
Valerie Freeman, University of Washington
Sharon Goldwater, University of Edinburgh
Nizar Habash, NYU Abu Dhabi
David Hall, Semantic Machines
Mike Hammond, University of Arizona
Jeffrey Heinz, University of Delaware
Colin de la Higuera, University of Nantes
Ken de Jong, Indiana University
Gaja Jarosz, Amherst
Greg Kobele, University of Chicago
Greg Kondrak, University of Alberta
Kimmo Koskenniemi, University of Helsinki
Karen Livescu, TTI Chicago
Kemal Oflazer, CMU Qatar
Jeff Parker, Brigham Young
Jelena Prokic, Philipps-Universität Marburg
Andrea Sims, OSU
Kairit Sirts, Macquarie University
Richard Sproat, Google
Reut Tsarfaty, Weizmann Institute
Sami Virpioja, Aalto University
Shuly Wintner, University of Haifa

Invited Speaker:

Colin Wilson, Johns Hopkins University

Table of Contents

Mining linguistic tone patterns with symbolic representation
SHUO ZHANG 1

The SIGMORPHON 2016 Shared Task—Morphological Reinflection
Ryan Cotterell, Christo Kirov, John Sylak-Glassman, David Yarowsky, Jason Eisner and Mans Hulden 10

Morphological reinflection with convolutional neural networks
Robert Östling 23

EHU at the SIGMORPHON 2016 Shared Task. A Simple Proposal: Grapheme-to-Phoneme for Inflection
Iñaki Alegria and Izaskun Etxeberria 27

Morphological Reinflection via Discriminative String Transduction
Garrett Nicolai, Bradley Hauer, Adam St Arnaud and Grzegorz Kondrak 31

Morphological reinflection with conditional random fields and unsupervised features
Ling Liu and Lingshuang Jack Mao 36

Improving Sequence to Sequence Learning for Morphological Inflection Generation: The BIU-MIT Systems for the SIGMORPHON 2016 Shared Task for Morphological Reinflection
Roee Aharoni, Yoav Goldberg and Yonatan Belinkov 41

Evaluating Sequence Alignment for Learning Inflectional Morphology
David King 49

Using longest common subsequence and character models to predict word forms
Alexey Sorokin 54

MED: The LMU System for the SIGMORPHON 2016 Shared Task on Morphological Reinflection
Katharina Kann and Hinrich Schütze 62

The Columbia University - New York University Abu Dhabi SIGMORPHON 2016 Morphological Reinflection Shared Task Submission
Dima Taji, Ramy Eskander, Nizar Habash and Owen Rambow 71

Letter Sequence Labeling for Compound Splitting
Jianqiang Ma, Verena Henrich and Erhard Hinrichs 76

Automatic Detection of Intra-Word Code-Switching
Dong Nguyen and Leonie Cornips 82

Read my points: Effect of animation type when speech-reading from EMA data
Kristy James and Martijn Wieling 87

Predicting the Direction of Derivation in English Conversion
Max Kisselew, Laura Rimell, Alexis Palmer and Sebastian Padó 93

Morphological Segmentation Can Improve Syllabification
Garrett Nicolai, Lei Yao and Grzegorz Kondrak 99

Towards a Formal Representation of Components of German Compounds
Thierry Declerck and Piroska Lendvai 104

Towards robust cross-linguistic comparisons of phonological networks
Philippa Shoemark, Sharon Goldwater, James Kirby and Rik Sarkar 110

Morphotactics as Tier-Based Strictly Local Dependencies
Alëna Aksënova, Thomas Graf and Sedigheh Moradi 121

A Multilinear Approach to the Unsupervised Learning of Morphology
Anthony Meyer and Markus Dickinson 131

Inferring Morphotactics from Interlinear Glossed Text: Combining Clustering and Precision Grammars
Olga Zamaraeva 141

Conference Program

Thursday, August 11, 2016

9:00–9:30 Phonetics

09:00–09:30 *Mining linguistic tone patterns with symbolic representation*
SHUO ZHANG

09:30–10:30 *Invited Talk*
Colin Wilson

10:30–11:00 *Coffee Break*

11:00–11:30 *The SIGMORPHON 2016 Shared Task—Morphological Reinflection*
Ryan Cotterell, Christo Kirov, John Sylak-Glassman, David Yarowsky, Jason Eisner and Mans Hulden

11:30–12:30 Shared task poster session

Morphological reinflection with convolutional neural networks
Robert Östling

EHU at the SIGMORPHON 2016 Shared Task. A Simple Proposal: Grapheme-to-Phoneme for Inflection
Iñaki Alegria and Izaskun Etxeberria

Morphological Reinflection via Discriminative String Transduction
Garrett Nicolai, Bradley Hauer, Adam St Arnaud and Grzegorz Kondrak

Morphological reinflection with conditional random fields and unsupervised features
Ling Liu and Lingshuang Jack Mao

Improving Sequence to Sequence Learning for Morphological Inflection Generation: The BIU-MIT Systems for the SIGMORPHON 2016 Shared Task for Morphological Reinflection
Roee Aharoni, Yoav Goldberg and Yonatan Belinkov

Evaluating Sequence Alignment for Learning Inflectional Morphology
David King

Thursday, August 11, 2016 (continued)

Using longest common subsequence and character models to predict word forms
Alexey Sorokin

MED: The LMU System for the SIGMORPHON 2016 Shared Task on Morphological Reinflection
Katharina Kann and Hinrich Schütze

The Columbia University - New York University Abu Dhabi SIGMORPHON 2016 Morphological Reinflection Shared Task Submission
Dima Taji, Ramy Eskander, Nizar Habash and Owen Rambow

12:00–14:00 ***Lunch Break***

14:00–15:00 **Workshop poster session**

Letter Sequence Labeling for Compound Splitting
Jianqiang Ma, Verena Henrich and Erhard Hinrichs

Automatic Detection of Intra-Word Code-Switching
Dong Nguyen and Leonie Cornips

Read my points: Effect of animation type when speech-reading from EMA data
Kristy James and Martijn Wieling

Predicting the Direction of Derivation in English Conversion
Max Kisselew, Laura Rimell, Alexis Palmer and Sebastian Padó

Morphological Segmentation Can Improve Syllabification
Garrett Nicolai, Lei Yao and Grzegorz Kondrak

Towards a Formal Representation of Components of German Compounds
Thierry Declerck and Piroska Lendvai

Thursday, August 11, 2016 (continued)

15:00–15:30 Phonology

15:00–15:30 *Towards robust cross-linguistic comparisons of phonological networks*
Philippa Shoemark, Sharon Goldwater, James Kirby and Rik Sarkar

15:30–16:00 ***Coffee Break***

16:00–17:30 Morphology

16:00–16:30 *Morphotactics as Tier-Based Strictly Local Dependencies*
Alëna Aksënova, Thomas Graf and Sedigheh Moradi

16:30–17:00 *A Multilinear Approach to the Unsupervised Learning of Morphology*
Anthony Meyer and Markus Dickinson

17:00–17:30 *Inferring Morphotactics from Interlinear Glossed Text: Combining Clustering and Precision Grammars*
Olga Zamaraeva