CoNLL-2013

Seventeenth Conference on Computational Natural Language Learning

Proceedings of the Shared Task

August 8-9, 2013 Sofia, Bulgaria Production and Manufacturing by Omnipress, Inc. 2600 Anderson Street Madison, WI 53704 USA

©2013 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 978-1-937284-71-8

Introduction

This volume contains papers describing the CoNLL-2013 Shared Task and the participating systems. This year, we continue the tradition of the Conference on Computational Natural Language Learning (CoNLL) of having a high profile shared task in natural language processing, centered on automatic grammatical error correction of English essays. This task has gained popularity recently with the organization of the HOO (Helping Our Own) shared tasks in 2011 and 2012. The grammatical error correction task is impactful since it is estimated that hundreds of millions of people in the world are learning English as a second language, and they benefit directly from an automated grammar checker.

In the recent HOO shared task in 2012, only two error types, i.e., determiner and preposition, are considered. In contrast, the CoNLL-2013 shared task has included a more comprehensive list of error types, including noun number, verb form, and subject-verb agreement errors in addition to determiner and preposition errors. Extending into more error types introduces the possibility of correcting multiple interacting errors.

For this shared task, we have only one track in which shared task participants are provided with an annotated training corpus, but are allowed to use additional resources as long as they are publicly available. The training corpus, NUCLE (NUS Corpus of Learner English), is a large collection of English essays written by students at the National University of Singapore (NUS) who are non-native speakers of English. The essays were annotated by professional English instructors at the NUS. As in other shared tasks, we provide a common test set with gold-standard annotations, and a scorer to evaluate the submitted system output.

A total of 17 participating teams submitted system output and 16 of them submitted system description papers. Many different approaches were adopted to perform grammatical error correction. We hope that these approaches help to advance the state of the art in grammatical error correction, and that the test set and scorer, which are freely available after the shared task, can be useful resources for those interested in grammatical error correction.

Hwee Tou Ng, Joel Tetreault, Siew Mei Wu, Yuanbin Wu, and Christian Hadiwinoto Organizers of the CoNLL-2013 Shared Task June 2013

Organizers:

Hwee Tou Ng, National University of Singapore Joel Tetreault, Nuance Communications Siew Mei Wu, National University of Singapore Yuanbin Wu, National University of Singapore Christian Hadiwinoto, National University of Singapore

Program Committee:

Pushpak Bhattacharyya, Indian Institute of Technology Bombay Francis Bond, Nanyang Technological University Ted Briscoe, University of Cambridge Aoife Cahill, Educational Testing Service Martin Chodorow, City University of New York Daniel Dahlmeier, SAP Singapore Markus Dickinson, Indiana University Dan Flickinger, Stanford University Jennifer Foster, Dublin City University Michael Heilman, Educational Testing Service Yuji Matsumoto, Nara Institute of Science and Technology Detmar Meurers, University of Tübingen Alla Rozovskaya, University of Illinois at Urbana-Champaign Mark Sammons, University of Illinois at Urbana-Champaign Antal van den Bosch, Radboud University Nijmegen Veronika Vincze, Hungarian Academy of Sciences Torsten Zesch, University of Darmstadt

Table of Contents

<i>The CoNLL-2013 Shared Task on Grammatical Error Correction</i> Hwee Tou Ng, Siew Mei Wu, Yuanbin Wu, Christian Hadiwinoto and Joel Tetreault
<i>The University of Illinois System in the CoNLL-2013 Shared Task</i> Alla Rozovskaya, Kai-Wei Chang, Mark Sammons and Dan Roth
CoNLL-2013 Shared Task: Grammatical Error Correction NTHU System Description Ting-hui Kao, Yu-wei Chang, Hsun-wen Chiu, Tzu-Hsi Yen, Joanne Boisson, Jian-cheng Wu and Jason S. Chang
 NAIST at 2013 CoNLL Grammatical Error Correction Shared Task Ippei Yoshimoto, Tomoya Kose, Kensuke Mitsuzawa, Keisuke Sakaguchi, Tomoya Mizumoto, Yuta Hayashibe, Mamoru Komachi and Yuji Matsumoto
UM-Checker: A Hybrid System for English Grammatical Error Correction Junwen Xing, Longyue Wang, Derek F. Wong, Lidia S. Chao and Xiaodong Zeng34
A Tree Transducer Model for Grammatical Error Correction Jan Buys and Brink van der Merwe
Constrained Grammatical Error Correction using Statistical Machine Translation Zheng Yuan and Mariano Felice
<i>LFG-based Features for Noun Number and Article Grammatical Errors</i> Gabor Berend, Veronika Vincze, Sina Zarrieß and Richárd Farkas
Toward More Precision in Correction of Grammatical Errors Dan Flickinger and Jiye Yu 68
Grammatical Error Correction as Multiclass Classification with Single Model Zhongye Jia, Peilu Wang and Hai Zhao
<i>IITB System for CoNLL 2013 Shared Task: A Hybrid Approach to Grammatical Error Correction</i> Anoop Kunchukuttan, Ritesh Shah and Pushpak Bhattacharyya
UdS at CoNLL 2013 Shared Task Desmond Darma Putra and Lili Szabo 88
Rule-based System for Automatic Grammar Correction Using Syntactic N-grams for English Language Learning (L2) Grigori Sidorov, Anubhav Gupta, Martin Tozer, Dolors Catala, Angels Catena and Sandrine Fuentes 96
Memory-based Grammatical Error Correction Antal van den Bosch and Peter Berck 102
A Noisy Channel Model Framework for Grammatical Correction L. Amber Wilcox-O'Hearn
A Hybrid Model For Grammatical Error Correction

Yang Xiang, Bo Yuan, Yaoyun Zhang, Xiaolong Wang, Wen Zheng and Chongqiang Wei.....115

KUNLP Grammatical Error Correction System For CoNLL-2013 Shared Task	
Bong-Jun Yi, Ho-Chang Lee and Hae-Chang Rim	. 123

Conference Program

Friday August 9, 2013

Session 1: Oral Presentation

- 10:00–10:30 *The CoNLL-2013 Shared Task on Grammatical Error Correction* Hwee Tou Ng, Siew Mei Wu, Yuanbin Wu, Christian Hadiwinoto and Joel Tetreault
- 10:30–11:00 Coffee Break
- 11:00–11:10 *The University of Illinois System in the CoNLL-2013 Shared Task* Alla Rozovskaya, Kai-Wei Chang, Mark Sammons and Dan Roth
- 11:10–11:20 CoNLL-2013 Shared Task: Grammatical Error Correction NTHU System Description
 Ting-hui Kao, Yu-wei Chang, Hsun-wen Chiu, Tzu-Hsi Yen, Joanne Boisson, Jian-cheng Wu and Jason S. Chang
- 11:20–11:30 NAIST at 2013 CoNLL Grammatical Error Correction Shared Task Ippei Yoshimoto, Tomoya Kose, Kensuke Mitsuzawa, Keisuke Sakaguchi, Tomoya Mizumoto, Yuta Hayashibe, Mamoru Komachi and Yuji Matsumoto
- 11:30–11:40 *UM-Checker: A Hybrid System for English Grammatical Error Correction* Junwen Xing, Longyue Wang, Derek F. Wong, Lidia S. Chao and Xiaodong Zeng
- 11:40–11:50 *A Tree Transducer Model for Grammatical Error Correction* Jan Buys and Brink van der Merwe
- 11:50–12:00 *Constrained Grammatical Error Correction using Statistical Machine Translation* Zheng Yuan and Mariano Felice
- 12:00–12:30 Shared Task Discussion

Friday August 9, 2013 (continued)

Session 2: Poster Presentation

15:30–17:00 *LFG-based Features for Noun Number and Article Grammatical Errors* Gabor Berend, Veronika Vincze, Sina Zarrieß and Richárd Farkas

> *Toward More Precision in Correction of Grammatical Errors* Dan Flickinger and Jiye Yu

Grammatical Error Correction as Multiclass Classification with Single Model Zhongye Jia, Peilu Wang and Hai Zhao

IITB System for CoNLL 2013 Shared Task: A Hybrid Approach to Grammatical Error Correction

Anoop Kunchukuttan, Ritesh Shah and Pushpak Bhattacharyya

UdS at CoNLL 2013 Shared Task Desmond Darma Putra and Lili Szabo

Rule-based System for Automatic Grammar Correction Using Syntactic N-grams for English Language Learning (L2)

Grigori Sidorov, Anubhav Gupta, Martin Tozer, Dolors Catala, Angels Catena and Sandrine Fuentes

Memory-based Grammatical Error Correction Antal van den Bosch and Peter Berck

A Noisy Channel Model Framework for Grammatical Correction L. Amber Wilcox-O'Hearn

A Hybrid Model For Grammatical Error Correction Yang Xiang, Bo Yuan, Yaoyun Zhang, Xiaolong Wang, Wen Zheng and Chongqiang Wei

KUNLP Grammatical Error Correction System For CoNLL-2013 Shared Task Bong-Jun Yi, Ho-Chang Lee and Hae-Chang Rim