

Twelfth Workshop on Innovative Use of NLP for Building Educational Applications 2017

Copenhagen, Denmark
8 September 2017

ISBN: 978-1-5108-4756-9

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2017) by the Association for Computational Linguistics
All rights reserved.

Printed by Curran Associates, Inc. (2017)

For permission requests, please contact the Association for Computational Linguistics
at the address below.

Association for Computational Linguistics
209 N. Eighth Street
Stroudsburg, Pennsylvania 18360

Phone: 1-570-476-8006
Fax: 1-570-476-0860

acl@aclweb.org

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

Table of Contents

<i>Question Difficulty – How to Estimate Without Norming, How to Use for Automated Grading</i> Ulrike Pado	1
<i>Combining CNNs and Pattern Matching for Question Interpretation in a Virtual Patient Dialogue System</i> Lifeng Jin, Michael White, Evan Jaffe, Laura Zimmerman and Douglas Danforth	11
<i>Continuous fluency tracking and the challenges of varying text complexity</i> Beata Beigman Klebanov, Anastassia Loukina, John Sabatini and Tenaha O’Reilly	22
<i>Auxiliary Objectives for Neural Error Detection Models</i> Marek Rei and Helen Yannakoudakis	33
<i>Linked Data for Language-Learning Applications</i> Robyn Loughnane, Kate McCurdy, Peter Kolb and Stefan Selent	44
<i>Predicting Specificity in Classroom Discussion</i> Luca Lugini and Diane Litman	52
<i>A Report on the 2017 Native Language Identification Shared Task</i> Shervin Malmasi, Keelan Evanini, Aoife Cahill, Joel Tetreault, Robert Pugh, Christopher Hamill, Diane Napolitano and Yao Qian	62
<i>Evaluation of Automatically Generated Pronoun Reference Questions</i> Arief Yudha Satria and Takenobu Tokunaga	76
<i>Predicting Audience’s Laughter During Presentations Using Convolutional Neural Network</i> Lei Chen and Chong Min Lee	86
<i>Collecting fluency corrections for spoken learner English</i> Andrew Caines, Emma Flint and Paula Buttery	91
<i>Exploring Relationships Between Writing & Broader Outcomes With Automated Writing Evaluation</i> Jill Burstein, Dan McCaffrey, Beata Beigman Klebanov and Guangming Ling	101
<i>An Investigation into the Pedagogical Features of Documents</i> Emily Sheng, Prem Natarajan, Jonathan Gordon and Gully Burns	109
<i>Combining Multiple Corpora for Readability Assessment for People with Cognitive Disabilities</i> Victoria Yaneva, Constantin Orasan, Richard Evans and Omid Rohanian	121
<i>Automatic Extraction of High-Quality Example Sentences for Word Learning Using a Determinantal Point Process</i> Arseny Tolmachev and Sadao Kurohashi	133
<i>Distractor Generation for Chinese Fill-in-the-blank Items</i> Shu Jiang and John Lee	143
<i>An Error-Oriented Approach to Word Embedding Pre-Training</i> Youmna Farag, Marek Rei and Ted Briscoe	149
<i>Investigating neural architectures for short answer scoring</i> Brian Riordan, Andrea Horbach, Aoife Cahill, Torsten Zesch and Chong Min Lee	159

<i>Human and Automated CEFR-based Grading of Short Answers</i>	
Anaïs Tack, Thomas François, Sophie Roekhaut and Cédric Fairon	169
<i>GEC into the future: Where are we going and how do we get there?</i>	
Keisuke Sakaguchi, Courtney Napoles and Joel Tetreault	180
<i>Detecting Off-topic Responses to Visual Prompts</i>	
Marek Rei	188
<i>Combining Textual and Speech Features in the NLI Task Using State-of-the-Art Machine Learning Techniques</i>	
Pavel Ircing, Jan Svec, Zbynek Zajic, Barbora Hladka and Martin Holub	198
<i>Native Language Identification Using a Mixture of Character and Word N-grams</i>	
Elham Mohammadi, Hadi Veisi and Hessam Amini	210
<i>Ensemble Methods for Native Language Identification</i>	
Sophia Chan, Maryam Honari Jahromi, Benjamin Benetti, Aazim Lakhani and Alona Fyshe ..	217
<i>Can string kernels pass the test of time in Native Language Identification?</i>	
Radu Tudor Ionescu and Marius Popescu	224
<i>Neural Networks and Spelling Features for Native Language Identification</i>	
Johannes Bjerva, Gintare Grigonyte, Robert Östling and Barbara Plank	235
<i>A study of N-gram and Embedding Representations for Native Language Identification</i>	
Sowmya Vajjala and Sagnik Banerjee	240
<i>A Shallow Neural Network for Native Language Identification with Character N-grams</i>	
Yunita Sari, Muhammad Rifqi Fatchurrahman and Meisyarah Dwiastuti	249
<i>Fewer features perform well at Native Language Identification task</i>	
Taraka Rama and Çağrı Çöltekin	255
<i>Structured Generation of Technical Reading Lists</i>	
Jonathan Gordon, Stephen Aguilar, Emily Sheng and Gully Burns	261
<i>Effects of Lexical Properties on Viewing Time per Word in Autistic and Neurotypical Readers</i>	
Sanja Štajner, Victoria Yaneva, Ruslan Mitkov and Simone Paolo Ponzetto	271
<i>Transparent text quality assessment with convolutional neural networks</i>	
Robert Östling and Gintare Grigonyte	282
<i>Artificial Error Generation with Machine Translation and Syntactic Patterns</i>	
Marek Rei, Mariano Felice, Zheng Yuan and Ted Briscoe	287
<i>Modelling semantic acquisition in second language learning</i>	
Ekaterina Kochmar and Ekaterina Shutova	293
<i>Multiple Choice Question Generation Utilizing An Ontology</i>	
Katherine Stasaski and Marti A. Hearst	303
<i>Simplifying metaphorical language for young readers: A corpus study on news text</i>	
Magdalena Wolska and Yulia Clausen	313

<i>Language Based Mapping of Science Assessment Items to Skills</i> Farah Nadeem and Mari Ostendorf	319
<i>Connecting the Dots: Towards Human-Level Grammatical Error Correction</i> Shamil Chollampatt and Hwee Tou Ng	327
<i>Question Generation for Language Learning: From ensuring texts are read to supporting learning</i> Maria Chinkina and Detmar Meurers	334
<i>Systematically Adapting Machine Translation for Grammatical Error Correction</i> Courtney Napoles and Chris Callison-Burch	345
<i>Fine-grained essay scoring of a complex writing task for native speakers</i> Andrea Horbach, Dirk Scholten-Akoun, Yuning Ding and Torsten Zesch	357
<i>Exploring Optimal Voting in Native Language Identification</i> Cyril Goutte and Serge Léger	367
<i>CIC-FBK Approach to Native Language Identification</i> Iliia Markov, Lingzhen Chen, Carlo Strapparava and Grigori Sidorov	374
<i>The Power of Character N-grams in Native Language Identification</i> Artur Kulmizev, Bo Blankers, Johannes Bjerva, Malvina Nissim, Gertjan van Noord, Barbara Plank and Martijn Wieling	382
<i>Classifier Stacking for Native Language Identification</i> Wen Li and Liang Zou	390
<i>Native Language Identification on Text and Speech</i> Marcos Zampieri, Alina Maria Ciobanu and Liviu P. Dinu	398
<i>Native Language Identification using Phonetic Algorithms</i> Charese Smiley and Sandra Kübler	405
<i>A deep-learning based native-language classification by using a latent semantic analysis for the NLI Shared Task 2017</i> Yoo Rhee Oh, Hyung-Bae Jeon, Hwa Jeon Song, Yun-Kyung Lee, Jeon-Gue Park and Yun-Keun Lee	413
<i>Fusion of Simple Models for Native Language Identification</i> Fabio Kepler, Ramón Astudillo and Alberto Abad	423
<i>Stacked Sentence-Document Classifier Approach for Improving Native Language Identification</i> Andrea Cimino and Felice Dell’Orletta	430
<i>Using Gaze to Predict Text Readability</i> Ana Valeria Gonzalez-Garduño and Anders Søgaard	438
<i>Annotating Orthographic Target Hypotheses in a German L1 Learner Corpus</i> Ronja Laarmann-Quante, Katrin Ortmann, Anna Ehlert, Maurice Vogel and Stefanie Dipper ..	444
<i>A Large Scale Quantitative Exploration of Modeling Strategies for Content Scoring</i> Nitin Madnani, Anastassia Loukina and Aoife Cahill	457