

# **Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies 2016 (NAACL HLT 2016)**

San Diego, California, USA  
12 - 17 June 2016

Volume 1 of 2

ISBN: 978-1-5108-2512-3

**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© (2016) by Association for Computational Linguistics  
All rights reserved.

Printed by Curran Associates, Inc. (2016)

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](mailto: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](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

# Table of Contents

<i>Achieving Accurate Conclusions in Evaluation of Automatic Machine Translation Metrics</i>	
Yvette Graham and Qun Liu .....	1
<i>Flexible Non-Terminals for Dependency Tree-to-Tree Reordering</i>	
John Richardson, Fabien Cromierès, Toshiaki Nakazawa and Sadao Kurohashi .....	11
<i>Selecting Syntactic, Non-redundant Segments in Active Learning for Machine Translation</i>	
Akiva Miura, Graham Neubig, Michael Paul and Satoshi Nakamura .....	20
<i>Multi-Source Neural Translation</i>	
Barret Zoph and Kevin Knight .....	30
<i>Controlling Politeness in Neural Machine Translation via Side Constraints</i>	
Rico Sennrich, Barry Haddow and Alexandra Birch .....	35
<i>An Empirical Evaluation of Noise Contrastive Estimation for the Neural Network Joint Model of Translation</i>	
Colin Cherry .....	41
<i>Neural Network-Based Abstract Generation for Opinions and Arguments</i>	
Lu Wang and Wang Ling .....	47
<i>A Low-Rank Approximation Approach to Learning Joint Embeddings of News Stories and Images for Timeline Summarization</i>	
William Yang Wang, Yashar Mehdad, Dragomir R. Radev and Amanda Stent .....	58
<i>Entity-balanced Gaussian pLSA for Automated Comparison</i>	
Danish Contractor, Parag Singla and Mausam .....	69
<i>Automatic Summarization of Student Course Feedback</i>	
Wencan Luo, Fei Liu, Zitao Liu and Diane Litman .....	80
<i>Knowledge-Guided Linguistic Rewrites for Inference Rule Verification</i>	
Prachi Jain and Mausam .....	86
<i>Abstractive Sentence Summarization with Attentive Recurrent Neural Networks</i>	
Sumit Chopra, Michael Auli and Alexander M. Rush .....	93
<i>Integer Linear Programming for Discourse Parsing</i>	
Jérémie Perret, Stergos Afantenos, Nicholas Asher and Mathieu Morey .....	99
<i>A Diversity-Promoting Objective Function for Neural Conversation Models</i>	
Jiwei Li, Michel Galley, Chris Brockett, Jianfeng Gao and Bill Dolan .....	110

<i>Multi-domain Neural Network Language Generation for Spoken Dialogue Systems</i>	
Tsung-Hsien Wen, Milica Gašić, Nikola Mrkšić, Lina M. Rojas-Barahona, Pei-Hao Su, David Vandyke and Steve Young .....	120
<i>A Long Short-Term Memory Framework for Predicting Humor in Dialogues</i>	
Dario Bertero and Pascale Fung .....	130
<i>Conversational Flow in Oxford-style Debates</i>	
Justine Zhang, Ravi Kumar, Sujith Ravi and Cristian Danescu-Niculescu-Mizil .....	136
<i>Counter-fitting Word Vectors to Linguistic Constraints</i>	
Nikola Mrkšić, Diarmuid Ó Séaghdha, Blaise Thomson, Milica Gašić, Lina M. Rojas-Barahona, Pei-Hao Su, David Vandyke, Tsung-Hsien Wen and Steve Young .....	142
<i>Grounded Semantic Role Labeling</i>	
Shaohua Yang, Qiaozhi Gao, Changsong Liu, Caiming Xiong, Song-Chun Zhu and Joyce Y. Chai .....	149
<i>Black Holes and White Rabbits: Metaphor Identification with Visual Features</i>	
Ekaterina Shutova, Douwe Kiela and Jean Maillard .....	160
<i>Bridge Correlational Neural Networks for Multilingual Multimodal Representation Learning</i>	
Janarthanan Rajendran, Mitesh M. Khapra, Sarath Chandar and Balaraman Ravindran .....	171
<i>Unsupervised Visual Sense Disambiguation for Verbs using Multimodal Embeddings</i>	
Spandana Gella, Mirella Lapata and Frank Keller .....	182
<i>Stating the Obvious: Extracting Visual Common Sense Knowledge</i>	
Mark Yatskar, Vicente Ordonez and Ali Farhadi .....	193
<i>Recurrent Neural Network Grammars</i>	
Chris Dyer, Adhiguna Kuncoro, Miguel Ballesteros and Noah A. Smith .....	199
<i>Expected F-Measure Training for Shift-Reduce Parsing with Recurrent Neural Networks</i>	
Wenduan Xu, Michael Auli and Stephen Clark .....	210
<i>LSTM CCG Parsing</i>	
Mike Lewis, Kenton Lee and Luke Zettlemoyer .....	221
<i>Supertagging With LSTMs</i>	
Ashish Vaswani, Yonatan Bisk, Kenji Sagae and Ryan Musa .....	232
<i>An Empirical Study of Automatic Chinese Word Segmentation for Spoken Language Understanding and Named Entity Recognition</i>	
Wencan Luo and Fan Yang .....	238
<i>Name Tagging for Low-resource Incident Languages based on Expectation-driven Learning</i>	
Boliang Zhang, Xiaoman Pan, Tianlu Wang, Ashish Vaswani, Heng Ji, Kevin Knight and Daniel Marcu .....	249

<i>Neural Architectures for Named Entity Recognition</i>	
Guillaume Lample, Miguel Ballesteros, Sandeep Subramanian, Kazuya Kawakami and Chris Dyer	
260	
<i>Dynamic Feature Induction: The Last Gist to the State-of-the-Art</i>	
Jinho D. Choi .....	271
<i>Drop-out Conditional Random Fields for Twitter with Huge Mined Gazetteer</i>	
Eunsuk Yang, Young-Bum Kim, Ruhi Sarikaya and Yu-Seop Kim .....	282
<i>Joint Extraction of Events and Entities within a Document Context</i>	
Bishan Yang and Tom M. Mitchell .....	289
<i>Joint Event Extraction via Recurrent Neural Networks</i>	
Thien Huu Nguyen, Kyunghyun Cho and Ralph Grishman .....	300
<i>Top-down Tree Long Short-Term Memory Networks</i>	
Xingxing Zhang, Liang Lu and Mirella Lapata .....	310
<i>Recurrent Memory Networks for Language Modeling</i>	
Ke Tran, Arianna Bisazza and Christof Monz .....	321
<i>A Latent Variable Recurrent Neural Network for Discourse-Driven Language Models</i>	
Yangfeng Ji, Gholamreza Haffari and Jacob Eisenstein .....	332
<i>Questioning Arbitrariness in Language: a Data-Driven Study of Conventional Iconicity</i>	
Ekaterina Abramova and Raquel Fernández .....	343
<i>Distinguishing Literal and Non-Literal Usage of German Particle Verbs</i>	
Maximilian Köper and Sabine Schulte im Walde .....	353
<i>Phrasal Substitution of Idiomatic Expressions</i>	
Changsheng Liu and Rebecca Hwa .....	363
<i>Leverage Financial News to Predict Stock Price Movements Using Word Embeddings and Deep Neural Networks</i>	
Yangtuo Peng and Hui Jiang .....	374
<i>Grammatical error correction using neural machine translation</i>	
Zheng Yuan and Ted Briscoe .....	380
<i>Multimodal Semantic Learning from Child-Directed Input</i>	
Angeliki Lazaridou, Grzegorz Chrupała, Raquel Fernández and Marco Baroni .....	387
<i>Recurrent Support Vector Machines For Slot Tagging In Spoken Language Understanding</i>	
Yangyang Shi, Kaisheng Yao, Hu Chen, Dong Yu, Yi-Cheng Pan and Mei-Yuh Hwang .....	393
<i>Expectation-Regulated Neural Model for Event Mention Extraction</i>	
Ching-Yun Chang, Zhiyang Teng and Yue Zhang .....	400

<i>Agreement on Target-bidirectional Neural Machine Translation</i>	411
Lemao Liu, Masao Utiyama, Andrew Finch and Eiichiro Sumita .....	
<i>Psycholinguistic Features for Deceptive Role Detection in Werewolf</i>	417
Codruta Girlea, Roxana Girju and Eyal Amir .....	
<i>Individual Variation in the Choice of Referential Form</i>	423
Thiago Castro Ferreira, Emiel Krahmer and Sander Wubben .....	
<i>Joint Learning Templates and Slots for Event Schema Induction</i>	428
Lei Sha, Sujian Li, Baobao Chang and Zhifang Sui .....	
<i>Inferring Psycholinguistic Properties of Words</i>	435
Gustavo Paetzold and Lucia Specia.....	
<i>Intra-Topic Variability Normalization based on Linear Projection for Topic Classification</i>	441
Quan Liu, Wu Guo, Zhen-Hua Ling, Hui Jiang and Yu Hu .....	
<i>Shift-Reduce CCG Parsing using Neural Network Models</i>	447
Bharat Ram Ambati, Tejaswini Deoskar and Mark Steedman .....	
<i>Online Multilingual Topic Models with Multi-Level Hyperpriors</i>	454
Kriste Krstovski, David Smith and Michael J. Kurtz.....	
<i>STransE: a novel embedding model of entities and relationships in knowledge bases</i>	460
Dat Quoc Nguyen, Kairit Sirts, Lizhen Qu and Mark Johnson .....	
<i>An Unsupervised Model of Orthographic Variation for Historical Document Transcription</i>	467
Dan Garrette and Hannah Alpert-Abrams .....	
<i>Bidirectional RNN for Medical Event Detection in Electronic Health Records</i>	473
Abhyuday N Jagannatha and Hong Yu .....	
<i>The Sensitivity of Topic Coherence Evaluation to Topic Cardinality</i>	483
Jey Han Lau and Timothy Baldwin .....	
<i>Transition-Based Syntactic Linearization with Lookahead Features</i>	488
Ratish Puduppully, Yue Zhang and Manish Shrivastava.....	
<i>A Recurrent Neural Networks Approach for Estimating the Quality of Machine Translation Output</i>	494
Hyun Kim and Jong-Hyeok Lee.....	
<i>Symmetric Patterns and Coordinations: Fast and Enhanced Representations of Verbs and Adjectives</i>	499
Roy Schwartz, Roi Reichart and Ari Rappoport .....	
<i>Breaking the Closed World Assumption in Text Classification</i>	506
Geli Fei and Bing Liu .....	
<i>Sequential Short-Text Classification with Recurrent and Convolutional Neural Networks</i>	515
Ji Young Lee and Franck Dernoncourt .....	

<i>Improved Neural Network-based Multi-label Classification with Better Initialization Leveraging Label Co-occurrence</i>	
Gakuto Kurata, Bing Xiang and Bowen Zhou .....	521
<i>Learning Distributed Word Representations For Bidirectional LSTM Recurrent Neural Network</i>	
Peilu Wang, Yao Qian, Frank K. Soong, Lei He and Hai Zhao.....	527
<i>Combining Recurrent and Convolutional Neural Networks for Relation Classification</i>	
Ngoc Thang Vu, Heike Adel, Pankaj Gupta and Hinrich Schütze .....	534
<i>Building Chinese Affective Resources in Valence-Arousal Dimensions</i>	
Liang-Chih Yu, Lung-Hao Lee, Shuai Hao, Jin Wang, Yunchao He, Jun Hu, K. Robert Lai and Xuejie Zhang .....	540
<i>Improving event prediction by representing script participants</i>	
Simon Ahrendt and Vera Demberg .....	546
<i>Structured Prediction with Output Embeddings for Semantic Image Annotation</i>	
Ariadna Quattoni, Arnau Ramisa, Pranava Swaroop Madhyastha, Edgar Simo-Serra and Francesc Moreno-Noguer.....	552
<i>Large-scale Multitask Learning for Machine Translation Quality Estimation</i>	
Kashif Shah and Lucia Specia .....	558
<i>Conversational Markers of Constructive Discussions</i>	
Vlad Niculae and Cristian Danescu-Niculescu-Mizil .....	568
<i>Vision and Feature Norms: Improving automatic feature norm learning through cross-modal maps</i>	
Luana Bulat, Douwe Kiela and Stephen Clark.....	579
<i>Cross-lingual Wikification Using Multilingual Embeddings</i>	
Chen-Tse Tsai and Dan Roth .....	589
<i>Deconstructing Complex Search Tasks: a Bayesian Nonparametric Approach for Extracting Sub-tasks</i>	
Rishabh Mehrotra, Prasanta Bhattacharya and Emine Yilmaz .....	599
<i>Probabilistic Models for Learning a Semantic Parser Lexicon</i>	
Jayant Krishnamurthy .....	606
<i>Unsupervised Compound Splitting With Distributional Semantics Rivals Supervised Methods</i>	
Martin Riedl and Chris Biemann .....	617
<i>Weighting Finite-State Transductions With Neural Context</i>	
Pushpendre Rastogi, Ryan Cotterell and Jason Eisner .....	623
<i>Morphological Inflection Generation Using Character Sequence to Sequence Learning</i>	
Manaal Faruqui, Yulia Tsvetkov, Graham Neubig and Chris Dyer .....	634

<i>Towards Unsupervised and Language-independent Compound Splitting using Inflectional Morphological Transformations</i>	Patrick Ziering and Lonneke van der Plas . . . . .	644
<i>Phonological Pun-derstanding</i>	Aaron Jaech, Rik Koncel-Kedziorski and Mari Ostendorf . . . . .	654
<i>A Joint Model of Orthography and Morphological Segmentation</i>	Ryan Cotterell, Tim Vieira and Hinrich Schütze . . . . .	664
<i>Syntactic Parsing of Web Queries with Question Intent</i>	Yuval Pinter, Roi Reichart and Idan Szpektor . . . . .	670
<i>Visualizing and Understanding Neural Models in NLP</i>	Jiwei Li, Xinlei Chen, Eduard Hovy and Dan Jurafsky . . . . .	681
<i>Bilingual Word Embeddings from Parallel and Non-parallel Corpora for Cross-Language Text Classification</i>	Aditya Mogadala and Achim Rettinger . . . . .	692
<i>Joint Learning with Global Inference for Comment Classification in Community Question Answering</i>	Shafiq Joty, Lluís Màrquez and Preslav Nakov . . . . .	703
<i>Weak Semi-Markov CRFs for Noun Phrase Chunking in Informal Text</i>	Aldrian Obaja Muis and Wei Lu . . . . .	714
<i>What to talk about and how? Selective Generation using LSTMs with Coarse-to-Fine Alignment</i>	Hongyuan Mei, Mohit Bansal and Matthew R. Walter . . . . .	720
<i>Generation from Abstract Meaning Representation using Tree Transducers</i>	Jeffrey Flanigan, Chris Dyer, Noah A. Smith and Jaime Carbonell . . . . .	731
<i>A Corpus and Semantic Parser for Multilingual Natural Language Querying of OpenStreetMap</i>	Carolin Haas and Stefan Riezler . . . . .	740
<i>Natural Language Communication with Robots</i>	Yonatan Bisk, Deniz Yuret and Daniel Marcu . . . . .	751
<i>Inter-document Contextual Language model</i>	Quan Hung Tran, Ingrid Zukerman and Gholamreza Haffari . . . . .	762
<i>Ultradense Word Embeddings by Orthogonal Transformation</i>	Sascha Rothe, Sebastian Ebert and Hinrich Schütze . . . . .	767
<i>Separating Actor-View from Speaker-View Opinion Expressions using Linguistic Features</i>	Michael Wiegand, Marc Schulder and Josef Ruppenhofer . . . . .	778
<i>Clustering for Simultaneous Extraction of Aspects and Features from Reviews</i>	Lu Chen, Justin Martineau, Doreen Cheng and Amit Sheth . . . . .	789

<i>Opinion Holder and Target Extraction on Opinion Compounds – A Linguistic Approach</i>	800
Michael Wiegand, Christine Bocionek and Josef Ruppenhofer .....	800
<i>Capturing Reliable Fine-Grained Sentiment Associations by Crowdsourcing and Best–Worst Scaling</i>	811
Svetlana Kiritchenko and Saif M. Mohammad.....	811
<i>Mapping Verbs in Different Languages to Knowledge Base Relations using Web Text as Interlingua</i>	818
Derry Tanti Wijaya and Tom M. Mitchell .....	818
<i>Comparing Convolutional Neural Networks to Traditional Models for Slot Filling</i>	828
Heike Adel, Benjamin Roth and Hinrich Schütze .....	828
<i>A Corpus and Cloze Evaluation for Deeper Understanding of Commonsense Stories</i>	839
Nasrin Mostafazadeh, Nathanael Chambers, Xiaodong He, Devi Parikh, Dhruv Batra, Lucy Vanderwende, Pushmeet Kohli and James Allen .....	839
<i>Dynamic Entity Representation with Max-pooling Improves Machine Reading</i>	850
Sosuke Kobayashi, Ran Tian, Naoaki Okazaki and Kentaro Inui .....	850
<i>Speed-Constrained Tuning for Statistical Machine Translation Using Bayesian Optimization</i>	856
Daniel Beck, Adrià de Gispert, Gonzalo Iglesias, Aurelien Waite and Bill Byrne .....	856
<i>Multi-Way, Multilingual Neural Machine Translation with a Shared Attention Mechanism</i>	866
Orhan Firat, Kyunghyun Cho and Yoshua Bengio .....	866
<i>Incorporating Structural Alignment Biases into an Attentional Neural Translation Model</i>	876
Trevor Cohn, Cong Duy Vu Hoang, Ekaterina Vymolova, Kaisheng Yao, Chris Dyer and Gholamreza Haffari .....	876
<i>Multilingual Relation Extraction using Compositional Universal Schema</i>	886
Patrick Verga, David Belanger, Emma Strubell, Benjamin Roth and Andrew McCallum .....	886
<i>Effective Crowd Annotation for Relation Extraction</i>	897
Angli Liu, Stephen Soderland, Jonathan Bragg, Christopher H. Lin, Xiao Ling and Daniel S. Weld .....	897
<i>A Translation-Based Knowledge Graph Embedding Preserving Logical Property of Relations</i>	907
Hee-Geun Yoon, Hyun-Je Song, Seong-Bae Park and Se-Young Park .....	907
<i>DAG-Structured Long Short-Term Memory for Semantic Compositionality</i>	917
Xiaodan Zhu, Parinaz Sobhani and Hongyu Guo.....	917
<i>Bayesian Supervised Domain Adaptation for Short Text Similarity</i>	927
Md Arafat Sultan, Jordan Boyd-Graber and Tamara Sumner .....	927
<i>Pairwise Word Interaction Modeling with Deep Neural Networks for Semantic Similarity Measurement</i>	937
Hua He and Jimmy Lin .....	937
<i>An Attentional Model for Speech Translation Without Transcription</i>	949
Long Duong, Antonios Anastopoulos, David Chiang, Steven Bird and Trevor Cohn .....	949

<i>Information Density and Quality Estimation Features as Translationese Indicators for Human Translation Classification</i>	960
Raphael Rubino, Ekaterina Lapshinova-Koltunski and Josef van Genabith .....	960
<i>Interpretese vs. Translationese: The Uniqueness of Human Strategies in Simultaneous Interpretation</i>	971
He He, Jordan Boyd-Graber and Hal Daumé III .....	971
<i>LSTM Neural Reordering Feature for Statistical Machine Translation</i>	977
Yiming Cui, Shijin Wang and Jianfeng Li .....	977
<i>A Novel Approach to Dropped Pronoun Translation</i>	983
Longyue Wang, Zhaopeng Tu, Xiaojun Zhang, Hang Li, Andy Way and Qun Liu .....	983
<i>Learning Global Features for Coreference Resolution</i>	994
Sam Wiseman, Alexander M. Rush and Stuart M. Shieber .....	994
<i>Search Space Pruning: A Simple Solution for Better Coreference Resolvers</i>	1005
Nafise Sadat Moosavi and Michael Strube .....	1005
<i>Unsupervised Ranking Model for Entity Coreference Resolution</i>	1012
Xuezhe Ma, Zhengzhong Liu and Eduard Hovy .....	1012
<i>Embedding Lexical Features via Low-Rank Tensors</i>	1019
Mo Yu, Mark Dredze, Raman Arora and Matthew R. Gormley .....	1019
<i>The Role of Context Types and Dimensionality in Learning Word Embeddings</i>	1030
Oren Melamud, David McClosky, Siddharth Patwardhan and Mohit Bansal .....	1030
<i>Improve Chinese Word Embeddings by Exploiting Internal Structure</i>	1041
Jian Xu, Jiawei Liu, Liangang Zhang, Zhengyu Li and Huanhuan Chen .....	1041
<i>Assessing Relative Sentence Complexity using an Incremental CCG Parser</i>	1051
Bharat Ram Ambati, Siva Reddy and Mark Steedman .....	1051
<i>Frustratingly Easy Cross-Lingual Transfer for Transition-Based Dependency Parsing</i>	1058
Ophélie Lacroix, Lauriane Aufrant, Guillaume Wisniewski and François Yvon .....	1058
<i>Geolocation for Twitter: Timing Matters</i>	1064
Mark Dredze, Miles Osborne and Prabhjanjan Kambadur .....	1064
<i>Fast and Easy Short Answer Grading with High Accuracy</i>	1070
Md Arafat Sultan, Cristobal Salazar and Tamara Sumner .....	1070
<i>Interlocking Phrases in Phrase-based Statistical Machine Translation</i>	1076
Ye Kyaw Thu, Andrew Finch and Eiichiro Sumita .....	1076
<i>Eyes Don't Lie: Predicting Machine Translation Quality Using Eye Movement</i>	1082
Hassan Sajjad, Francisco Guzmán, Nadir Durrani, Ahmed Abdelali, Houda Bouamor, Irina Temnikova and Stephan Vogel.....	1082

<i>Making Dependency Labeling Simple, Fast and Accurate</i>	1089
Tianxiao Shen, Tao Lei and Regina Barzilay .....	
<i>Deep Lexical Segmentation and Syntactic Parsing in the Easy-First Dependency Framework</i>	1095
Matthieu Constant, Joseph Le Roux and Nadi Tomeh .....	
<i>Sentiment Composition of Words with Opposing Polarities</i>	1102
Svetlana Kiritchenko and Saif M. Mohammad.....	
<i>Learning to Recognize Ancillary Information for Automatic Paraphrase Identification</i>	1109
Simone Filice and Alessandro Moschitti .....	
<i>Learning a POS tagger for AAVE-like language</i>	1115
Anna Jørgensen, Dirk Hovy and Anders Søgaard .....	
<i>PIC a Different Word: A Simple Model for Lexical Substitution in Context</i>	1121
Stephen Roller and Katrin Erk .....	
<i>Bootstrapping Translation Detection and Sentence Extraction from Comparable Corpora</i>	1127
Kriste Krstovski and David Smith.....	
<i>Discriminative Reranking for Grammatical Error Correction with Statistical Machine Translation</i>	1133
Tomoya Mizumoto and Yuji Matsumoto .....	
<i>Patterns of Wisdom: Discourse-Level Style in Multi-Sentence Quotations</i>	1139
Kyle Booten and Marti A. Hearst .....	
<i>Right-truncatable Neural Word Embeddings</i>	1145
Jun Suzuki and Masaaki Nagata .....	
<i>MAWPS: A Math Word Problem Repository</i>	1152
Rik Koncel-Kedziorski, Subhro Roy, Aida Amini, Nate Kushman and Hannaneh Hajishirzi .	
<i>Cross-genre Event Extraction with Knowledge Enrichment</i>	1158
Hao Li and Heng Ji .....	
<i>Emergent: a novel data-set for stance classification</i>	1163
William Ferreira and Andreas Vlachos .....	
<i>BIRA: Improved Predictive Exchange Word Clustering</i>	1169
Jon Dehdari, Liling Tan and Josef van Genabith .....	
<i>Integrating Morphological Desegmentation into Phrase-based Decoding</i>	1175
Mohammad Salameh, Colin Cherry and Grzegorz Kondrak .....	
<i>The Instantiation Discourse Relation: A Corpus Analysis of Its Properties and Improved Detection</i>	1181
Junyi Jessy Li and Ani Nenkova .....	
<i>Sparse Bilingual Word Representations for Cross-lingual Lexical Entailment</i>	1187
Yogarshi Vyas and Marine Carpuat.....	

<i>Automatic Prediction of Linguistic Decline in Writings of Subjects with Degenerative Dementia</i>	
Davy Weissenbacher, Travis A. Johnson, Laura Wojtulewicz, Amylou Dueck, Dona Locke, Richard Caselli and Graciela Gonzalez . . . . .	1198
<i>Consensus Maximization Fusion of Probabilistic Information Extractors</i>	
Miguel Rodríguez, Sean Goldberg and Daisy Zhe Wang . . . . .	1208
<i>Simple, Fast Noise-Contrastive Estimation for Large RNN Vocabularies</i>	
Barret Zoph, Ashish Vaswani, Jonathan May and Kevin Knight . . . . .	1217
<i>Automatically Inferring Implicit Properties in Similes</i>	
Ashequl Qadir, Ellen Riloff and Marilyn A. Walker . . . . .	1223
<i>Visual Storytelling</i>	
Ting-Hao (Kenneth) Huang, Francis Ferraro, Nasrin Mostafazadeh, Ishan Misra, Aishwarya Agrawal, Jacob Devlin, Ross Girshick, Xiaodong He, Pushmeet Kohli, Dhruv Batra, C. Lawrence Zitnick, Devi Parikh, Lucy Vanderwende, Michel Galley and Margaret Mitchell . . . . .	1233
<i>PRIMT: A Pick-Revise Framework for Interactive Machine Translation</i>	
Shanbo Cheng, Shujian Huang, Huadong Chen, Xin-Yu Dai and Jiajun Chen . . . . .	1240
<i>Incorporating Side Information into Recurrent Neural Network Language Models</i>	
Cong Duy Vu Hoang, Trevor Cohn and Gholamreza Haffari . . . . .	1250
<i>Capturing Semantic Similarity for Entity Linking with Convolutional Neural Networks</i>	
Matthew Francis-Landau, Greg Durrett and Dan Klein . . . . .	1256
<i>K-Embeddings: Learning Conceptual Embeddings for Words using Context</i>	
Thuy Vu and D. Stott Parker . . . . .	1262
<i>Convolutional Neural Networks vs. Convolution Kernels: Feature Engineering for Answer Sentence Reranking</i>	
Kateryna Tymoshenko, Daniele Bonadiman and Alessandro Moschitti . . . . .	1268
<i>Semi-supervised Question Retrieval with Gated Convolutions</i>	
Tao Lei, Hrishikesh Joshi, Regina Barzilay, Tommi Jaakkola, Kateryna Tymoshenko, Alessandro Moschitti and Lluís Márquez . . . . .	1279
<i>This is how we do it: Answer Reranking for Open-domain How Questions with Paragraph Vectors and Minimal Feature Engineering</i>	
Dasha Bogdanova and Jennifer Foster . . . . .	1290
<i>Multilingual Language Processing From Bytes</i>	
Dan Gillick, Cliff Brunk, Oriol Vinyals and Amarnag Subramanya . . . . .	1296
<i>Ten Pairs to Tag – Multilingual POS Tagging via Coarse Mapping between Embeddings</i>	
Yuan Zhang, David Gaddy, Regina Barzilay and Tommi Jaakkola . . . . .	1307
<i>Part-of-Speech Tagging for Historical English</i>	
Yi Yang and Jacob Eisenstein . . . . .	1318

<i>Statistical Modeling of Creole Genesis</i>	1329
Yugo Murawaki .....	
<i>Shallow Parsing Pipeline - Hindi-English Code-Mixed Social Media Text</i>	
Arnav Sharma, Sakshi Gupta, Raveesh Motlani, Piyush Bansal, Manish Shrivastava, Radhika Mamidi and Dipti M. Sharma .....	1340
<i>Bilingual Learning of Multi-sense Embeddings with Discrete Autoencoders</i>	
Simon Šuster, Ivan Titov and Gertjan van Noord.....	1346
<i>Polyglot Neural Language Models: A Case Study in Cross-Lingual Phonetic Representation Learning</i>	
Yulia Tsvetkov, Sunayana Sitaram, Manaal Faruqui, Guillaume Lample, Patrick Littell, David Mortensen, Alan W Black, Lori Levin and Chris Dyer .....	1357
<i>Learning Distributed Representations of Sentences from Unlabelled Data</i>	
Felix Hill, Kyunghyun Cho and Anna Korhonen.....	1367
<i>Retrofitting Sense-Specific Word Vectors Using Parallel Text</i>	
Allyson Ettinger, Philip Resnik and Marine Carpuat .....	1378
<i>End-to-End Argumentation Mining in Student Essays</i>	
Isaac Persing and Vincent Ng .....	1384
<i>Cross-Domain Mining of Argumentative Text through Distant Supervision</i>	
Khalid Al-Khatib, Henning Wachsmuth, Matthias Hagen, Jonas Köhler and Benno Stein ...	1395
<i>A Study of the Impact of Persuasive Argumentation in Political Debates</i>	
Amparo Elizabeth Cano-Basave and Yulan He .....	1405
<i>Lexical Coherence Graph Modeling Using Word Embeddings</i>	
Mohsen Mesgar and Michael Strube .....	1414
<i>Using Context to Predict the Purpose of Argumentative Writing Revisions</i>	
Fan Zhang and Diane Litman .....	1424
<i>Automatic Generation and Scoring of Positive Interpretations from Negated Statements</i>	
Eduardo Blanco and Zahra Sarabi .....	1431
<i>Learning Natural Language Inference with LSTM</i>	
Shuohang Wang and Jing Jiang .....	1442
<i>Activity Modeling in Email</i>	
Ashequl Qadir, Michael Gamon, Patrick Pantel and Ahmed Hassan Awadallah .....	1452
<i>Clustering Paraphrases by Word Sense</i>	
Anne Cocos and Chris Callison-Burch.....	1463
<i>Unsupervised Learning of Prototypical Fillers for Implicit Semantic Role Labeling</i>	
Niko Schenk and Christian Chiarcos .....	1473

<i>Hierarchical Attention Networks for Document Classification</i>	
Zichao Yang, Diyi Yang, Chris Dyer, Xiaodong He, Alex Smola and Eduard Hovy .....	1480
<i>Dependency Based Embeddings for Sentence Classification Tasks</i>	
Alexandros Komninos and Suresh Manandhar.....	1490
<i>Deep LSTM based Feature Mapping for Query Classification</i>	
Yangyang Shi, Kaisheng Yao, Le Tian and Dixin Jiang .....	1501
<i>Dependency Sensitive Convolutional Neural Networks for Modeling Sentences and Documents</i>	
Rui Zhang, Honglak Lee and Dragomir R. Radev .....	1512
<i>MGNC-CNN: A Simple Approach to Exploiting Multiple Word Embeddings for Sentence Classification</i>	
Ye Zhang, Stephen Roller and Byron C. Wallace .....	1522
<i>Improving sentence compression by learning to predict gaze</i>	
Sigrid Klerke, Yoav Goldberg and Anders Søgaard .....	1528
<i>Feuding Families and Former Friends: Unsupervised Learning for Dynamic Fictional Relationships</i>	
Mohit Iyyer, Anupam Guha, Snigdha Chaturvedi, Jordan Boyd-Graber and Hal Daumé III..	1534
<i>Learning to Compose Neural Networks for Question Answering</i>	
Jacob Andreas, Marcus Rohrbach, Trevor Darrell and Dan Klein .....	1545