# ACL 2017

# The 55th Annual Meeting of the Association for Computational Linguistics

**Proceedings of the Conference, Vol. 2 (Short Papers)** 

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# **Preface: General Chair**

Welcome to ACL 2017 in Vancouver, Canada! This is the 55th annual meeting of the Association for Computational Linguistics. A tremendous amount of knowledge has been presented at more than half a century's worth of our conferences. Hopefully, some of it is still relevant now that deep learning has solved language. We are anticipating one of the largest ACL conferences ever. We had a record number of papers submitted to the conference, and a record number of industry partners joining us as sponsors of the conference. We are on track to be one of the best attended ACL conferences to date. I hope that this year's conference is intellectually stimulating and that you take home many new ideas and techniques that will help extend your own research.

Each year, the ACL conference is organized by a dedicated team of volunteers. Please thank this year's organizers for their service to the community when you see them at the conference. Without these people, this conference would not happen: Regina Barzilay and Min-Yen Kan (Program Co-Chairs), Priscilla Rasmussen and Anoop Sarkar (Local Organizing Committee), Wei Xu and Jonathan Berant (Workshop Chairs), Maja Popović and Jordan Boyd-Graber (Tutorial Chairs), Wei Lu, Sameer Singh and Margaret Mitchell (Publication Chairs), Heng Ji and Mohit Bansal (Demonstration Chairs), Spandana Gella, Allyson Ettinger, and Matthieu Labeau (Student Research Workshop Organizers), Cecilia Ovesdotter Alm, Mark Dredze, and Marine Carpuat (Faculty Advisors to the Student Research Workshop), Charley Chan (Publicity Chair), Christian Federmann (Conference Handbook Chair), Maryam Siahbani (Student Volunteer Coordinator), and Nitin Madnani (Webmaster and Appmaster).

The organizers have been working for more than a year to put together the conference. Far more than a year in advance, the ACL 2017 Coordinating Committee helped to select the venue and to pick the General Chair and the Program Co-Chairs. This consisted of members from NAACL and ACL executive boards. Representing NAACL we had Hal Daumé III, Michael White, Joel Tetreault, and Emily Bender. Representing ACL we had Pushpak Bhattacharyya, Dragomir Radev, Graeme Hirst, Yejin Choi, and Priscilla Rasmussen. I would like to extend a personal thanks to Graeme and Priscilla who often serve as the ACL's institutional memory, and who have helped fill in many details along the way.

I would like to extend a special thanks to our Program Co-Chairs, Regina Barzilay and Min-Yen Kan. They documented their work creating the program by running a blog. They used their blog as a platform for engaging the ACL community in many of the decision making processes including soliciting suggestions for the conference's area chairs and invited speakers. They hosted discussions with Marti Hearst and Joakim Nivre about the value of publishing pre-prints of submitted paper on arXiv and how they relate to double blind reviewing. They even invited several prominent members of our community to provide last-minute writing advice. If you weren't following the blog in the lead-up to the conference, I highly recommend taking a look through it now. You can find it linked from the ACL 2017 web page.

This year's program looks like it will be excellent! We owe a huge thank you to Regina Barzilay and Min-Yen Kan. They selected this year's papers from 1,318 submissions with the help of 44 area chairs and more than 1,200 reviewers. Thanks to Regina, Min, the area chairs, the reviewers and the authors. Beyond the papers, we have talks by luminaries in the field of NLP, including ACL President Joakim Nivre, invited speakers Mirella Lapata and Noah Smith, and the recipient of this year's Lifetime Achievement Award. We also have an excellent set of workshops and tutorials. On the tutorial day, there will also be a special workshop on Women and Underrepresented Minorities in Natural Language Processing. Thank you to our workshop organizers and tutorial presenters.

This year's conference features two outreach activities that I would like to highlight. First, on Sunday, July 30, 2017, there will be a workshop on Women and Underrepresented Minorities in Natural Language Processing organized by Libby Barak, Isabelle Augenstein, Chloé Braud, He He, and Margaret Mitchell. The goals of the workshop are to increase awareness of the work women and underrepresented

groups do, support women and underrepresented groups in continuing to pursue their research, and motivate long-term resources for underrepresented groups within ACL. Second, for the first time ever, ACL is offering subsidized on-site childcare at the conference hotel. The goal of this is to allow ACL participants with children to more readily be able to attend the conference. Since childcare duties often fall disproportionately on women, our hope is that by having professional childcare on-site that we will allow more women to participate, and therefore to help promote their careers. My hope is that the childcare will be continued in future conferences.

I would like to thank our many sponsors for their generous contributions. Our platinum sponsors are Alibaba, Amazon, Apple, Baidu, Bloomberg, Facebook, Google, Samsung and Tencent. Our gold sponsors are eBay, Elsevier, IBM Research, KPMG, Maluuba, Microsoft, Naver Line, NEC, Recruit Institute of Technology, and SAP. Our silver sponsors are Adobe, Bosch, CVTE, Duolingo, Huawei, Nuance, Oracle, and Sogou. Our bronze sponsors are Grammarly, Toutiao, and Yandex. Our supporters include Newsela and four professional master's degree programs from Brandeis, Columbia, NYU and the University of Washington. We would like to acknowledge the generous support of the National Science Foundation which has awarded a \$15,000 grant to the ACL Student Research Workshop. Finally, NVIDIA donated several Titan X GPU cards for us to raffle off during the conference.

Lastly, I would like to thank everyone else who helped to make this conference a success. Thank you to our area chairs, our army of reviewers, our workshop organizers, our tutorial presenters, our invited speakers, and our authors. Best regards to all of you.

Welcome to ACL 2017!

Chris Callison-Burch General Chair

# **Preface: Program Committee Co-Chairs**

Welcome to the 55th Annual Meeting of the Association for Computational Linguistics! This year, ACL received 751 long paper submissions and 567 short paper submissions<sup>1</sup>. Of the long papers, 195 were accepted for presentation at ACL — 117 as oral presentations and 78 as poster presentations (25% acceptance rate). 107 short papers were accepted — 34 as oral and 73 as poster presentations (acceptance rate of 18%). In addition, ACL will also feature 21 presentations of papers accepted in the *Transactions of the Association for Computational Linguistics* (TACL). Including the student research workshop and software demonstrations, the ACL program swells to a massive total of 367 paper presentations on the scientific program, representing the largest ACL program to date.

ACL 2017 will have two distinguished invited speakers: Noah A. Smith (Associate Professor of Computer Science and Engineering at the University of Washington) and Mirella Lapata (Professor in the School of Informatics at the University of Edinburgh). Both are well-renowned for their contributions to the field of computational linguistics and are excellent orators. We are honored that they have accepted our invitation to address the membership at this exciting juncture in our field's history, addressing key issues in representation learning and multimodal machine translation.

To manage the tremendous growth of our field, we introduced some changes to the conference. With the rotation of the annual meeting to the Americas, we anticipated a heavy load of submissions and early on we decided to have both the long and short paper deadlines merged to reduce reviewing load and to force authors to take a stand on their submissions' format. The joint deadline allowed us to only load our reviewers once, and also enabled us to have an extended period for more lengthy dialogue among authors, reviewers and area chairs.

In addition, oral presentations were shortened to fourteen (twelve) minutes for long (short) papers, plus time for questions. While this places a greater demand on speakers to be concise, we believe it is worth the effort, allowing far more work to be presented orally. We also took advantage of the many halls available and expanded the number of parallel talks to five during most of the conference sessions.

In keeping with changes introduced in the ACL community from last year, we continued the practice of recognizing outstanding papers at ACL. The 22 outstanding papers (15 long, 7 short, 1.6% of submissions) represent a broad spectrum of exciting contributions and have been specially placed on the final day of the main conference where the program is focused into two parallel sessions of these outstanding contributions. From these, a best paper and a best short paper those will be announced in the awards session on Wednesday afternoon.

Chris has already mentioned our introduction of the chairs' blog<sup>2</sup>, where we strove to make the selection process of the internal workings of the scientific committee more transparent. We have publicly documented our calls for area chairs, reviewers and accepted papers selection process. Via the blog, we communicated several innovations in the conference organization workflow, of which we would call attention to two key ones here.

In the review process, we pioneered the use of the Toronto Paper Matching System, a topic model based approach to the assignment of reviewers to papers. We hope this decision will spur other program chairs to adopt the system, as increased coverage will better the reviewer/submission matching process, ultimately leading to a higher quality program.

For posterity, we also introduced the usage of hyperlinks in the bibliography reference sections of papers,

<sup>&</sup>lt;sup>1</sup>These numbers exclude papers that were not reviewed due to formatting, anonymity, or double submission violations or that were withdrawn prior to review, which was unfortunately a substantial number.

<sup>&</sup>lt;sup>2</sup>https://chairs-blog.acl2017.org/

and have worked with the ACL Anthology to ensure that digital object identifiers (DOIs) appear in the footer of each paper. These steps will help broaden the long-term impact of the work that our community has on the scientific world at large.

There are many individuals we wish to thank for their contributions to ACL 2017, some multiple times:

- The 61 area chairs who volunteered for our extra duty. They recruited reviewers, led discussions on each paper, replied to authors' direct comments to them and carefully assessed each submission. Their input was instrumental in guiding the final decisions on papers and selecting the outstanding papers.
- Our full program committee of BUG hard-working individuals who reviewed the conference's 1,318 submissions (including secondary reviewers).
- TACL editors-in-chief Mark Johnson, Lillian Lee, and Kristina Toutanova, for coordinating with us on TACL presentations at ACL.
- Noah Smith and Katrin Erk, program co-chairs of ACL 2016 and Ani Nenkova and Owen Rambow, program co-chairs of NAACL 2016, who we consulted several times on short order for help and advice.
- Wei Lu and Sameer Singh, our well-organized publication chairs, with direction and oversight from publication chair mentor Meg Mitchell. Also, Christian Federmann who helped with the local handbook.
- The responsive team at Softconf led by Rich Gerber, who worked quickly to resolve problems and who strove to integrate the use of the Toronto Paper Matching System (TPMS) for our use.
- Priscilla Rasmussen and Anoop Sarkar and the local organization team, especially webmaster Nitin Madnani.
- Christopher Calliston-Burch, our general chair, who kept us coordinated with the rest of the ACL 2017 team and helped us free our time to concentrate on the key duty of organizing the scientific program.
- Key-Sun Choi, Jing Jiang, Graham Neubig, Emily Pitler, and Bonnie Webber who carefully reviewed papers under consideration for best paper recognition.
- Our senior correspondents for the blog, who contributed guest posts and advice for writing and reviewing: Waleed Ammar, Yoav Artzi, Tim Baldwin, Marco Baroni, Claire Cardie, Xavier Carreras, Hal Daumé, Kevin Duh, Chris Dyer, Marti Hearst, Mirella Lapata, Emily M. Bender, Aurélien Max, Kathy McKeown, Ray Mooney, Ani Nenkova, Joakim Nivre, Philip Resnik, and Joel Tetreault. Without them, the participation of the community through the productive comments, and without you the readership, our blog for disseminating information about the decision processes would not have been possible and a success.

We hope that you enjoy ACL 2017 in Vancouver!

ACL 2017 program co-chairs Regina Barzilay, Massachusetts Institute of Technology Min-Yen Kan, National University of Singapore

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# **Outstanding Papers**

With twin upward trends in the interest in computational linguistics and natural language processing and the size of our annual meeting, ACL has begun the practice of recognizing outstanding papers that represent a select cross-section of the entire field, as nominated by reviewers and vetted by the area chairs and program co-chairs. These papers have been centrally located in the program, on the last day of our meeting, in a more focused two parallel tracks format.

This year, we have nominated 15 long papers and 7 short papers, representing 1.8% of all submissions and approximately 5% of the accepted ACL program. Congratulations, authors!

(in alphabetical order by first author surname)

#### **Long Papers**

- Jan Buys and Phil Blunsom. Robust Incremental Neural Semantic Graph Parsing.
- Xinchi Chen, Zhan Shi, Xipeng Qiu and Xuanjing Huang. Adversarial Multi-Criteria Learning for Chinese Word Segmentation.
- Ryan Cotterell and Jason Eisner. *Probabilistic Typology: Deep Generative Models of Vowel Inventories.*
- Yanzhuo Ding, Yang Liu, Huanbo Luan and Maosong Sun. *Visualizing and Understanding Neural Machine Translation.*
- Milan Gritta, Mohammad Taher Pilehvar, Nut Limsopatham and Nigel Collier. Vancouver Welcomes You! Minimalist Location Metonymy Resolution.
- Daniel Hershcovich, Omri Abend and Ari Rappoport. A Transition-Based Directed Acyclic Graph Parser for UCCA.
- Shuhei Kurita, Daisuke Kawahara and Sadao Kurohashi. *Neural Joint Model for Transition*based Chinese Syntactic Analysis.
- Ryan Lowe, Michael Noseworthy, Iulian Vlad Serban, Nicolas Angelard-Gontier, Yoshua Bengio and Joelle Pineau. *Towards an Automatic Turing Test: Learning to Evaluate Dialogue Responses*.
- Yasuhide Miura, Motoki Taniguchi, Tomoki Taniguchi and Tomoko Ohkuma. Unifying Text, Metadata, and User Network Representations with a Neural Network for Geolocation Prediction.
- Ramakanth Pasunuru and Mohit Bansal. *Multi-Task Video Captioning with Visual and Entailment Generation.*
- Maxim Rabinovich, Mitchell Stern and Dan Klein. Abstract Syntax Networks for Code Generation and Semantic Parsing.
- Ines Rehbein and Josef Ruppenhofer. *Detecting annotation noise in automatically labelled data.*
- Jiwei Tan, Xiaojun Wan and Jianguo Xiao. *Abstractive Document Summarization with a Graph-Based Attentional Neural Model.*
- Mingbin Xu, Hui Jiang and Sedtawut Watcharawittayakul. A Local Detection Approach for Named Entity Recognition and Mention Detection.
- Suncong Zheng, Feng Wang, Hongyun Bao, Yuexing Hao, Peng Zhou and Bo Xu. *Joint Extraction of Entities and Relations Based on a Novel Tagging Scheme.*

#### **Short Papers**

- Xinyu Hua and Lu Wang. Understanding and Detecting Diverse Supporting Arguments on Controversial Issues.
- Jindřich Libovický and Jindřich Helcl. Attention Strategies for Multi-Source Sequence-to-Sequence Learning.
- Bogdan Ludusan, Reiko Mazuka, Mathieu Bernard, Alejandrina Cristia and Emmanuel Dupoux. *The Role of Prosody and Speech Register in Word Segmentation: A Computational Modelling Perspective.*
- Afshin Rahimi, Trevor Cohn and Timothy Baldwin. A Neural Model for User Geolocation and Lexical Dialectology.
- Keisuke Sakaguchi, Matt Post and Benjamin Van Durme. *Error-repair Dependency Parsing for Ungrammatical Texts*.
- Alane Suhr, Mike Lewis, James Yeh and Yoav Artzi. A Corpus of Compositional Language for Visual Reasoning.
- Yizhong Wang, Sujian Li and Houfeng Wang. A Two-stage Parsing Method for Text-level Discourse Analysis.

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# **Conference Program**

#### Monday, July 31st

#### 11:46–11:58 Session 1A: Information Extraction 1 (NN)

11:46–11:58 *Classifying Temporal Relations by Bidirectional LSTM over Dependency Paths* Fei Cheng and Yusuke Miyao

#### 11:46–11:58 Session 1B: Semantics 1

11:46–11:58 AMR-to-text Generation with Synchronous Node Replacement Grammar Linfeng Song, Xiaochang Peng, Yue Zhang, Zhiguo Wang and Daniel Gildea

#### 11:46–11:58 Session 1C: Discourse 1

- 11:46–11:58 *Lexical Features in Coreference Resolution: To be Used With Caution* Nafise Sadat Moosavi and Michael Strube
- 11:46–11:58 Session 1D: Machine Translation 1
- 11:46–11:58 *Alternative Objective Functions for Training MT Evaluation Metrics* Miloš Stanojević and Khalil Sima'an

#### 11:46–11:58 Session 1E: Generation 1

- 11:46–11:58 A Principled Framework for Evaluating Summarizers: Comparing Models of Summary Quality against Human Judgments Maxime Peyrard and Judith Eckle-Kohler
- 17:00–17:12 Session 3A: Information Extraction 2 / Biomedical 1
- 17:00–17:12 *Vector space models for evaluating semantic fluency in autism* Emily Prud'hommeaux, Jan van Santen and Douglas Gliner
- 17:00–17:12 Session 3B: Semantics 2 (NN)
- 17:00–17:12 *Neural Architectures for Multilingual Semantic Parsing* Raymond Hendy Susanto and Wei Lu
- 17:00–17:12 Session 3C: Speech 1 / Dialogue 1
- 17:00–17:12 *Incorporating Uncertainty into Deep Learning for Spoken Language Assessment* Andrey Malinin, Anton Ragni, Kate Knill and Mark Gales

#### 17:00–17:12 Session 3D: Multilingual 1

17:00–17:12 *Incorporating Dialectal Variability for Socially Equitable Language Identification* David Jurgens, Yulia Tsvetkov and Dan Jurafsky

- 17:00–17:12 Session 3E: Phonology 1
- 17:00–17:12 *Evaluating Compound Splitters Extrinsically with Textual Entailment* Glorianna Jagfeld, Patrick Ziering and Lonneke van der Plas

#### **Tuesday, August 1st**

- 11:46–12:04 Session 4B: Cognitive Modelling 1 / Vision 2
- 11:46–12:04 An Analysis of Action Recognition Datasets for Language and Vision Tasks Spandana Gella and Frank Keller
- 11:46–12:04 Session 4D: Machine Translation 2
- 11:46–12:04 *Learning to Parse and Translate Improves Neural Machine Translation* Akiko Eriguchi, Yoshimasa Tsuruoka and Kyunghyun Cho
- 11:46–12:04 Session 4E: Social Media 1
- 11:46–12:04 On the Distribution of Lexical Features at Multiple Levels of Analysis
   Fatemeh Almodaresi, Lyle Ungar, Vivek Kulkarni, Mohsen Zakeri, Salvatore Giorgi and H. Andrew Schwartz

#### 13:30–15:02 Session 5A: Multidisciplinary 1

- 13:30–13:48 *Exploring Neural Text Simplification Models* Sergiu Nisioi, Sanja Štajner, Simone Paolo Ponzetto and Liviu P. Dinu
- 14:40–15:02 *On the Challenges of Translating NLP Research into Commercial Products* Daniel Dahlmeier

#### 14:27–15:02 Session 5B: Language and Resources 1

- 14:27–14:39 Sentence Alignment Methods for Improving Text Simplification Systems
   Sanja Štajner, Marc Franco-Salvador, Simone Paolo Ponzetto, Paolo Rosso and Heiner Stuckenschmidt
- 14:40–15:02 *Understanding Task Design Trade-offs in Crowdsourced Paraphrase Collection* Youxuan Jiang, Jonathan K. Kummerfeld and Walter S. Lasecki
- 14:27–15:02 Session 5C: Syntax 2 (NN)
- 14:27–14:39 *Arc-swift: A Novel Transition System for Dependency Parsing* Peng Qi and Christopher D. Manning
- 14:40–15:02 *A Generative Parser with a Discriminative Recognition Algorithm* Jianpeng Cheng, Adam Lopez and Mirella Lapata

#### 14:27–15:02 Session 5D: Machine Translation 3 (NN)

- 14:27–14:39 *Hybrid Neural Network Alignment and Lexicon Model in Direct HMM for Statistical Machine Translation* Weiyue Wang, Tamer Alkhouli, Derui Zhu and Hermann Ney
- 14:40–15:02 *Towards String-To-Tree Neural Machine Translation* Roee Aharoni and Yoav Goldberg

#### 14:08–15:02 Session 5E: Sentiment 2

- 14:08–14:26 *Learning Lexico-Functional Patterns for First-Person Affect* Lena Reed, Jiaqi Wu, Shereen Oraby, Pranav Anand and Marilyn Walker
- 14:27–14:39 *Lifelong Learning CRF for Supervised Aspect Extraction* Lei Shu, Hu Xu and Bing Liu
- 14:40–15:02 *Exploiting Domain Knowledge via Grouped Weight Sharing with Application to Text Categorization* Ye Zhang, Matthew Lease and Byron C. Wallace

#### 16:41–17:00 Session 6A: Information Extraction 4

16:41–17:00 Improving Neural Parsing by Disentangling Model Combination and Reranking Effects
 Daniel Fried, Mitchell Stern and Dan Klein

#### 16:22–17:00 Session 6D: Machine Learning 2

- 16:22–16:40 Information-Theory Interpretation of the Skip-Gram Negative-Sampling Objective Function Oren Melamud and Jacob Goldberger
- 16:41–17:00 *Implicitly-Defined Neural Networks for Sequence Labeling* Michaeel Kazi and Brian Thompson

#### Wednesday, August 2nd

- 11:37–12:25 Session 7A: Outstanding Papers 1
- 11:37–11:49 The Role of Prosody and Speech Register in Word Segmentation: A Computational Modelling Perspective Bogdan Ludusan, Reiko Mazuka, Mathieu Bernard, Alejandrina Cristia and Emmanuel Dupoux
- 11:50–12:12 *A Two-Stage Parsing Method for Text-Level Discourse Analysis* Yizhong Wang, Sujian Li and Houfeng Wang
- 12:13–12:25 *Error-repair Dependency Parsing for Ungrammatical Texts* Keisuke Sakaguchi, Matt Post and Benjamin Van Durme
- 11:18–12:25 Session 7B: Outstanding Papers 2
- 11:18–11:36 *Attention Strategies for Multi-Source Sequence-to-Sequence Learning* Jindřich Libovický and Jindřich Helcl
- 11:37–11:49 Understanding and Detecting Diverse Supporting Arguments on Controversial Issues Xinyu Hua and Lu Wang
- 11:50–12:12 *A Neural Model for User Geolocation and Lexical Dialectology* Afshin Rahimi, Trevor Cohn and Timothy Baldwin
- 12:13–12:25 A Corpus of Natural Language for Visual Reasoning Alane Suhr, Mike Lewis, James Yeh and Yoav Artzi

#### Monday, July 31st

#### 18:00–21:30 Session P1: Poster Session 1

*Neural Architecture for Temporal Relation Extraction: A Bi-LSTM Approach for Detecting Narrative Containers* Julien Tourille, Olivier Ferret, Aurelie Neveol and Xavier Tannier

How to Make Context More Useful? An Empirical Study on Context-Aware Neural Conversational Models

Zhiliang Tian, Rui Yan, Lili Mou, Yiping Song, Yansong Feng and Dongyan Zhao

*Cross-lingual and cross-domain discourse segmentation of entire documents* Chloé Braud, Ophélie Lacroix and Anders Søgaard

Detecting Good Arguments in a Non-Topic-Specific Way: An Oxymoron? Beata Beigman Klebanov, Binod Gyawali and Yi Song

#### Argumentation Quality Assessment: Theory vs. Practice

Henning Wachsmuth, Nona Naderi, Ivan Habernal, Yufang Hou, Graeme Hirst, Iryna Gurevych and Benno Stein

A Recurrent Neural Model with Attention for the Recognition of Chinese Implicit Discourse Relations Samuel Rönnqvist, Niko Schenk and Christian Chiarcos

### Discourse Annotation of Non-native Spontaneous Spoken Responses Using the Rhetorical Structure Theory Framework

Xinhao Wang, James Bruno, Hillary Molloy, Keelan Evanini and Klaus Zechner

*Improving Implicit Discourse Relation Recognition with Discourse-specific Word Embeddings* 

Changxing Wu, Xiaodong Shi, Yidong Chen, Jinsong Su and Boli Wang

Oracle Summaries of Compressive Summarization Tsutomu Hirao, Masaaki Nishino and Masaaki Nagata

Japanese Sentence Compression with a Large Training Dataset Shun Hasegawa, Yuta Kikuchi, Hiroya Takamura and Manabu Okumura

A Neural Architecture for Generating Natural Language Descriptions from Source Code Changes Pablo Loyola, Edison Marrese-Taylor and Yutaka Matsuo

*English Event Detection With Translated Language Features* Sam Wei, Igor Korostil, Joel Nothman and Ben Hachey

EviNets: Neural Networks for Combining Evidence Signals for Factoid Question Answering

Denis Savenkov and Eugene Agichtein

*Pocket Knowledge Base Population* Travis Wolfe, Mark Dredze and Benjamin Van Durme

Answering Complex Questions Using Open Information Extraction Tushar Khot, Ashish Sabharwal and Peter Clark

Bootstrapping for Numerical Open IE Swarnadeep Saha, Harinder Pal and Mausam

*Feature-Rich Networks for Knowledge Base Completion* Alexandros Komninos and Suresh Manandhar

*Fine-Grained Entity Typing with High-Multiplicity Assignments* Maxim Rabinovich and Dan Klein

Group Sparse CNNs for Question Classification with Answer Sets Mingbo Ma, Liang Huang, Bing Xiang and Bowen Zhou

*Multi-Task Learning of Keyphrase Boundary Classification* Isabelle Augenstein and Anders Søgaard

*Cardinal Virtues: Extracting Relation Cardinalities from Text* Paramita Mirza, Simon Razniewski, Fariz Darari and Gerhard Weikum

*Integrating Deep Linguistic Features in Factuality Prediction over Unified Datasets* Gabriel Stanovsky, Judith Eckle-Kohler, Yevgeniy Puzikov, Ido Dagan and Iryna Gurevych

Question Answering on Knowledge Bases and Text using Universal Schema and Memory Networks Rajarshi Das, Manzil Zaheer, Siva Reddy and Andrew McCallum

*Differentiable Scheduled Sampling for Credit Assignment* Kartik Goyal, Chris Dyer and Taylor Berg-Kirkpatrick

A Deep Network with Visual Text Composition Behavior Hongyu Guo

*Neural System Combination for Machine Translation* Long Zhou, Wenpeng Hu, Jiajun Zhang and Chengqing Zong

An Empirical Comparison of Domain Adaptation Methods for Neural Machine Translation Chenhui Chu, Raj Dabre and Sadao Kurohashi

Efficient Extraction of Pseudo-Parallel Sentences from Raw Monolingual Data Using Word Embeddings Benjamin Marie and Atsushi Fujita

*Feature Hashing for Language and Dialect Identification* Shervin Malmasi and Mark Dras

Detection of Chinese Word Usage Errors for Non-Native Chinese Learners with Bidirectional LSTM Yow-Ting Shiue, Hen-Hsen Huang and Hsin-Hsi Chen

Automatic Compositor Attribution in the First Folio of Shakespeare Maria Ryskina, Hannah Alpert-Abrams, Dan Garrette and Taylor Berg-Kirkpatrick

*STAIR Captions: Constructing a Large-Scale Japanese Image Caption Dataset* Yuya Yoshikawa, Yutaro Shigeto and Akikazu Takeuchi

"Liar, Liar Pants on Fire": A New Benchmark Dataset for Fake News Detection William Yang Wang

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A Network Framework for Noisy Label Aggregation in Social Media Xueying Zhan, Yaowei Wang, Yanghui Rao, Haoran Xie, Qing Li, Fu Lee Wang and Tak-Lam Wong

*Parser Adaptation for Social Media by Integrating Normalization* Rob van der Goot and Gertjan van Noord

#### Tuesday, August 1st

#### 19:00–22:00 Session P2: Poster Session 2

AliMe Chat: A Sequence to Sequence and Rerank based Chatbot Engine Minghui Qiu, Feng-Lin Li, Siyu Wang, Xing Gao, Yan Chen, Weipeng Zhao, Haiqing Chen, Jun Huang and Wei Chu

A Conditional Variational Framework for Dialog Generation

Xiaoyu Shen, Hui Su, Yanran Li, Wenjie Li, Shuzi Niu, Yang Zhao, Akiko Aizawa and Guoping Long

Question Answering through Transfer Learning from Large Fine-grained Supervision Data Sewon Min, Minjoon Seo and Hannaneh Hajishirzi

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*Improving Native Language Identification by Using Spelling Errors* Lingzhen Chen, Carlo Strapparava and Vivi Nastase

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Character Composition Model with Convolutional Neural Networks for Dependency Parsing on Morphologically Rich Languages Xiang Yu and Ngoc Thang Vu

How (not) to train a dependency parser: The curious case of jackknifing part-ofspeech taggers Željko Agić and Natalie Schluter