

NAACL HLT 2019

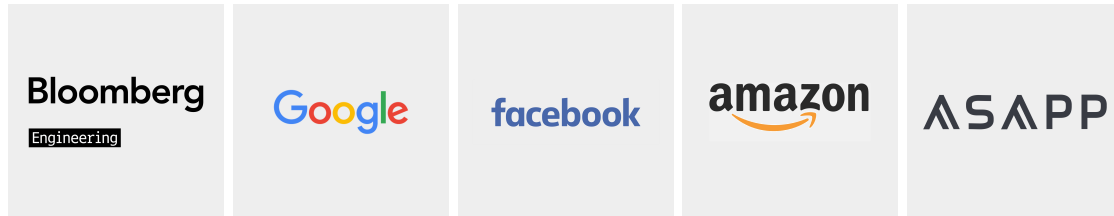
**The 2019 Conference
of the North American Chapter of the
Association for Computational Linguistics:
Human Language Technologies**

**Proceedings of the Conference Vol. 1
(Long and Short Papers)**

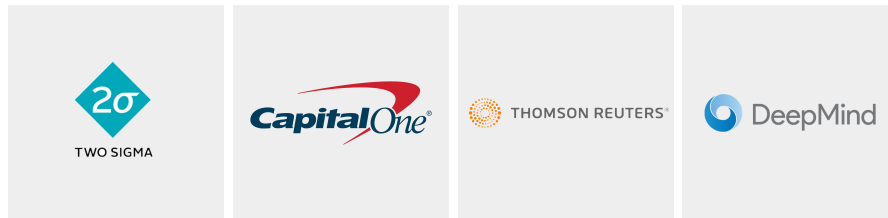
June 2 - June 7, 2019

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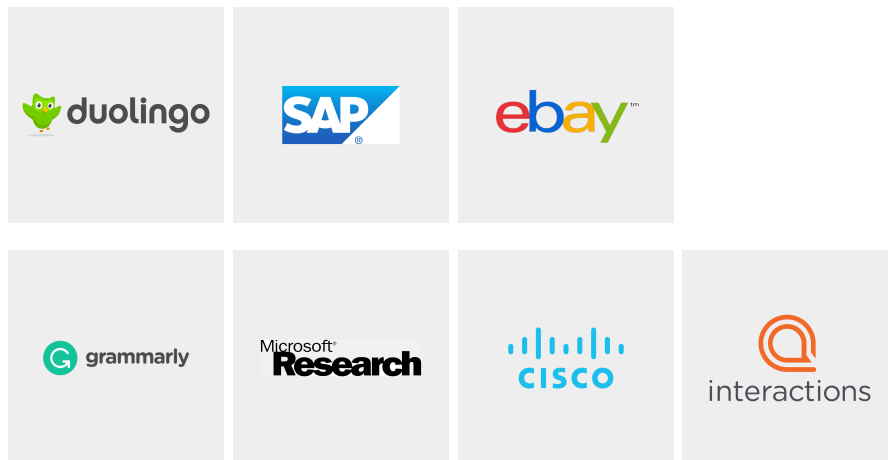
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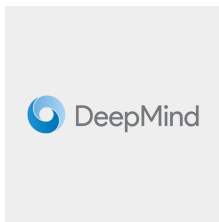
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Message from the General Chair

Welcome to Minneapolis! NAACL 2019 promises to further build our growing and increasingly diverse community through substantive presentations, new diversity and inclusion initiatives, and a culturally-rich social event!

Christy Doran, Tamar Solorio, and Ted Pedersen, our 2019 Program Co-Chairs have gracefully managed the largest number of submissions at any NAACL to date – with submissions in 2019 almost doubling from the previous year. They demonstrated unrelenting dedication throughout the conference planning process to ensure preparation of a balanced program with thoughtfully-crafted and fair reviewing processes, on-time notifications, and a final careful selection of papers from a wide range of topics of interest represented in the main conference program. They also introduced a number of innovations in processes, including submission of abstracts before final submissions with the intention of getting a head start on the reviewing process and securing sufficient reviewers by topic; video lightning talks for posters to promote greater attendance and a preview of poster content; and, five categories of Best Papers: 1) Best Long Paper, 2) Best Short Paper, 3) Best Theme, 4) Best Resource, and 5) Best Explainable, to highlight a range of community values. The PCs introduced a conference theme this year that reflects a concern around ethics in our research community. Specifically, the theme examines the tension between data privacy and model bias in NLP. Our three invited talks, Arvind Narayanan, Rada Mihalcea, and Kieran Snyder will all present keynotes related to the conference theme.

In 2019, back by popular demand, there is an Industry Track, co-chaired by Rohit Kumar, Anastassia Loukina, and Michelle Morales. It will address practical issues in real-world deployment of Natural Language Processing and Speech Processing technologies that describe key lessons learned and new challenges posed by real-world implementations. There was an increase in the number of industry track submissions from 2018 (when the track was started) which suggests a continued interest in this track. A highlight this year is a Careers in NLP panel taking into consideration our more junior community members and their mentors.

As our international community grows, we can expect increasing diversity. Consistent with an awareness about diversity in the Natural Language Processing and Computational Linguistics community, at NAACL HLT 2019, we have introduced the Diversity and Inclusion (D&I) committee, co-chaired by Jason Eisner and Nathalie Schluter, and the Remote Presentation (RP) committee, co-chaired by Abhinav Misra and Meg Mitchell. The D&I committee was intended to support community concerns including, more diverse attendance through feasible childcare support efforts, community building through mentoring and social networking through the conference app, and comfort of all attendees through pronoun choice on badges and gender-neutral bathrooms. The RP committee responded to a concern to provide all members of our community with greater access to conferences, especially with regard to U.S. visa issues given the current political constraints. It is our hope that these new initiatives enrich the conference experience by further promoting greater access, and in turn, community-building.

On behalf of the Natural Language Processing and Computational Linguistics community, I would like to thank all of the organizers for their dedication, creativity, and lively communication that lead to a successful program and set of events: Christy Doran, Tamar Solorio and Ted Pedersen (program chairs); Rohit Kumar, Anastassia Loukina, and Michelle Morales (industrial track chairs); Nitin Madnani (website and app chair); Smaranda Muresan, Swapna Somasundaran, and Elena Volodina (workshop co-chairs); Anoop Sarkar and Michael Strube (tutorial co-chairs); Waleed Ammar, Annie Louis, and Nasrin Mostafazahdeh, (demo co-chairs); Jason Eisner and Nathalie Schuller (Diversity and Inclusion Co-Chairs) Stephanie Lukin and Alla Roskovskaya (publication co-chairs); Steve DeNeefe (handbook chair); Laura Burdick, Sudipta Kar, and Farah Nadeem (student co-chairs) along with Greg Durrett and Na-Rae-Han (Faculty Advisors) for the student research workshop; Lu Wang (student

volunteer coordinator); Jason Baldrige and Alexis Palmer (the Americas International Sponsorship Team). Chris Callison-Burch and Tonya Custis (local sponsorships co-chairs); Yuval Pinter and Rachael Tatman (publicity and social media chairs); Abhinav Misra and Meg Mitchell (Remote Presentation co-chairs); Spencer Whitehead (video chair). Many thanks to Rich Gerber at SoftConf for on-going and rapid support. Many thanks to Julia Hockenmaier and the NAACL Executive Board for their on-going consultation, and Barbara Di Eugenio, Marti Hearst and David Yarowsky in their roles as ACL Conference Officer, ACL President, and ACL Treasurer, respectively. We also thank the Organizers of ACL 2019 and EMNLP 2019 for support in coordinating the programs, workshops and tutorials. We have twenty workshops plus the student research workshop. As we do every year, we owe many, many thanks to Priscilla Rasmussen for her guidance and moral support in addition to the mind-boggling task list associated with large-scale event planning, including managing exhibitors and our large sponsors. Thanks to Priscilla's efforts we have a great social event planned at the Minneapolis Institute of Art. In the spirit of community diversity, the museum offers internationally-themed galleries, and the food will reflect the themes.

We are immensely grateful to our sponsors for their generous contributions to NAACL 2019. Diamond sponsors are Amazon, ASAPP, Bloomberg Engineering, Facebook, and Google. Platinum sponsors are Capital One, DeepMind Google, Thomson Reuters, and Two Sigma. Our Gold sponsors are ByteDance and Megagon. Silver sponsors are Cisco, Duolingo, eBay, Grammarly, Microsoft Research, and SAP. Bronze sponsors are Cline, ETS, Raytheon BBN Technology, and USC Viterbi School of Engineering/Information Sciences Institute. Additionally, Google is supporting our Diversity & Inclusion initiative and Grammarly also made an in-kind donation of Grammarly codes to help with proofreading. And, many of these same sponsors also generously support some of the workshops that make such a great finale to our conference. We are also pleased to welcome many companies who will participate in the Recruitment Lunch. There are many more people who through their hard work and dedication have contributed to make this conference a success: the area chairs and reviewers, tutorial presenters, workshop organizers, those who participated in D&I efforts, including student mentorship and the ACL Office staff. Many thanks to all of the presenters and conference attendees for your participation.

NAACL HLT 2019, General Chair
Jill Burstein, Educational Testing Service

Message from the Program Chairs

Welcome to Minneapolis and NAACL-HLT 2019! This conference is the largest by submission and acceptance volume of any NAACL to date, and it was through the fantastic hard work of the organizing committees, 94 Area Chairs, and 1321 reviewers that we were able to put together such a strong and varied program from a large pool of submissions. Similar to what other PCs have done in the past, we distributed a wide call for volunteers to recruit the Area Chairs and Reviewers—we seeded the areas with volunteers who responded, and then Area Chairs filled out the remainder of their respective committees. Our goal was to ensure greater diversity by including in each area some participants who may not have been previously involved, and therefore would not have been invited if the committees were built from lists of previous reviewers.

This year we followed a two-stage submission process, in which abstracts were due one week before full papers. Our goal was to get a head start on assigning papers to areas, and recruiting additional area chairs where submissions exceeded our predicted volume. Relative to the projected numbers from NAACL-HLT 2018, several areas received a higher-than-predicted number of submissions: Biomedical/Clinical, Dialogue and Vision. Text Mining ended up with the overall largest number of submissions. We used a hybrid reviewing form, combining elements of the EMNLP 2018, NAACL-HLT 2018 and ACL 2018, with a 6-point overall rating scale so there was no “easy out” mid-point, distinct sections of summary, strengths and weaknesses to make easy to scan and compare relevant sections, and the minimum length feature of START enabled to elicit more consistently substantive content for the authors.

Authors were permitted to switch format (long/short) when they submitted the full papers, so the total in the chart below uses 2271 as the total number of submissions, discounting the 103 that never submitted a full paper in the second phase. Seventy nine papers were desk-rejected due to anonymity, formatting, or dual-submission violations; 456 papers withdrawn prior to acceptance decisions being sent, although some were withdrawn part way through the review process; and an additional 11 papers were withdrawn after acceptance notifications had been sent. Keeping the acceptance rate consistent with past years meant we needed 5 parallel tracks to fit more papers into 3 days—as the conference grows, decisions will have to be made about continuing to add more tracks, adding more days to the main conference, or lowering the acceptance rate. The overall technical program consists of 423 main conference papers, plus 9 TACL papers, 23 SRW papers, 28 Industry papers, and 24 demos. The TACL and SRW papers are integrated into the program, and are marked SRW or TACL accordingly.

Acceptance break-down:

	Long	Short	Total	TACL
Reviewed	1067	666	1733	
Accepted as talk	140	72	212	4
Accepted as poster	141	70	211	5
Total Accepted	281 (26.3%)	142 (21.3%)	423 (24.4%)	9

A select group of Area Chairs was identified to make the Best Paper decisions, with independent teams assigned to select Best Long and Short Paper, Best Thematic Paper, Best Explainable NLP and Best Resource paper. The candidate papers were nominated by reviewers and/or Area Chairs.

It really takes a lot of volunteers' hard work to organize a NAACL conference. Our hearty thanks go out to:

- Jill Burstein, our fearless leader and General Conference Chair
- Priscilla Rasmussen, who knows everything and keeps the machine running
- Rich Gerber and his team at Softconf for having illuminated the secret corners of START and added several new features for us
- Recent past chairs—Amanda Stent, Heng Ji, Julia Hockenmaier, Emily Bender, Leon Derczynski, Iryna Gurevych and Yusuke Miyao—for answering piles of questions and generously sharing their documentation and resources
- All of the NAACL Organizing Committees
- The 43 session chairs (Alessandro Moschitti, Ani Nenkova, Anna Rumshisky, Bridget McInnes, Byron C. Wallace, Chenhao Tan, Daisuke Kawahara, Diyi Yang, Eduardo Blanco, Ekaterina Shutova, Emily Prud'hommeaux, Fei Liu, Gerard de Melo, Grzegorz Kondrak, Heng Ji, Ion Androutsopoulos, Kai-Wei Chang, Kevin Gimpel, Matt Gardner, Michael J. Paul, Mo Yu, Preslav Nakov, Roi Reichart, Ryan Cotterell, Saif Mohammad, Samuel Bowman, Sara Rosenthal, Serguei Pakhomov, Steven Bethard, Sujith Ravi, T. J. Hazen, Timothy Miller, Valia Kordoni, Vincent Ng, Wei Xu, William Yang Wang, Xiaodan Zhu, Yang Liu, Zornitsa Kozareva, Ellen Riloff, Colin Cherry, Joel Tetreault and Marine Carpuat)
- The special projects team: John Henderson for help detecting duplicate submissions and building us a clustering model to help with session creation, Sudipta Kar for additional help in detecting duplicate submissions, Cash de Leon and Jalen Tran for their help in putting together the slides for the poster highlights, Mahsa Shafaei for helping us screen volunteers, and Ted Pedersen for help getting this whole effort off the ground.

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Daniel Cer, Google Research, USA
Haitao Mi, Ant Financial US, USA
Preslav Nakov, Qatar Computing Research Institute, Qatar
Zhaopeng Tu, Tencent, China

Mixed Topics

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Ekaterina Shutova, University of Amsterdam, Netherlands
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Keynote Speaker: Rada Mihalcea, University of Michigan

When the Computers Spot the Lie (and People Don't)

Abstract: Whether we like it or not, deception occurs everyday and everywhere: thousands of trials take place daily around the world; little white lies: “I’m busy that day!” even if your calendar is blank; news “with a twist” (a.k.a. fake news) meant to attract the readers attention or influence people in their future undertakings; misinformation in health social media posts; portrayed identities, on dating sites and elsewhere. Can a computer automatically detect deception in written accounts or in video recordings? In this talk, I will overview a decade of research in building linguistic and multimodal resources and algorithms for deception detection, targeting deceptive statements, trial videos, fake news, identity deception, and health misinformation. I will also show how these algorithms can provide insights into what makes a good lie - and thus teach us how we can spot a liar. As it turns out, computers can be trained to identify lies in many different contexts, and they can often do it better than humans do.

Bio: Rada Mihalcea is a Professor of Computer Science and Engineering at the University of Michigan and the Director of the Michigan Artificial Intelligence Lab. Her research interests are in lexical semantics, multilingual NLP, and computational social sciences. She serves or has served on the editorial boards of the Journals of Computational Linguistics, Language Resources and Evaluations, Natural Language Engineering, Journal of Artificial Intelligence Research, IEEE Transactions on Affective Computing, and Transactions of the Association for Computational Linguistics. She was a program co-chair for EMNLP 2009 and ACL 2011, and a general chair for NAACL 2015 and *SEM 2019. She currently serves as the ACL Vice-President Elect. She is the recipient of an NSF CAREER award (2008) and a Presidential Early Career Award for Scientists and Engineers awarded by President Obama (2009). In 2013, she was made an honorary citizen of her hometown of Cluj-Napoca, Romania.

Keynote Speaker: Kieran Snyder, Textio

Leaving the Lab: Building NLP Applications that Real People can Use

Abstract: There is a chasm between an NLP technology that works well in the research lab and something that works for applications that real people use. Research conditions are often theoretical or idealized. The first time they contribute to industry projects, many theoretical researchers are surprised to discover how much goes into building outside the lab, and how hard it is to build data products for real people ethically and transparently. This talk explores my NLP journey in three stages: working as an academic NLP researcher, learning to be a practical creator of NLP products in industry, and becoming the founding CEO of an NLP business. While each role has used my background in computational linguistics in essential ways, every step has also required me to learn and unlearn new things along the way. The further I have gone in my industry career, the more critical it has become to define and work within a well-established set of principles for data ethics. This talk is for academic researchers considering industry careers or collaborations, for people in industry who started out in academia, and for anyone on either side of the divide who wants to make NLP products that real people can use.

Bio: Kieran Snyder is the CEO and Co-Founder of Textio, the augmented writing platform. For anything you write, Textio tells you ahead of time who's going to respond based on the language you've used. Textio's augmented writing engine is designed to attach to any large text corpus with outcomes to find the patterns that work. Prior to founding Textio, Kieran held product leadership roles at Microsoft and Amazon. Kieran has a PhD in linguistics from the University of Pennsylvania. Her work has appeared in Fortune, Re/code, Slate, and the Washington Post.

Keynote Speaker: Arvind Narayanan, Princeton

Data as a Mirror of Society: Lessons from the Emerging Science of Fairness in Machine Learning

Abstract: Language corpora reflect human society, including cultural stereotypes, prejudices, and historical patterns. By default, statistical language models will absorb these stereotypes. As a result, NLP systems for word analogy generation, toxicity detection, and many other tasks have been found to reflect racial and gender biases. Based on this observation, I will discuss two emerging research directions. First, a deeper understanding of human culture can help identify possible harmful stereotypes in algorithmic systems. The second research direction is the converse of the first: if data is a mirror of society, machine learning can be used as a magnifying lens to study human culture.

Bio: Arvind Narayanan is an Associate Professor of Computer Science at Princeton. His research has shown how state-of-the-art word embeddings reflect racial, gender, and other cultural stereotypes. He leads the Princeton Web Transparency and Accountability Project to uncover how companies collect and use our personal information. His doctoral research showed the fundamental limits of de-identification, for which he received the Privacy Enhancing Technologies Award. Narayanan also co-created a Massive Open Online Course as well as a textbook on Bitcoin and cryptocurrency technologies.

Table of Contents

<i>Entity Recognition at First Sight: Improving NER with Eye Movement Information</i> Nora Hollenstein and Ce Zhang	1
<i>The emergence of number and syntax units in LSTM language models</i> Yair Lakretz, Germán Kruszewski, Théo Desbordes, Dieuwke Hupkes, Stanislas Dehaene and Marco Baroni	11
<i>Neural Self-Training through Spaced Repetition</i> Hadi Amiri	21
<i>Neural language models as psycholinguistic subjects: Representations of syntactic state</i> Richard Futrell, Ethan Wilcox, Takashi Morita, Peng Qian, Miguel Ballesteros and Roger Levy	32
<i>Understanding language-elicited EEG data by predicting it from a fine-tuned language model</i> Dan Schwartz and Tom Mitchell	43
<i>Pre-training on high-resource speech recognition improves low-resource speech-to-text translation</i> Sameer Bansal, Herman Kamper, Karen Livescu, Adam Lopez and Sharon Goldwater	58
<i>Measuring the perceptual availability of phonological features during language acquisition using unsupervised binary stochastic autoencoders</i> Cory Shain and Micha Elsner	69
<i>Giving Attention to the Unexpected: Using Prosody Innovations in Disfluency Detection</i> Vicky Zayats and Mari Ostendorf	86
<i>Massively Multilingual Adversarial Speech Recognition</i> Oliver Adams, Matthew Wiesner, Shinji Watanabe and David Yarowsky	96
<i>Lost in Interpretation: Predicting Untranslated Terminology in Simultaneous Interpretation</i> Nikolai Vogler, Craig Stewart and Graham Neubig	109
<i>AudioCaps: Generating Captions for Audios in The Wild</i> Chris Dongjoo Kim, Byeongchang Kim, Hyunmin Lee and Gunhee Kim	119
<i>"President Vows to Cut <Taxes> Hair": Dataset and Analysis of Creative Text Editing for Humorous Headlines</i> Nabil Hossain, John Krumm and Michael Gamon	133
<i>Answer-based Adversarial Training for Generating Clarification Questions</i> Sudha Rao and Hal Daumé III	143
<i>Improving Grammatical Error Correction via Pre-Training a Copy-Augmented Architecture with Unlabeled Data</i> Wei Zhao, Liang Wang, Kewei Shen, Ruoyu Jia and Jingming Liu	156
<i>Topic-Guided Variational Auto-Encoder for Text Generation</i> Wenlin Wang, Zhe Gan, Hongteng Xu, Ruiyi Zhang, Guoyin Wang, Dinghan Shen, Changyou Chen and Lawrence Carin	166
<i>Implementation of a Chomsky-Schützenberger n-best parser for weighted multiple context-free grammars</i> Thomas Ruprecht and Tobias Denking	178

<i>Phylogenic Multi-Lingual Dependency Parsing</i>	
Mathieu Dehouck and Pascal Denis	192
<i>Discontinuous Constituency Parsing with a Stack-Free Transition System and a Dynamic Oracle</i>	
Maximin Coavoux and Shay B. Cohen	204
<i>How Bad are PoS Tagger in Cross-Corpora Settings? Evaluating Annotation Divergence in the UD Project.</i>	
Guillaume Wisniewski and François Yvon	218
<i>CCG Parsing Algorithm with Incremental Tree Rotation</i>	
Miloš Stanojević and Mark Steedman	228
<i>Cyclical Annealing Schedule: A Simple Approach to Mitigating KL Vanishing</i>	
Hao Fu, Chunyuan Li, Xiaodong Liu, Jianfeng Gao, Asli Celikyilmaz and Lawrence Carin	240
<i>Recurrent models and lower bounds for projective syntactic decoding</i>	
Natalie Schluter	251
<i>Evaluating Composition Models for Verb Phrase Elliptical Sentence Embeddings</i>	
Gijs Wijnholds and Mehrnoosh Sadrzadeh	261
<i>Neural Finite-State Transducers: Beyond Rational Relations</i>	
Chu-Cheng Lin, Hao Zhu, Matthew R. Gormley and Jason Eisner	272
<i>Riemannian Normalizing Flow on Variational Wasserstein Autoencoder for Text Modeling</i>	
Prince Zizhuang Wang and William Yang Wang	284
<i>A Study of Incorrect Paraphrases in Crowdsourced User Utterances</i>	
Mohammad-Ali Yaghoub-Zadeh-Fard, Boualem Benatallah, Moshe Chai Barukh and Shayan Zamani-rad	295
<i>ComQA: A Community-sourced Dataset for Complex Factoid Question Answering with Paraphrase Clusters</i>	
Abdalghani Abujabal, Rishiraj Saha Roy, Mohamed Yahya and Gerhard Weikum	307
<i>FreebaseQA: A New Factoid QA Data Set Matching Trivia-Style Question-Answer Pairs with Freebase</i>	
Kelvin Jiang, Dekun Wu and Hui Jiang	318
<i>Simple Question Answering with Subgraph Ranking and Joint-Scoring</i>	
Wenbo Zhao, Tagyoung Chung, Anuj Goyal and Angeliki Metallinou	324
<i>Learning to Attend On Essential Terms: An Enhanced Retriever-Reader Model for Open-domain Question Answering</i>	
Jianmo Ni, Chenguang Zhu, Weizhu Chen and Julian McAuley	335
<i>UHop: An Unrestricted-Hop Relation Extraction Framework for Knowledge-Based Question Answering</i>	
Zi-Yuan Chen, Chih-Hung Chang, Yi-Pei Chen, Jijnasa Nayak and Lun-Wei Ku	345
<i>BAG: Bi-directional Attention Entity Graph Convolutional Network for Multi-hop Reasoning Question Answering</i>	
Yu Cao, Meng Fang and Dacheng Tao	357
<i>Vector of Locally-Aggregated Word Embeddings (VLAWE): A Novel Document-level Representation</i>	
Radu Tudor Ionescu and Andrei Butnaru	363

<i>Multi-task Learning for Multi-modal Emotion Recognition and Sentiment Analysis</i> Md Shad Akhtar, Dushyant Chauhan, Deepanway Ghosal, Soujanya Poria, Asif Ekbal and Pushpak Bhattacharyya	370
<i>Utilizing BERT for Aspect-Based Sentiment Analysis via Constructing Auxiliary Sentence</i> Chi Sun, Luyao Huang and Xipeng Qiu	380
<i>A Variational Approach to Weakly Supervised Document-Level Multi-Aspect Sentiment Classification</i> Ziqian Zeng, Wenxuan Zhou, Xin Liu and Yangqiu Song	386
<i>HiGRU: Hierarchical Gated Recurrent Units for Utterance-Level Emotion Recognition</i> Wenxiang Jiao, Haiqin Yang, Irwin King and Michael R. Lyu	397
<i>Learning Interpretable Negation Rules via Weak Supervision at Document Level: A Reinforcement Learning Approach</i> Nicolas Pröllochs, Stefan Feuerriegel and Dirk Neumann	407
<i>Simplified Neural Unsupervised Domain Adaptation</i> Timothy Miller	414
<i>Learning Bilingual Sentiment-Specific Word Embeddings without Cross-lingual Supervision</i> Yanlin Feng and Xiaojun Wan	420
<i>ReWE: Regressing Word Embeddings for Regularization of Neural Machine Translation Systems</i> Inigo Jauregi Unanue, Ehsan Zare Borzeshi, Nazanin Esmaili and Massimo Piccardi	430
<i>Lost in Machine Translation: A Method to Reduce Meaning Loss</i> Reuben Cohn-Gordon and Noah Goodman	437
<i>Bi-Directional Differentiable Input Reconstruction for Low-Resource Neural Machine Translation</i> Xing Niu, Weijia Xu and Marine Carpuat	442
<i>Code-Switching for Enhancing NMT with Pre-Specified Translation</i> Kai Song, Yue Zhang, Heng Yu, Weihua Luo, Kun Wang and Min Zhang	449
<i>Aligning Vector-spaces with Noisy Supervised Lexicon</i> Noa Yehezkel Lubin, Jacob Goldberger and Yoav Goldberg	460
<i>Understanding and Improving Hidden Representations for Neural Machine Translation</i> Guanlin Li, Lema Liu, Xintong Li, Conghui Zhu, Tiejun Zhao and Shuming Shi	466
<i>Content Differences in Syntactic and Semantic Representation</i> Daniel Hershcovich, Omri Abend and Ari Rappoport	478
<i>Attentive Mimicking: Better Word Embeddings by Attending to Informative Contexts</i> Timo Schick and Hinrich Schütze	489
<i>Evaluating Style Transfer for Text</i> Remi Mir, Bjarke Felbo, Nick Obradovich and Iyad Rahwan	495
<i>Big BiRD: A Large, Fine-Grained, Bigram Relatedness Dataset for Examining Semantic Composition</i> Shima Asaadi, Saif Mohammad and Svetlana Kiritchenko	505
<i>Outlier Detection for Improved Data Quality and Diversity in Dialog Systems</i> Stefan Larson, Anish Mahendran, Andrew Lee, Jonathan K. Kummerfeld, Parker Hill, Michael A. Laurenzano, Johann Hauswald, Lingjia Tang and Jason Mars	517

<i>Asking the Right Question: Inferring Advice-Seeking Intentions from Personal Narratives</i> Liye Fu, Jonathan P. Chang and Cristian Danescu-Niculescu-Mizil	528
<i>Seeing Things from a Different Angle: Discovering Diverse Perspectives about Claims</i> Sihao Chen, Daniel Khashabi, Wenpeng Yin, Chris Callison-Burch and Dan Roth	542
<i>IMHO Fine-Tuning Improves Claim Detection</i> Tuhin Chakrabarty, Christopher Hidey and Kathy McKeown	558
<i>Joint Multiple Intent Detection and Slot Labeling for Goal-Oriented Dialog</i> Rashmi Gangadharaiah and Balakrishnan Narayanaswamy	564
<i>CITE: A Corpus of Image-Text Discourse Relations</i> Malihe Alikhani, Sreyasi Nag Chowdhury, Gerard de Melo and Matthew Stone	570
<i>Improving Dialogue State Tracking by Discerning the Relevant Context</i> Sanuj Sharma, Prafulla Kumar Choubey and Ruihong Huang	576
<i>CLEVR-Dialog: A Diagnostic Dataset for Multi-Round Reasoning in Visual Dialog</i> Satwik Kottur, José M. F. Moura, Devi Parikh, Dhruv Batra and Marcus Rohrbach	582
<i>Learning Outside the Box: Discourse-level Features Improve Metaphor Identification</i> Jesse Mu, Helen Yannakoudakis and Ekaterina Shutova	596
<i>Detection of Abusive Language: the Problem of Biased Datasets</i> Michael Wiegand, Josef Ruppenhofer and Thomas Kleinbauer	602
<i>Lipstick on a Pig: Debiasing Methods Cover up Systematic Gender Biases in Word Embeddings But do not Remove Them</i> Hila Gonen and Yoav Goldberg	609
<i>Black is to Criminal as Caucasian is to Police: Detecting and Removing Multiclass Bias in Word Embeddings</i> Thomas Manzini, Lim Yao Chong, Alan W. Black and Yulia Tsvetkov	615
<i>On Measuring Social Biases in Sentence Encoders</i> Chandler May, Alex Wang, Shikha Bordia, Samuel R. Bowman and Rachel Rudinger	622
<i>Gender Bias in Contextualized Word Embeddings</i> Jieyu Zhao, Tianlu Wang, Mark Yatskar, Ryan Cotterell, Vicente Ordonez and Kai-Wei Chang	629
<i>Combining Sentiment Lexica with a Multi-View Variational Autoencoder</i> Alexander Miserlis Hoyle, Lawrence Wolf-Sonkin, Hanna Wallach, Ryan Cotterell and Isabelle Augenstein	635
<i>Enhancing Opinion Role Labeling with Semantic-Aware Word Representations from Semantic Role Labeling</i> Meishan Zhang, Peili Liang and Guohong Fu	641
<i>Frowning Frodo, Wincing Leia, and a Seriously Great Friendship: Learning to Classify Emotional Relationships of Fictional Characters</i> Evgeny Kim and Roman Klinger	647
<i>Generalizing Unmasking for Short Texts</i> Janek Bevendorff, Benno Stein, Matthias Hagen and Martin Potthast	654

<i>Adversarial Training for Satire Detection: Controlling for Confounding Variables</i> Robert McHardy, Heike Adel and Roman Klinger	660
<i>Keyphrase Generation: A Text Summarization Struggle</i> Erion Çano and Ondřej Bojar	666
<i>SEQ³: Differentiable Sequence-to-Sequence-to-Sequence Autoencoder for Unsupervised Abstractive Sentence Compression</i> Christos Baziotis, Ion Androutsopoulos, Ioannis Konstas and Alexandros Potamianos	673
<i>Crowdsourcing Lightweight Pyramids for Manual Summary Evaluation</i> Ori Shapira, David Gabay, Yang Gao, Hadar Ronen, Ramakanth Pasunuru, Mohit Bansal, Yael Amsterdamer and Ido Dagan	682
<i>Serial Recall Effects in Neural Language Modeling</i> Hassan Hajipoor, Hadi Amiri, Maseud Rahgozar and Farhad Oroumchian	688
<i>Fast Concept Mention Grouping for Concept Map-based Multi-Document Summarization</i> Tobias Falke and Iryna Gurevych	695
<i>Syntax-aware Neural Semantic Role Labeling with Supertags</i> Jungo Kasai, Dan Friedman, Robert Frank, Dragomir Radev and Owen Rambow	701
<i>Left-to-Right Dependency Parsing with Pointer Networks</i> Daniel Fernández-González and Carlos Gómez-Rodríguez	710
<i>Viable Dependency Parsing as Sequence Labeling</i> Michalina Strzyz, David Vilares and Carlos Gómez-Rodríguez	717
<i>Pooled Contextualized Embeddings for Named Entity Recognition</i> Alan Akbik, Tanja Bergmann and Roland Vollgraf	724
<i>Better Modeling of Incomplete Annotations for Named Entity Recognition</i> Zhanming Jie, Pengjun Xie, Wei Lu, Ruixue Ding and Linlin Li	729
<i>Event Detection without Triggers</i> Shulin Liu, Yang Li, Feng Zhang, Tao Yang and Xinpeng Zhou	735
<i>Sub-event detection from twitter streams as a sequence labeling problem</i> Giannis Bekoulis, Johannes Deleu, Thomas Demeester and Chris Develder	745
<i>GraphIE: A Graph-Based Framework for Information Extraction</i> Yujie Qian, Enrico Santus, Zhijing Jin, Jiang Guo and Regina Barzilay	751
<i>OpenKI: Integrating Open Information Extraction and Knowledge Bases with Relation Inference</i> Dongxu Zhang, Subhabrata Mukherjee, Colin Lockard, Luna Dong and Andrew McCallum ...	762
<i>Imposing Label-Relational Inductive Bias for Extremely Fine-Grained Entity Typing</i> Wenhan Xiong, Jiawei Wu, Deren Lei, Mo Yu, Shiyu Chang, Xiaoxiao Guo and William Yang Wang	773
<i>Improving Event Coreference Resolution by Learning Argument Compatibility from Unlabeled Data</i> Yin Jou Huang, Jing Lu, Sadao Kurohashi and Vincent Ng	785
<i>Sentence Embedding Alignment for Lifelong Relation Extraction</i> Hong Wang, Wenhan Xiong, Mo Yu, Xiaoxiao Guo, Shiyu Chang and William Yang Wang ...	796

<i>Description-Based Zero-shot Fine-Grained Entity Typing</i>	
Rasha Obeidat, Xiaoli Fern, Hamed Shahbazi and Prasad Tadepalli	807
<i>Adversarial Decomposition of Text Representation</i>	
Alexey Romanov, Anna Rumshisky, Anna Rogers and David Donahue	815
<i>PoMo: Generating Entity-Specific Post-Modifiers in Context</i>	
Jun Seok Kang, Robert Logan, Zewei Chu, Yang Chen, Dheeru Dua, Kevin Gimpel, Sameer Singh and Niranjana Balasubramanian	826
<i>Improved Lexically Constrained Decoding for Translation and Monolingual Rewriting</i>	
J. Edward Hu, Huda Khayrallah, Ryan Culkin, Patrick Xia, Tongfei Chen, Matt Post and Benjamin Van Durme	839
<i>Courteously Yours: Inducing courteous behavior in Customer Care responses using Reinforced Pointer Generator Network</i>	
Hitesh Golchha, Mauajama Firdaus, Asif Ekbal and Pushpak Bhattacharyya	851
<i>How to Avoid Sentences Spelling Boring? Towards a Neural Approach to Unsupervised Metaphor Generation</i>	
Zhiwei Yu and Xiaojun Wan	861
<i>Incorporating Context and External Knowledge for Pronoun Coreference Resolution</i>	
Hongming Zhang, Yan Song and Yangqiu Song	872
<i>Unsupervised Deep Structured Semantic Models for Commonsense Reasoning</i>	
Shuohang Wang, Sheng Zhang, Yelong Shen, Xiaodong Liu, Jingjing Liu, Jianfeng Gao and Jing Jiang	882
<i>Recovering dropped pronouns in Chinese conversations via modeling their referents</i>	
Jingxuan Yang, Jianzhuo Tong, Si Li, Sheng Gao, Jun Guo and Nianwen Xue	892
<i>The problem with probabilistic DAG automata for semantic graphs</i>	
Ieva Vasiljeva, Sorcha Gilroy and Adam Lopez	902
<i>A Systematic Study of Leveraging Subword Information for Learning Word Representations</i>	
Yi Zhu, Ivan Vulić and Anna Korhonen	912
<i>Better Word Embeddings by Disentangling Contextual n-Gram Information</i>	
Prakhar Gupta, Matteo Pagliardini and Martin Jaggi	933
<i>Integration of Knowledge Graph Embedding Into Topic Modeling with Hierarchical Dirichlet Process</i>	
Dingcheng Li, Siamak Zamani, Jingyuan Zhang and Ping Li	940
<i>Correlation Coefficients and Semantic Textual Similarity</i>	
Vitalii Zhelezniak, Aleksandar Savkov, April Shen and Nils Hammerla	951
<i>Generating Token-Level Explanations for Natural Language Inference</i>	
James Thorne, Andreas Vlachos, Christos Christodoulopoulos and Arpit Mittal	963
<i>Strong Baselines for Complex Word Identification across Multiple Languages</i>	
Pierre Finamore, Elisabeth Fritsch, Daniel King, Alison Sneyd, Aneeq Ur Rehman, Fernando Alva-Manchego and Andreas Vlachos	970
<i>Adaptive Convolution for Multi-Relational Learning</i>	
Xiaotian Jiang, Quan Wang and Bin Wang	978

<i>Graph Pattern Entity Ranking Model for Knowledge Graph Completion</i> Takuma Ebisu and Ryutaro Ichise	988
<i>Adversarial Training for Weakly Supervised Event Detection</i> Xiaozhi Wang, Xu Han, Zhiyuan Liu, Maosong Sun and Peng Li	998
<i>A Submodular Feature-Aware Framework for Label Subset Selection in Extreme Classification Problems</i> Elham J. Barezi, Ian D. Wood, Pascale Fung and Hamid R. Rabiee	1009
<i>Relation Extraction with Temporal Reasoning Based on Memory Augmented Distant Supervision</i> Jianhao Yan, Lin He, Ruqin Huang, Jian Li and Ying Liu	1019
<i>Integrating Semantic Knowledge to Tackle Zero-shot Text Classification</i> Jingqing Zhang, Piyawat Lertvittayakumjorn and Yike Guo	1031
<i>Word-Node2Vec: Improving Word Embedding with Document-Level Non-Local Word Co-occurrences</i> Procheta Sen, Debasis Ganguly and Gareth Jones	1041
<i>Cross-Topic Distributional Semantic Representations Via Unsupervised Mappings</i> Eleftheria Briakou, Nikos Athanasiou and Alexandros Potamianos	1052
<i>What just happened? Evaluating retrofitted distributional word vectors</i> Dmetri Hayes	1062
<i>Linguistic Knowledge and Transferability of Contextual Representations</i> Nelson F. Liu, Matt Gardner, Yonatan Belinkov, Matthew E. Peters and Noah A. Smith	1073
<i>Mutual Information Maximization for Simple and Accurate Part-Of-Speech Induction</i> Karl Stratos	1095
<i>Unsupervised Recurrent Neural Network Grammars</i> Yoon Kim, Alexander Rush, Lei Yu, Adhiguna Kuncoro, Chris Dyer and Gábor Melis	1105
<i>Cooperative Learning of Disjoint Syntax and Semantics</i> Serhii Havrylov, Germán Kruszewski and Armand Joulin	1118
<i>Unsupervised Latent Tree Induction with Deep Inside-Outside Recursive Auto-Encoders</i> Andrew Drozdov, Patrick Verga, Mohit Yadav, Mohit Iyyer and Andrew McCallum	1129
<i>Knowledge-Augmented Language Model and Its Application to Unsupervised Named-Entity Recognition</i> Angli Liu, Jingfei Du and Veselin Stoyanov	1142
<i>Syntax-Enhanced Neural Machine Translation with Syntax-Aware Word Representations</i> Meishan Zhang, Zhenghua Li, Guohong Fu and Min Zhang	1151
<i>Competence-based Curriculum Learning for Neural Machine Translation</i> Emmanouil Antonios Platanios, Otilia Stretcu, Graham Neubig, Barnabas Poczos and Tom Mitchell	1162
<i>Extract and Edit: An Alternative to Back-Translation for Unsupervised Neural Machine Translation</i> Jiawei Wu, Xin Wang and William Yang Wang	1173
<i>Consistency by Agreement in Zero-Shot Neural Machine Translation</i> Maruan Al-Shedivat and Ankur Parikh	1184

<i>Modeling Recurrence for Transformer</i>	
Jie Hao, Xing Wang, Baosong Yang, Longyue Wang, Jinfeng Zhang and Zhaopeng Tu	1198
<i>Rethinking Action Spaces for Reinforcement Learning in End-to-end Dialog Agents with Latent Variable Models</i>	
Tiancheng Zhao, Kaige Xie and Maxine Eskenazi	1208
<i>Skeleton-to-Response: Dialogue Generation Guided by Retrieval Memory</i>	
Deng Cai, Yan Wang, Wei Bi, Zhaopeng Tu, Xiaojiang Liu, Wai Lam and Shuming Shi	1219
<i>Jointly Optimizing Diversity and Relevance in Neural Response Generation</i>	
Xiang Gao, Sungjin Lee, Yizhe Zhang, Chris Brockett, Michel Galley, Jianfeng Gao and Bill Dolan	1229
<i>Disentangling Language and Knowledge in Task-Oriented Dialogs</i>	
Dinesh Raghu, Nikhil Gupta and	1239
<i>Tensorized Self-Attention: Efficiently Modeling Pairwise and Global Dependencies Together</i>	
Tao Shen, Tianyi Zhou, Guodong Long, Jing Jiang and Chengqi Zhang	1256
<i>WiC: the Word-in-Context Dataset for Evaluating Context-Sensitive Meaning Representations</i>	
Mohammad Taher Pilehvar and Jose Camacho-Collados	1267
<i>Does My Rebuttal Matter? Insights from a Major NLP Conference</i>	
Yang Gao, Steffen Eger, Iliia Kuznetsov, Iryna Gurevych and Yusuke Miyao	1274
<i>Casting Light on Invisible Cities: Computationally Engaging with Literary Criticism</i>	
Shufan Wang and Mohit Iyyer	1291
<i>PAWS: Paraphrase Adversaries from Word Scrambling</i>	
Yuan Zhang, Jason Baldridge and Luheng He	1298
<i>Cross-Corpora Evaluation and Analysis of Grammatical Error Correction Models — Is Single-Corpus Evaluation Enough?</i>	
Masato Mita, Tomoya Mizumoto, Masahiro Kaneko, Ryo Nagata and Kentaro Inui	1309
<i>Star-Transformer</i>	
Qipeng Guo, Xipeng Qiu, Pengfei Liu, Yunfan Shao, Xiangyang Xue and Zheng Zhang	1315
<i>Adaptation of Hierarchical Structured Models for Speech Act Recognition in Asynchronous Conversation</i>	
Tasnim Mohiuddin, Thanh-Tung Nguyen and Shafiq Joty	1326
<i>From legal to technical concept: Towards an automated classification of German political Twitter postings as criminal offenses</i>	
Frederike Zufall, Tobias Horsmann and Torsten Zesch	1337
<i>Joint Multi-Label Attention Networks for Social Text Annotation</i>	
Hang Dong, Wei Wang, Kaizhu Huang and Frans Coenen	1348
<i>Multi-Channel Convolutional Neural Network for Twitter Emotion and Sentiment Recognition</i>	
Jumayel Islam, Robert E. Mercer and Lu Xiao	1355
<i>Detecting Cybersecurity Events from Noisy Short Text</i>	
Semih Yagcioglu, Mehmet saygin Seyfioglu, Begum Citamak, Batuhan Bardak, Seren Guldamlasoglu, Azmi Yuksel and Emin Islam Tatli	1366

<i>White-to-Black: Efficient Distillation of Black-Box Adversarial Attacks</i> Yotam Gil, Yoav Chai, Or Gorodissky and Jonathan Berant	1373
<i>Analyzing the Perceived Severity of Cybersecurity Threats Reported on Social Media</i> Shi Zong, Alan Ritter, Graham Mueller and Evan Wright	1380
<i>Fake News Detection using Deep Markov Random Fields</i> Duc Minh Nguyen, Tien Huu Do, Robert Calderbank and Nikos Deligiannis	1391
<i>Issue Framing in Online Discussion Fora</i> Mareike Hartmann, Tallulah Jansen, Isabelle Augenstein and Anders Søgaard	1401
<i>Vector of Locally Aggregated Embeddings for Text Representation</i> Hadi Amiri and Mitra Mohtarami	1408
<i>Predicting the Type and Target of Offensive Posts in Social Media</i> Marcos Zampieri, Shervin Malmasi, Preslav Nakov, Sara Rosenthal, Noura Farra and Ritesh Kumar	1415
<i>Biomedical Event Extraction based on Knowledge-driven Tree-LSTM</i> Diya Li, Lifu Huang, Heng Ji and Jiawei Han	1421
<i>Detecting cognitive impairments by agreeing on interpretations of linguistic features</i> Zining Zhu, Jekaterina Novikova and Frank Rudzicz	1431
<i>Relation Extraction using Explicit Context Conditioning</i> Gaurav Singh and Parminder Bhatia	1442
<i>Conversation Model Fine-Tuning for Classifying Client Utterances in Counseling Dialogues</i> Sungjoon Park, Donghyun Kim and Alice Oh	1448
<i>Using Similarity Measures to Select Pretraining Data for NER</i> Xiang Dai, Sarvnaz Karimi, Ben Hachey and Cecile Paris	1460
<i>Predicting Annotation Difficulty to Improve Task Routing and Model Performance for Biomedical Information Extraction</i> Yinfei Yang, Oshin Agarwal, Chris Tar, Byron C. Wallace and Ani Nenkova	1471
<i>Detecting Depression in Social Media using Fine-Grained Emotions</i> Mario Ezra Aragon, Adrian Pastor Lopez Monroy, Luis Carlos Gonzalez Gurrola and Manuel Montes-y-Gomez	1481
<i>A Silver Standard Corpus of Human Phenotype-Gene Relations</i> Diana Sousa, Andre Lamurias and Francisco M Couto	1487
<i>Improving Lemmatization of Non-Standard Languages with Joint Learning</i> Enrique Manjavacas, Ákos Kádár and Mike Kestemont	1493
<i>One Size Does Not Fit All: Comparing NMT Representations of Different Granularities</i> Nadir Durrani, Fahim Dalvi, Hassan Sajjad, Yonatan Belinkov and Preslav Nakov	1504
<i>A Simple Joint Model for Improved Contextual Neural Lemmatization</i> Chaitanya Malaviya, Shijie Wu and Ryan Cotterell	1517
<i>A Probabilistic Generative Model of Linguistic Typology</i> Johannes Bjerva, Yova Kementchedjheva, Ryan Cotterell and Isabelle Augenstein	1529

<i>Quantifying the morphosyntactic content of Brown Clusters</i> Manuel Ciosici, Leon Derczynski and Ira Assent	1541
<i>Analyzing Bayesian Crosslingual Transfer in Topic Models</i> Shudong Hao and Michael J. Paul	1551
<i>Recursive Subtree Composition in LSTM-Based Dependency Parsing</i> Miryam de Lhoneux, Miguel Ballesteros and Joakim Nivre	1566
<i>Cross-lingual CCG Induction</i> Kilian Evang	1577
<i>Density Matching for Bilingual Word Embedding</i> Chunting Zhou, Xuezhe Ma, Di Wang and Graham Neubig	1588
<i>Cross-Lingual Alignment of Contextual Word Embeddings, with Applications to Zero-shot Dependency Parsing</i> Tal Schuster, Ori Ram, Regina Barzilay and Amir Globerson	1599
<i>Early Rumour Detection</i> Kaimin Zhou, Chang Shu, Binyang Li and Jey Han Lau	1614
<i>Microblog Hashtag Generation via Encoding Conversation Contexts</i> Yue Wang, Jing Li, Irwin King, Michael R. Lyu and Shuming Shi	1624
<i>Text Processing Like Humans Do: Visually Attacking and Shielding NLP Systems</i> Steffen Eger, Gözde Gül Şahin, Andreas Rücklé, Ji-Ung Lee, Claudia Schulz, Mohsen Mesgar, Krishnkant Swarnkar, Edwin Simpson and Iryna Gurevych	1634
<i>Something’s Brewing! Early Prediction of Controversy-causing Posts from Discussion Features</i> Jack Hessel and Lillian Lee	1648
<i>No Permanent Friends or Enemies: Tracking Relationships between Nations from News</i> Xiaochuang Han, Eunsol Choi and Chenhao Tan	1660
<i>Improving Human Text Comprehension through Semi-Markov CRF-based Neural Section Title Generation</i> Sebastian Gehrmann, Steven Layne and Franck Dernoncourt	1677
<i>Unifying Human and Statistical Evaluation for Natural Language Generation</i> Tatsunori Hashimoto, Hugh Zhang and Percy Liang	1689
<i>What makes a good conversation? How controllable attributes affect human judgments</i> Abigail See, Stephen Roller, Douwe Kiela and Jason Weston	1702
<i>An Empirical Investigation of Global and Local Normalization for Recurrent Neural Sequence Models Using a Continuous Relaxation to Beam Search</i> Kartik Goyal, Chris Dyer and Taylor Berg-Kirkpatrick	1724
<i>Pun Generation with Surprise</i> He He, Nanyun Peng and Percy Liang	1734
<i>Single Document Summarization as Tree Induction</i> Yang Liu, Ivan Titov and Mirella Lapata	1745

<i>Fixed That for You: Generating Contrastive Claims with Semantic Edits</i> Christopher Hidey and Kathy McKeown	1756
<i>Box of Lies: Multimodal Deception Detection in Dialogues</i> Felix Soldner, Verónica Pérez-Rosas and Rada Mihalcea	1768
<i>A Crowdsourced Corpus of Multiple Judgments and Disagreement on Anaphoric Interpretation</i> Massimo Poesio, Jon Chamberlain, Silviu Paun, Juntao Yu, Alexandra Uma and Udo Kruschwitz 1778	
<i>A Streamlined Method for Sourcing Discourse-level Argumentation Annotations from the Crowd</i> Tristan Miller, Maria Sukhareva and Iryna Gurevych	1790
<i>Unsupervised Dialog Structure Learning</i> Weiyang Shi, Tiancheng Zhao and Zhou Yu	1797
<i>Modeling Document-level Causal Structures for Event Causal Relation Identification</i> Lei Gao, Prafulla Kumar Choubey and Ruihong Huang	1808
<i>Hierarchical User and Item Representation with Three-Tier Attention for Recommendation</i> Chuhan Wu, Fangzhao Wu, Junxin Liu and Yongfeng Huang	1818
<i>Text Similarity Estimation Based on Word Embeddings and Matrix Norms for Targeted Marketing</i> Tim vor der Brück and Marc Pouly	1827
<i>Glocal: Incorporating Global Information in Local Convolution for Keyphrase Extraction</i> Animesh Prasad and Min-Yen Kan	1837
<i>A Study of Latent Structured Prediction Approaches to Passage Reranking</i> Iryna Haponchyk and Alessandro Moschitti	1847
<i>Combining Distant and Direct Supervision for Neural Relation Extraction</i> Iz Beltagy, Kyle Lo and Waleed Ammar	1858
<i>Tweet Stance Detection Using an Attention based Neural Ensemble Model</i> Umme Aymun Siddiqua, Abu Nowshed Chy and Masaki Aono	1868
<i>Word Embedding-Based Automatic MT Evaluation Metric using Word Position Information</i> Hiroshi Echizen'ya, Kenji Araki and Eduard Hovy	1874
<i>Learning to Stop in Structured Prediction for Neural Machine Translation</i> Mingbo Ma, Renjie Zheng and Liang Huang	1884
<i>Learning Unsupervised Multilingual Word Embeddings with Incremental Multilingual Hubs</i> Geert Heyman, Bregt Verreet, Ivan Vulić and Marie-Francine Moens	1890
<i>Curriculum Learning for Domain Adaptation in Neural Machine Translation</i> Xuan Zhang, Pamela Shapiro, Gaurav Kumar, Paul McNamee, Marine Carpuat and Kevin Duh	1903
<i>Improving Robustness of Machine Translation with Synthetic Noise</i> Vaibhav Vaibhav, Sumeet Singh, Craig Stewart and Graham Neubig	1916
<i>Non-Parametric Adaptation for Neural Machine Translation</i> Ankur Bapna and Orhan Firat	1921

<i>Online Distilling from Checkpoints for Neural Machine Translation</i>	
Hao-Ran Wei, Shujian Huang, Ran Wang, Xin-Yu Dai and Jiajun Chen	1932
<i>Value-based Search in Execution Space for Mapping Instructions to Programs</i>	
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<i>VQD: Visual Query Detection In Natural Scenes</i>	
Manoj Acharya, Karan Jariwala and Christopher Kanan	1955
<i>Improving Natural Language Interaction with Robots Using Advice</i>	
Nikhil Mehta and Dan Goldwasser	1962
<i>Generating Knowledge Graph Paths from Textual Definitions using Sequence-to-Sequence Models</i>	
Victor Prokhorov, Mohammad Taher Pilehvar and Nigel Collier	1968
<i>Shifting the Baseline: Single Modality Performance on Visual Navigation & QA</i>	
Jesse Thomason, Daniel Gordon and Yonatan Bisk	1977
<i>ExCL: Extractive Clip Localization Using Natural Language Descriptions</i>	
Soham Ghosh, Anuva Agarwal, Zarana Parekh and Alexander Hauptmann	1984
<i>Detecting dementia in Mandarin Chinese using transfer learning from a parallel corpus</i>	
Bai Li, Yi-Te Hsu and Frank Rudzicz	1991
<i>Cross-lingual Visual Verb Sense Disambiguation</i>	
Spandana Gella, Desmond Elliott and Frank Keller	1998
<i>Subword-Level Language Identification for Intra-Word Code-Switching</i>	
Manuel Mager, Özlem Çetinoğlu and Katharina Kann	2005
<i>MuST-C: a Multilingual Speech Translation Corpus</i>	
Mattia A. Di Gangi, Roldano Cattoni, Luisa Bentivogli, Matteo Negri and Marco Turchi	2012
<i>Contextualization of Morphological Inflection</i>	
Ekaterina Vylomova, Ryan Cotterell, Trevor Cohn, Timothy Baldwin and Jason Eisner	2018
<i>A Robust Abstractive System for Cross-Lingual Summarization</i>	
Jessica Ouyang, Boya Song and Kathy McKeown	2025
<i>Improving Neural Machine Translation with Neural Syntactic Distance</i>	
Chunpeng Ma, Akihiro Tamura, Masao Utiyama, Eiichiro Sumita and Tiejun Zhao	2032
<i>Measuring Immediate Adaptation Performance for Neural Machine Translation</i>	
Patrick Simianer, Joern Wuebker and John DeNero	2038
<i>Differentiable Sampling with Flexible Reference Word Order for Neural Machine Translation</i>	
Weijia Xu, Xing Niu and Marine Carpuat	2047
<i>Reinforcement Learning based Curriculum Optimization for Neural Machine Translation</i>	
Gaurav Kumar, George Foster, Colin Cherry and Maxim Krikun	2054
<i>Overcoming Catastrophic Forgetting During Domain Adaptation of Neural Machine Translation</i>	
Brian Thompson, Jeremy Gwinnup, Huda Khayrallah, Kevin Duh and Philipp Koehn	2062
<i>Short-Term Meaning Shift: A Distributional Exploration</i>	
Marco Del Tredici, Raquel Fernández and Gemma Boleda	2069

<i>Detecting Derogatory Compounds – An Unsupervised Approach</i> Michael Wiegand, Maximilian Wolf and Josef Ruppenhofer	2076
<i>Personalized Neural Embeddings for Collaborative Filtering with Text</i> Guangneng Hu	2082
<i>An Embarrassingly Simple Approach for Transfer Learning from Pretrained Language Models</i> Alexandra Chronopoulou, Christos Baziotis and Alexandros Potamianos	2089
<i>Incorporating Emoji Descriptions Improves Tweet Classification</i> Abhishek Singh, Eduardo Blanco and Wei Jin	2096
<i>Modeling Personal Biases in Language Use by Inducing Personalized Word Embeddings</i> Daisuke Oba, Naoki Yoshinaga, Shoetsu Sato, Satoshi Akasaki and Masashi Toyoda	2102
<i>Multi-Task Ordinal Regression for Jointly Predicting the Trustworthiness and the Leading Political Ideology of News Media</i> Ramy Baly, Georgi Karadzhov, Abdelrhman Saleh, James Glass and Preslav Nakov	2109
<i>Joint Detection and Location of English Puns</i> Yanyan Zou and Wei Lu	2117
<i>Harry Potter and the Action Prediction Challenge from Natural Language</i> David Vilares and Carlos Gómez-Rodríguez	2124
<i>Argument Mining for Understanding Peer Reviews</i> Xinyu Hua, Mitko Nikolov, Nikhil Badugu and Lu Wang	2131
<i>An annotated dataset of literary entities</i> David Bamman, Sejal Popat and Sheng Shen	2138
<i>Abusive Language Detection with Graph Convolutional Networks</i> Pushkar Mishra, Marco Del Tredici, Helen Yannakoudakis and Ekaterina Shutova	2145
<i>On the Importance of Distinguishing Word Meaning Representations: A Case Study on Reverse Dictionary Mapping</i> Mohammad Taher Pilehvar	2151
<i>Factorising AMR generation through syntax</i> Kris Cao and Stephen Clark	2157
<i>A Crowdsourced Frame Disambiguation Corpus with Ambiguity</i> Anca Dumitrache, Lora Aroyo and Chris Welty	2164
<i>Inoculation by Fine-Tuning: A Method for Analyzing Challenge Datasets</i> Nelson F. Liu, Roy Schwartz and Noah A. Smith	2171
<i>A Capsule Network-based Embedding Model for Knowledge Graph Completion and Search Personalization</i> Dai Quoc Nguyen, Thanh Vu, Tu Dinh Nguyen, Dat Quoc Nguyen and Dinh Phung	2180
<i>Partial Or Complete, That's The Question</i> Qiang Ning, Hangfeng He, Chuchu Fan and Dan Roth	2190
<i>Sequential Attention with Keyword Mask Model for Community-based Question Answering</i> Jianxin Yang, Wenge Rong, Libin Shi and Zhang Xiong	2201

<i>Simple Attention-Based Representation Learning for Ranking Short Social Media Posts</i> Peng Shi, Jinfeng Rao and Jimmy Lin	2212
<i>AttentiveChecker: A Bi-Directional Attention Flow Mechanism for Fact Verification</i> Santosh Tokala, Vishal G, Avirup Saha and Niloy Ganguly	2218
<i>Practical, Efficient, and Customizable Active Learning for Named Entity Recognition in the Digital Humanities</i> Alexander Erdmann, David Joseph Wrisley, Benjamin Allen, Christopher Brown, Sophie Cohen-Bodénès, Micha Elsner, Yukun Feng, Brian Joseph, Béatrice Joyeux-Prunel and Marie-Catherine de Marneffe	2223
<i>Doc2hash: Learning Discrete Latent variables for Documents Retrieval</i> Yifei Zhang and Hao Zhu	2235
<i>Evaluating Text GANs as Language Models</i> Guy Tevet, Gavriel Habib, Vered Shwartz and Jonathan Berant	2241
<i>Latent Code and Text-based Generative Adversarial Networks for Soft-text Generation</i> Md Akmal Haidar, Mehdi Rezagholizadeh, Alan Do Omri and Ahmad Rashid	2248
<i>Neural Text Generation from Rich Semantic Representations</i> Valerie Hajdik, Jan Buys, Michael Wayne Goodman and Emily M. Bender	2259
<i>Step-by-Step: Separating Planning from Realization in Neural Data-to-Text Generation</i> Amit Moryossef, Yoav Goldberg and Ido Dagan	2267
<i>Evaluating Rewards for Question Generation Models</i> Tom Hosking and Sebastian Riedel	2278
<i>Text Generation from Knowledge Graphs with Graph Transformers</i> Rik Koncel-Kedziorski, Dhanush Bekal, Yi Luan, Mirella Lapata and Hannaneh Hajishirzi ..	2284
<i>Open Information Extraction from Question-Answer Pairs</i> Nikita Bhutani, Yoshihiko Suhara, Wang-Chiew Tan, Alon Halevy and H. V. Jagadish	2294
<i>Question Answering by Reasoning Across Documents with Graph Convolutional Networks</i> Nicola De Cao, Wilker Aziz and Ivan Titov	2306
<i>A Qualitative Comparison of CoQA, SQuAD 2.0 and QuAC</i> Mark Yatskar	2318
<i>BERT Post-Training for Review Reading Comprehension and Aspect-based Sentiment Analysis</i> Hu Xu, Bing Liu, Lei Shu and Philip Yu	2324
<i>Old is Gold: Linguistic Driven Approach for Entity and Relation Linking of Short Text</i> Ahmad Sakor, Isaiah Onando Mulang', Kuldeep Singh, Saeedeh Shekarpour, Maria Esther Vidal, Jens Lehmann and Sören Auer	2336
<i>Be Consistent! Improving Procedural Text Comprehension using Label Consistency</i> Xinya Du, Bhavana Dalvi, Niket Tandon, Antoine Bosselut, Wen-tau Yih, Peter Clark and Claire Cardie	2347
<i>MathQA: Towards Interpretable Math Word Problem Solving with Operation-Based Formalisms</i> Aida Amini, Saadia Gabriel, Shanchuan Lin, Rik Koncel-Kedziorski, Yejin Choi and Hannaneh Hajishirzi	2357

<i>DROP: A Reading Comprehension Benchmark Requiring Discrete Reasoning Over Paragraphs</i> Dheeru Dua, Yizhong Wang, Pradeep Dasigi, Gabriel Stanovsky, Sameer Singh and Matt Gardner	2368
<i>An Encoding Strategy Based Word-Character LSTM for Chinese NER</i> Wei Liu, Tongge Xu, Qinghua Xu, Jiayu Song and Yueran Zu	2379
<i>Highly Effective Arabic Diacritization using Sequence to Sequence Modeling</i> Hamdy Mubarak, Ahmed Abdelali, Hassan Sajjad, Younes Samih and Kareem Darwish	2390
<i>SC-LSTM: Learning Task-Specific Representations in Multi-Task Learning for Sequence Labeling</i> Peng Lu, Ting Bai and Philippe Langlais	2396
<i>Learning to Denoise Distantly-Labeled Data for Entity Typing</i> Yasumasa Onoe and Greg Durrett	2407
<i>A Simple and Robust Approach to Detecting Subject-Verb Agreement Errors</i> Simon Flachs, Ophélie Lacroix, Marek Rei, Helen Yannakoudakis and Anders Søgaard	2418
<i>A Grounded Unsupervised Universal Part-of-Speech Tagger for Low-Resource Languages</i> Ronald Cardenas, Ying Lin, Heng Ji and Jonathan May	2428
<i>On Difficulties of Cross-Lingual Transfer with Order Differences: A Case Study on Dependency Parsing</i> Wasi Ahmad, Zhisong Zhang, Xuezhe Ma, Eduard Hovy, Kai-Wei Chang and Nanyun Peng	2440
<i>A Multi-Task Approach for Disentangling Syntax and Semantics in Sentence Representations</i> Mingda Chen, Qingming Tang, Sam Wiseman and Kevin Gimpel	2453
<i>Self-Discriminative Learning for Unsupervised Document Embedding</i> Hong-You Chen, Chin-Hua Hu, Leila Wehbe and Shou-de Lin	2465
<i>Adaptive Convolution for Text Classification</i> Byung-Ju Choi, Jun-Hyung Park and SangKeun Lee	2475
<i>Zero-Shot Cross-Lingual Opinion Target Extraction</i> Soufian Jebbara and Philipp Cimiano	2486
<i>Adversarial Category Alignment Network for Cross-domain Sentiment Classification</i> Xiaoye Qu, Zhikang Zou, Yu Cheng, Yang Yang and Pan Zhou	2496
<i>Target-oriented Opinion Words Extraction with Target-fused Neural Sequence Labeling</i> Zhifang Fan, Zhen Wu, Xin-Yu Dai, Shujian Huang and Jiajun Chen	2509
<i>Abstractive Summarization of Reddit Posts with Multi-level Memory Networks</i> Byeongchang Kim, Hyunwoo Kim and Gunhee Kim	2519
<i>Automatic learner summary assessment for reading comprehension</i> Menglin Xia, Ekaterina Kochmar and Ted Briscoe	2532
<i>Data-efficient Neural Text Compression with Interactive Learning</i> Avinesh P.V.S and Christian M. Meyer	2543
<i>Text Generation with Exemplar-based Adaptive Decoding</i> Hao Peng, Ankur Parikh, Manaal Faruqui, Bhuwan Dhingra and Dipanjan Das	2555

<i>Guiding Extractive Summarization with Question-Answering Rewards</i> Kristjan Arumae and Fei Liu	2566
<i>Beyond task success: A closer look at jointly learning to see, ask, and GuessWhat</i> Ravi Shekhar, Aashish Venkatesh, Tim Baumgärtner, Elia Bruni, Barbara Plank, Raffaella Bernardi and Raquel Fernández	2578
<i>The World in My Mind: Visual Dialog with Adversarial Multi-modal Feature Encoding</i> Yiqun Yao, Jiaming Xu and Bo Xu	2588
<i>Strong and Simple Baselines for Multimodal Utterance Embeddings</i> Paul Pu Liang, Yao Chong Lim, Yao-Hung Hubert Tsai, Ruslan Salakhutdinov and Louis-Philippe Morency	2599
<i>Learning to Navigate Unseen Environments: Back Translation with Environmental Dropout</i> Hao Tan, Licheng Yu and Mohit Bansal	2610
<i>Towards Content Transfer through Grounded Text Generation</i> Shrimai Prabhumoye, Chris Quirk and Michel Galley	2622
<i>Improving Machine Reading Comprehension with General Reading Strategies</i> Kai Sun, Dian Yu, Dong Yu and Claire Cardie	2633
<i>Multi-task Learning with Sample Re-weighting for Machine Reading Comprehension</i> Yichong Xu, Xiaodong Liu, Yelong Shen, Jingjing Liu and Jianfeng Gao	2644
<i>Semantically-Aligned Equation Generation for Solving and Reasoning Math Word Problems</i> Ting-Rui Chiang and Yun-Nung Chen	2656
<i>Iterative Search for Weakly Supervised Semantic Parsing</i> Pradeep Dasigi, Matt Gardner, Shikhar Murty, Luke Zettlemoyer and Eduard Hovy	2669
<i>Alignment over Heterogeneous Embeddings for Question Answering</i> Vikas Yadav, Steven Bethard and Mihai Surdeanu	2681
<i>Bridging the Gap: Attending to Discontinuity in Identification of Multiword Expressions</i> Omid Rohanian, Shiva Taslimipour, Samaneh Kouchaki, Le An Ha and Ruslan Mitkov	2692
<i>Incorporating Word Attention into Character-Based Word Segmentation</i> Shohei Higashiyama, Masao Utiyama, Eiichiro Sumita, Masao Ideuchi, Yoshiaki Oida, Yohei Sakamoto and Isaac Okada	2699
<i>VCWE: Visual Character-Enhanced Word Embeddings</i> Chi Sun, Xipeng Qiu and Xuanjing Huang	2710
<i>Subword Encoding in Lattice LSTM for Chinese Word Segmentation</i> Jie Yang, Yue Zhang and Shuailong Liang	2720
<i>Improving Cross-Domain Chinese Word Segmentation with Word Embeddings</i> Yuxiao Ye, Weikang Li, Yue Zhang, Likun Qiu and Jian Sun	2726
<i>Neural Semi-Markov Conditional Random Fields for Robust Character-Based Part-of-Speech Tagging</i> Apostolos Kemos, Heike Adel and Hinrich Schütze	2736
<i>Shrinking Japanese Morphological Analyzers With Neural Networks and Semi-supervised Learning</i> Arseny Tolmachev, Daisuke Kawahara and Sadao Kurohashi	2744

<i>Neural Constituency Parsing of Speech Transcripts</i>	
Paria Jamshid Lou, Yufei Wang and Mark Johnson	2756
<i>Acoustic-to-Word Models with Conversational Context Information</i>	
Suyoun Kim and Florian Metze	2766
<i>A Dynamic Speaker Model for Conversational Interactions</i>	
Hao Cheng, Hao Fang and Mari Ostendorf	2772
<i>Fluent Translations from Disfluent Speech in End-to-End Speech Translation</i>	
Elizabeth Salesky, Matthias Sperber and Alexander Waibel	2786
<i>Relation Classification Using Segment-Level Attention-based CNN and Dependency-based RNN</i>	
Van-Hien Tran, Van-Thuy Phi, Hiroyuki Shindo and Yuji Matsumoto	2793
<i>Document-Level Event Factuality Identification via Adversarial Neural Network</i>	
Zhong Qian, Peifeng Li, Qiaoming Zhu and Guodong Zhou	2799
<i>Distant Supervision Relation Extraction with Intra-Bag and Inter-Bag Attentions</i>	
Zhi-Xiu Ye and Zhen-Hua Ling	2810
<i>Ranking-Based Autoencoder for Extreme Multi-label Classification</i>	
Bingyu Wang, Li Chen, Wei Sun, Kechen Qin, Kefeng Li and Hui Zhou	2820
<i>Posterior-regularized REINFORCE for Instance Selection in Distant Supervision</i>	
Qi Zhang, Siliang Tang, Xiang Ren, Fei Wu, Shiliang Pu and Yueting Zhuang	2831
<i>Scalable Collapsed Inference for High-Dimensional Topic Models</i>	
Rashidul Islam and James Foulds	2836
<i>An Integrated Approach for Keyphrase Generation via Exploring the Power of Retrieval and Extraction</i>	
Wang Chen, Hou Pong Chan, Piji Li, Lidong Bing and Irwin King	2846
<i>Predicting Malware Attributes from Cybersecurity Texts</i>	
Arpita Roy, Youngja Park and Shimei Pan	2857
<i>Improving Distantly-supervised Entity Typing with Compact Latent Space Clustering</i>	
Bo Chen, Xiaotao Gu, Yufeng Hu, Siliang Tang, Guoping Hu, Yueting Zhuang and Xiang Ren	2862
<i>Modelling Instance-Level Annotator Reliability for Natural Language Labelling Tasks</i>	
Maolin Li, Arvid Fahlström Myrman, Tingting Mu and Sophia Ananiadou	2873
<i>Review-Driven Multi-Label Music Style Classification by Exploiting Style Correlations</i>	
Guangxiang Zhao, Jingjing Xu, Qi Zeng, Xuancheng Ren and Xu Sun	2884
<i>Fact Discovery from Knowledge Base via Facet Decomposition</i>	
Zihao Fu, Yankai Lin, Zhiyuan Liu and Wai Lam	2892
<i>A Richer-but-Smarter Shortest Dependency Path with Attentive Augmentation for Relation Extraction</i>	
Duy-Cat Can, Hoang-Quynh Le, Quang-Thuy Ha and Nigel Collier	2902
<i>Bidirectional Attentive Memory Networks for Question Answering over Knowledge Bases</i>	
Yu Chen, Lingfei Wu and Mohammed J Zaki	2913

<i>BoolQ: Exploring the Surprising Difficulty of Natural Yes/No Questions</i> Christopher Clark, Kenton Lee, Ming-Wei Chang, Tom Kwiatkowski, Michael Collins and Kristina Toutanova	2924
<i>Enhancing Key-Value Memory Neural Networks for Knowledge Based Question Answering</i> Kun Xu, Yuxuan Lai, Yansong Feng and Zhiguo Wang	2937
<i>Repurposing Entailment for Multi-Hop Question Answering Tasks</i> Harsh Trivedi, Heeyoung Kwon, Tushar Khot, Ashish Sabharwal and Niranjan Balasubramanian	2948
<i>GenderQuant: Quantifying Mention-Level Genderedness</i> , Nitya Parthasarathi and Sameer Singh	2959
<i>Analyzing Polarization in Social Media: Method and Application to Tweets on 21 Mass Shootings</i> Dorottya Demszky, Nikhil Garg, Rob Voigt, James Zou, Jesse Shapiro, Matthew Gentzkow and Dan Jurafsky	2970
<i>Learning to Decipher Hate Symbols</i> Jing Qian, Mai ElSherief, Elizabeth Belding and William Yang Wang	3006
<i>Long-tail Relation Extraction via Knowledge Graph Embeddings and Graph Convolution Networks</i> Ningyu Zhang, Shumin Deng, Zhanlin Sun, Guanying Wang, Xi Chen, Wei Zhang and Huajun Chen	3016
<i>GAN Driven Semi-distant Supervision for Relation Extraction</i> Pengshuai Li, Xinsong Zhang, Weijia Jia and Hai Zhao	3026
<i>A general framework for information extraction using dynamic span graphs</i> Yi Luan, Dave Wadden, Luheng He, Amy Shah, Mari Ostendorf and Hannaneh Hajishirzi ...	3036
<i>OpenCeres: When Open Information Extraction Meets the Semi-Structured Web</i> Colin Lockard, Prashant Shiralkar and Xin Luna Dong	3047
<i>Structured Minimally Supervised Learning for Neural Relation Extraction</i> Fan Bai and Alan Ritter	3057
<i>Neural Machine Translation of Text from Non-Native Speakers</i> Antonios Anastasopoulos, Alison Lui, Toan Q. Nguyen and David Chiang	3070
<i>Improving Domain Adaptation Translation with Domain Invariant and Specific Information</i> Shuhao Gu, Yang Feng and Qun Liu	3081
<i>Selective Attention for Context-aware Neural Machine Translation</i> Sameen Maruf, André F. T. Martins and Gholamreza Haffari	3092
<i>On Evaluation of Adversarial Perturbations for Sequence-to-Sequence Models</i> Paul Michel, Xian Li, Graham Neubig and Juan Pino	3103
<i>Accelerated Reinforcement Learning for Sentence Generation by Vocabulary Prediction</i> Kazuma Hashimoto and Yoshimasa Tsuruoka	3115
<i>Mitigating Uncertainty in Document Classification</i> Xuchao Zhang, Fanglan Chen, ChangTien Lu and Naren Ramakrishnan	3126

<i>Complexity-Weighted Loss and Diverse Reranking for Sentence Simplification</i>	
Reno Kriz, Joao Sedoc, Marianna Apidianaki, Carolina Zheng, Gaurav Kumar, Eleni Miltsakaki and Chris Callison-Burch	3137
<i>Predicting Helpful Posts in Open-Ended Discussion Forums: A Neural Architecture</i>	
Kishalay Halder, Min-Yen Kan and Kazunari Sugiyama	3148
<i>Text Classification with Few Examples using Controlled Generalization</i>	
Abhijit Mahabal, Jason Baldridge, Burcu Karagol Ayan, Vincent Perot and Dan Roth	3158
<i>Reinforcement Learning Based Text Style Transfer without Parallel Training Corpus</i>	
Hongyu Gong, Suma Bhat, Lingfei Wu, JinJun Xiong and Wen-mei Hwu	3168
<i>Adapting RNN Sequence Prediction Model to Multi-label Set Prediction</i>	
Kechen Qin, Cheng Li, Virgil Pavlu and Javed Aslam	3181
<i>Customizing Grapheme-to-Phoneme System for Non-Trivial Transcription Problems in Bangla Language</i>	
Sudipta Saha Shubha, Nafis Sadeq, Shafayat Ahmed, Md. Nahidul Islam, Muhammad Abdullah Adnan, Md. Yasin Ali Khan and Mohammad Zuberul Islam	3191
<i>Connecting Language and Knowledge with Heterogeneous Representations for Neural Relation Extraction</i>	
Peng Xu and Denilson Barbosa	3201
<i>Segmentation-free compositional n-gram embedding</i>	
Geewook Kim, Kazuki Fukui and Hidetoshi Shimodaira	3207
<i>Exploiting Noisy Data in Distant Supervision Relation Classification</i>	
Kaijia Yang, Liang He, Xin-Yu Dai, Shujian Huang and Jiajun Chen	3216
<i>Misspelling Oblivious Word Embeddings</i>	
Aleksandra Piktus, Necati Bora Edizel, Piotr Bojanowski, Edouard Grave, Rui Ferreira and Fabrizio Silvestri	3226
<i>Learning Relational Representations by Analogy using Hierarchical Siamese Networks</i>	
Gaetano Rossiello, Alfio Gliozzo, Robert Farrell, Nicolas Fauceglia and Michael Glass	3235
<i>An Effective Label Noise Model for DNN Text Classification</i>	
Ishan Jindal, Daniel Pressel, Brian Lester and Matthew Nogleby	3246
<i>Understanding Learning Dynamics Of Language Models with SVCCA</i>	
Naomi Saphra and Adam Lopez	3257
<i>Using Large Corpus N-gram Statistics to Improve Recurrent Neural Language Models</i>	
Yiben Yang, Ji-Ping Wang and Doug Downey	3268
<i>Continual Learning for Sentence Representations Using Conceptors</i>	
Tianlin Liu, Lyle Ungar and Joao Sedoc	3274
<i>Relation Discovery with Out-of-Relation Knowledge Base as Supervision</i>	
Yan Liang, Xin Liu, Jianwen Zhang and Yangqiu Song	3280
<i>Corpora Generation for Grammatical Error Correction</i>	
Jared Lichtarge, Chris Alberti, Shankar Kumar, Noam Shazeer, Niki Parmar and Simon Tong	3291

<i>Structural Supervision Improves Learning of Non-Local Grammatical Dependencies</i> Ethan Wilcox, Peng Qian, Richard Futrell, Miguel Ballesteros and Roger Levy	3302
<i>Benchmarking Approximate Inference Methods for Neural Structured Prediction</i> Lifu Tu and Kevin Gimpel	3313
<i>Evaluating and Enhancing the Robustness of Dialogue Systems: A Case Study on a Negotiation Agent</i> Minhao Cheng, Wei Wei and Cho-Jui Hsieh	3325
<i>Investigating Robustness and Interpretability of Link Prediction via Adversarial Modifications</i> Pouya Pezeshkpour, Yifan Tian and Sameer Singh	3336
<i>Analysis Methods in Neural Language Processing: A Survey</i> Yonatan Belinkov and James Glass	3348
<i>Transferable Neural Projection Representations</i> Chinnadhurai Sankar, Sujith Ravi and Zornitsa Kozareva	3355
<i>Semantic Role Labeling with Associated Memory Network</i> Chaoyu Guan, Yuhao Cheng and Hai Zhao	3361
<i>Better, Faster, Stronger Sequence Tagging Constituent Parsers</i> David Vilares, Mostafa Abdou and Anders Søgaard	3372
<i>CAN-NER: Convolutional Attention Network for Chinese Named Entity Recognition</i> Yuying Zhu and Guoxin Wang	3384
<i>Decomposed Local Models for Coordinate Structure Parsing</i> Hiroki Teranishi, Hiroyuki Shindo and Yuji Matsumoto	3394
<i>Multi-Task Learning for Japanese Predicate Argument Structure Analysis</i> Hikaru Omori and Mamoru Komachi	3404
<i>Domain adaptation for part-of-speech tagging of noisy user-generated text</i> Luisa März, Dietrich Trautmann and Benjamin Roth	3415
<i>Neural Chinese Address Parsing</i> Hao Li, Wei Lu, Pengjun Xie and Linlin Li	3421
<i>Learning Hierarchical Discourse-level Structure for Fake News Detection</i> Hamid Karimi and Jiliang Tang	3432
<i>DiscoFuse: A Large-Scale Dataset for Discourse-Based Sentence Fusion</i> Mor Geva, Eric Malmi, Idan Szpektor and Jonathan Berant	3443
<i>Linguistically-Informed Specificity and Semantic Plausibility for Dialogue Generation</i> Wei-Jen Ko, Greg Durrett and Junyi Jessy Li	3456
<i>Learning to Describe Unknown Phrases with Local and Global Contexts</i> Shonosuke Ishiwatari, Hiroaki Hayashi, Naoki Yoshinaga, Graham Neubig, Shoetsu Sato, Masashi Toyoda and Masaru Kitsuregawa	3467
<i>Mining Discourse Markers for Unsupervised Sentence Representation Learning</i> Damien Sileo, Tim Van de Cruys, Camille Pradel and Philippe Muller	3477

<i>How Large a Vocabulary Does Text Classification Need? A Variational Approach to Vocabulary Selection</i> Wenhu Chen, Yu Su, Yilin Shen, Zhiyu Chen, Xifeng Yan and William Yang Wang	3487
<i>Subword-based Compact Reconstruction of Word Embeddings</i> Shota Sasaki, Jun Suzuki and Kentaro Inui	3498
<i>Bayesian Learning for Neural Dependency Parsing</i> Ehsan Shareghi, Yingzhen Li, Yi Zhu, Roi Reichart and Anna Korhonen	3509
<i>AutoSeM: Automatic Task Selection and Mixing in Multi-Task Learning</i> Han Guo, Ramakanth Pasunuru and Mohit Bansal	3520
<i>Studying the Inductive Biases of RNNs with Synthetic Variations of Natural Languages</i> Shauli Ravfogel, Yoav Goldberg and Tal Linzen	3532
<i>Attention is not Explanation</i> Sarthak Jain and Byron C. Wallace	3543
<i>Playing Text-Adventure Games with Graph-Based Deep Reinforcement Learning</i> Prithviraj Ammanabrolu and Mark Riedl	3557
<i>Information Aggregation for Multi-Head Attention with Routing-by-Agreement</i> Jian Li, Baosong Yang, Zi-Yi Dou, Xing Wang, Michael R. Lyu and Zhaopeng Tu	3566
<i>Context Dependent Semantic Parsing over Temporally Structured Data</i> Charles Chen and Razvan Bunescu	3576
<i>Structural Scaffolds for Citation Intent Classification in Scientific Publications</i> Arman Cohan, Waleed Ammar, Madeleine van Zuylen and Field Cady	3586
<i>pair2vec: Compositional Word-Pair Embeddings for Cross-Sentence Inference</i> Mandar Joshi, Eunsol Choi, Omer Levy, Daniel Weld and Luke Zettlemoyer	3597
<i>Submodular Optimization-based Diverse Paraphrasing and its Effectiveness in Data Augmentation</i> Ashutosh Kumar, Satwik Bhattamishra, Manik Bhandari and Partha Talukdar	3609
<i>Let's Make Your Request More Persuasive: Modeling Persuasive Strategies via Semi-Supervised Neural Nets on Crowdfunding Platforms</i> Diyi Yang, Jiaao Chen, Zichao Yang, Dan Jurafsky and Eduard Hovy	3620
<i>Recursive Routing Networks: Learning to Compose Modules for Language Understanding</i> Ignacio Cases, Clemens Rosenbaum, Matthew Riemer, Atticus Geiger, Tim Klinger, Alex Tamkin, Olivia Li, Sandhini Agarwal, Joshua D. Greene, Dan Jurafsky, Christopher Potts and Lauri Karttunen	3631
<i>Structural Neural Encoders for AMR-to-text Generation</i> Marco Damonte and Shay B. Cohen	3649
<i>Multilingual prediction of Alzheimer's disease through domain adaptation and concept-based language modelling</i> Kathleen C. Fraser, Nicklas Linz, Bai Li, Kristina Lundholm Fors, Frank Rudzicz, Alexandra Konig, Jan Alexandersson, Philippe Robert and Dimitrios Kokkinakis	3659
<i>Ranking and Selecting Multi-Hop Knowledge Paths to Better Predict Human Needs</i> Debjit Paul and Anette Frank	3671

<i>NLP Whack-A-Mole: Challenges in Cross-Domain Temporal Expression Extraction</i> Amy Olex, Luke Maffey and Bridget McInnes	3682
<i>Document-Level N-ary Relation Extraction with Multiscale Representation Learning</i> Robin Jia, Cliff Wong and Hoifung Poon	3693
<i>Inferring Which Medical Treatments Work from Reports of Clinical Trials</i> Eric Lehman, Jay DeYoung, Regina Barzilay and Byron C. Wallace	3705
<i>Decay-Function-Free Time-Aware Attention to Context and Speaker Indicator for Spoken Language Understanding</i> Jonggu Kim and Jong-Hyeok Lee	3718
<i>Dialogue Act Classification with Context-Aware Self-Attention</i> Vipul Raheja and Joel Tetreault	3727
<i>Affect-Driven Dialog Generation</i> Pierre Colombo, Wojciech Witon, Ashutosh Modi, James Kennedy and Mubbasir Kapadia ...	3734
<i>Multi-Level Memory for Task Oriented Dialogs</i> Revanth Gangi Reddy, Danish Contractor, Dinesh Raghu and Sachindra Joshi	3744
<i>Topic Spotting using Hierarchical Networks with Self Attention</i> Pooja Chitkara, Ashutosh Modi, Pravalika Avvaru, Sepehr Janghorbani and Mubbasir Kapadia	3755
<i>Top-Down Structurally-Constrained Neural Response Generation with Lexicalized Probabilistic Context-Free Grammar</i> Wenchao Du and Alan W. Black	3762
<i>What do Entity-Centric Models Learn? Insights from Entity Linking in Multi-Party Dialogue</i> Laura Aina, Carina Silberer, Ionut-Teodor Sorodoc, Matthijs Westera and Gemma Boleda ...	3772
<i>Continuous Learning for Large-scale Personalized Domain Classification</i> Han Li, Jihwan Lee, Sidharth Mudgal, Ruhi Sarikaya and Young-Bum Kim	3784
<i>Cross-lingual Transfer Learning for Multilingual Task Oriented Dialog</i> Sebastian Schuster, Sonal Gupta, Rushin Shah and Mike Lewis	3795
<i>Evaluating Coherence in Dialogue Systems using Entailment</i> Nouha Dziri, Ehsan Kamaloo, Kory Mathewson and Osmar Zaiane	3806
<i>On Knowledge distillation from complex networks for response prediction</i> Siddhartha Arora, Mitesh M. Khapra and Harish G. Ramaswamy	3813
<i>Cross-lingual Multi-Level Adversarial Transfer to Enhance Low-Resource Name Tagging</i> Lifu Huang, Heng Ji and Jonathan May	3823
<i>Unsupervised Extraction of Partial Translations for Neural Machine Translation</i> Benjamin Marie and Atsushi Fujita	3834
<i>Low-Resource Syntactic Transfer with Unsupervised Source Reordering</i> Mohammad Sadegh Rasooli and Michael Collins	3845
<i>Revisiting Adversarial Autoencoder for Unsupervised Word Translation with Cycle Consistency and Improved Training</i> Tasnim Mohiuddin and Shafiq Joty	3857

<i>Addressing word-order Divergence in Multilingual Neural Machine Translation for extremely Low Resource Languages</i>	
Rudra Murthy, Anoop Kunchukuttan and Pushpak Bhattacharyya	3868
<i>Massively Multilingual Neural Machine Translation</i>	
Roe Aharoni, Melvin Johnson and Orhan Firat	3874
<i>A Large-Scale Comparison of Historical Text Normalization Systems</i>	
Marcel Bollmann	3885
<i>Combining Discourse Markers and Cross-lingual Embeddings for Synonym–Antonym Classification</i>	
Michael Roth and Shyam Upadhyay	3899
<i>Context-Aware Cross-Lingual Mapping</i>	
Hanan Aldarmaki and Mona Diab	3906
<i>Polyglot Contextual Representations Improve Crosslingual Transfer</i>	
Phoebe Mulcaire, Jungo Kasai and Noah A. Smith	3912
<i>Typological Features for Multilingual Delexicalised Dependency Parsing</i>	
Manon Scholivet, Franck Dary, Alexis Nasr, Benoit Favre and Carlos Ramisch	3919
<i>Recommendations for Datasets for Source Code Summarization</i>	
Alexander LeClair and Collin McMillan	3931
<i>Question Answering as an Automatic Evaluation Metric for News Article Summarization</i>	
Matan Eyal, Tal Baumel and Michael Elhadad	3938
<i>Understanding the Behaviour of Neural Abstractive Summarizers using Contrastive Examples</i>	
Krtin Kumar and Jackie Chi Kit Cheung	3949
<i>Jointly Extracting and Compressing Documents with Summary State Representations</i>	
Afonso Mendes, Shashi Narayan, Sebastião Miranda, Zita Marinho, André F. T. Martins and Shay B. Cohen	3955
<i>News Article Teaser Tweets and How to Generate Them</i>	
Sanjeev Kumar Karn, Mark Buckley, Ulli Waltinger and Hinrich Schütze	3967
<i>Cross-referencing Using Fine-grained Topic Modeling</i>	
Jeffrey Lund, Piper Armstrong, Wilson Fearn, Stephen Cowley, Emily Hales and Kevin Seppi	3978
<i>Conversation Initiation by Diverse News Contents Introduction</i>	
Satoshi Akasaki and Nobuhiro Kaji	3988
<i>Positional Encoding to Control Output Sequence Length</i>	
Sho Takase and Naoaki Okazaki	3999
<i>The Lower The Simpler: Simplifying Hierarchical Recurrent Models</i>	
Chao Wang and Hui Jiang	4005
<i>Using Natural Language Relations between Answer Choices for Machine Comprehension</i>	
Rajkumar Pujari and Dan Goldwasser	4010
<i>Saliency Learning: Teaching the Model Where to Pay Attention</i>	
Reza Ghaeini, Xiaoli Fern, Hamed Shahbazi and Prasad Tadepalli	4016

<i>Understanding Dataset Design Choices for Multi-hop Reasoning</i> Jifan Chen and Greg Durrett	4026
<i>Neural Grammatical Error Correction with Finite State Transducers</i> Felix Stahlberg, Christopher Bryant and Bill Byrne	4033
<i>Convolutional Self-Attention Networks</i> Baosong Yang, Longyue Wang, Derek F. Wong, Lidia S. Chao and Zhaopeng Tu	4040
<i>Rethinking Complex Neural Network Architectures for Document Classification</i> Ashutosh Adhikari, Achyudh Ram, Raphael Tang and Jimmy Lin	4046
<i>Pre-trained language model representations for language generation</i> Sergey Edunov, Alexei Baevski and Michael Auli	4052
<i>Pragmatically Informative Text Generation</i> Sheng Shen, Daniel Fried, Jacob Andreas and Dan Klein	4060
<i>Stochastic Wasserstein Autoencoder for Probabilistic Sentence Generation</i> Hareesh Bahuleyan, Lili Mou, Hao Zhou and Olga Vechtomova	4068
<i>Benchmarking Hierarchical Script Knowledge</i> Yonatan Bisk, Jan Buys, Karl Pichotta and Yejin Choi	4077
<i>A large-scale study of the effects of word frequency and predictability in naturalistic reading</i> Cory Shain	4086
<i>Augmenting word2vec with latent Dirichlet allocation within a clinical application</i> Akshay Budhkar and Frank Rudzicz	4095
<i>On the Idiosyncrasies of the Mandarin Chinese Classifier System</i> Shijia Liu, Hongyuan Mei, Adina Williams and Ryan Cotterell	4100
<i>Joint Learning of Pre-Trained and Random Units for Domain Adaptation in Part-of-Speech Tagging</i> Sara Meftah, Youssef Tamaazousti, Nasredine Semmar, Hassane Essafi and Fatiha Sadat	4107
<i>Show Some Love to Your n-grams: A Bit of Progress and Stronger n-gram Language Modeling Baselines</i> Ehsan Shareghi, Daniela Gerz, Ivan Vulić and Anna Korhonen	4113
<i>Training Data Augmentation for Context-Sensitive Neural Lemmatizer Using Inflection Tables and Raw Text</i> Toms Bergmanis and Sharon Goldwater	4119
<i>A Structural Probe for Finding Syntax in Word Representations</i> John Hewitt and Christopher D. Manning	4129
<i>CNM: An Interpretable Complex-valued Network for Matching</i> Qiuchi Li, Benyou Wang and Massimo Melucci	4139
<i>CommonsenseQA: A Question Answering Challenge Targeting Commonsense Knowledge</i> Alon Talmor, Jonathan Herzig, Nicholas Lourie and Jonathan Berant	4149
<i>Probing the Need for Visual Context in Multimodal Machine Translation</i> Ozan Caglayan, Pranava Madhyastha, Lucia Specia and Loïc Barrault	4159

BERT: Pre-training of Deep Bidirectional Transformers for Language Understanding
Jacob Devlin, Ming-Wei Chang, Kenton Lee and Kristina Toutanova 4171

What's in a Name? Reducing Bias in Bios without Access to Protected Attributes
Alexey Romanov, Maria De-Arteaga, Hanna Wallach, Jennifer Chayes, Christian Borgs, Alexandra Chouldechova, Sahin Geyik, Krishnaram Kenthapadi, Anna Rumshisky and Adam Kalai 4187

Conference Program

Sunday, June 2, 2019

18:00–20:00 *Welcome Reception (Nicollet Grand Ballroom)*

Monday, June 3, 2019

9:00–9:30 *Land Acknowledgments, Opening Remarks and Janyce Wiebe and Richard Kittredge Remembrances (Nicollet Grand Ballroom)*

Session 1

9:30–10:30 *Keynote 1: Arvind Narayanan "Data as a Mirror of Society: Lessons from the Emerging Science of Fairness in Machine Learning" (Nicollet Grand Ballroom)*

10:30–11:00 *Coffee Break*

11:00–12:30 *Oral Sessions (long papers) and Posters (long and short papers)*

Session 1A: Psycholinguistics & Cognitive Modelling

Room: Nicollet B+C, Chair: **Serguei Pakhomov**

11:00–11:18 *Entity Recognition at First Sight: Improving NER with Eye Movement Information*
Nora Hollenstein and Ce Zhang

11:18–11:36 *The emergence of number and syntax units in LSTM language models*
Yair Lakretz, Germán Kruszewski, Théo Desbordes, Dieuwke Hupkes, Stanislas Dehaene and Marco Baroni

11:36–11:54 *Neural Self-Training through Spaced Repetition*
Hadi Amiri

11:54–12:12 *Neural language models as psycholinguistic subjects: Representations of syntactic state*
Richard Futrell, Ethan Wilcox, Takashi Morita, Peng Qian, Miguel Ballesteros and Roger Levy

12:12–12:30 *Understanding language-elicited EEG data by predicting it from a fine-tuned language model*
Dan Schwartz and Tom Mitchell

Monday, June 3, 2019 (continued)

Session 1B: Speech

Room: Nicollet A, Chair: **Yang Liu**

- 11:00–11:18 *Pre-training on high-resource speech recognition improves low-resource speech-to-text translation*
Sameer Bansal, Herman Kamper, Karen Livescu, Adam Lopez and Sharon Goldwater
- 11:18–11:36 *Measuring the perceptual availability of phonological features during language acquisition using unsupervised binary stochastic autoencoders*
Cory Shain and Micha Elsner
- 11:36–11:54 *Giving Attention to the Unexpected: Using Prosody Innovations in Disfluency Detection*
Vicky Zayats and Mari Ostendorf
- 11:54–12:12 *Massively Multilingual Adversarial Speech Recognition*
Oliver Adams, Matthew Wiesner, Shinji Watanabe and David Yarowsky
- 12:12–12:30 *Lost in Interpretation: Predicting Untranslated Terminology in Simultaneous Interpretation*
Nikolai Vogler, Craig Stewart and Graham Neubig

Session 1C: Generation

Room: Northstar Ballroom A, Chair: **Wei Xu**

- 11:00–11:18 *AudioCaps: Generating Captions for Audios in The Wild*
Chris Dongjoo Kim, Byeongchang Kim, Hyunmin Lee and Gunhee Kim
- 11:18–11:36 *"President Vows to Cut <Taxes> Hair": Dataset and Analysis of Creative Text Editing for Humorous Headlines*
Nabil Hossain, John Krumm and Michael Gamon
- 11:36–11:54 *Answer-based Adversarial Training for Generating Clarification Questions*
Sudha Rao and Hal Daumé III
- 11:54–12:12 *Improving Grammatical Error Correction via Pre-Training a Copy-Augmented Architecture with Unlabeled Data*
Wei Zhao, Liang Wang, Kewei Shen, Ruoyu Jia and Jingming Liu
- 12:12–12:30 *Topic-Guided Variational Auto-Encoder for Text Generation*
Wenlin Wang, Zhe Gan, Hongteng Xu, Ruiyi Zhang, Guoyin Wang, Dinghan Shen, Changyou Chen and Lawrence Carin

Monday, June 3, 2019 (continued)

Session 1D: Tagging, Chunking, Syntax & Parsing

Room: Greenway, Chair: **Roi Reichart**

- 11:00–11:18 *Implementation of a Chomsky-Schützenberger n-best parser for weighted multiple context-free grammars*
Thomas Ruprecht and Tobias Denzinger
- 11:18–11:36 *Phylogenic Multi-Lingual Dependency Parsing*
Mathieu Dehouck and Pascal Denis
- 11:36–11:54 *Discontinuous Constituency Parsing with a Stack-Free Transition System and a Dynamic Oracle*
Maximin Coavoux and Shay B. Cohen
- 11:54–12:12 *How Bad are PoS Tagger in Cross-Corpora Settings? Evaluating Annotation Divergence in the UD Project.*
Guillaume Wisniewski and François Yvon
- 12:12–12:30 *CCG Parsing Algorithm with Incremental Tree Rotation*
Miloš Stanojević and Mark Steedman

Session 1E: Theory & Formalisms

Room: Nicollet D, Chair: **Ryan Cotterell**

- 11:00–11:18 *Cyclical Annealing Schedule: A Simple Approach to Mitigate KL Vanishing*
Hao Fu, Chunyuan Li, Xiaodong Liu, Jianfeng Gao, Asli Celikyilmaz and Lawrence Carin
- 11:18–11:36 *Recurrent models and lower bounds for projective syntactic decoding*
Natalie Schluter
- 11:36–11:54 *Evaluating Composition Models for Verb Phrase Elliptical Sentence Embeddings*
Gijs Wijnholds and Mehrnoosh Sadrzadeh
- 11:54–12:12 *Neural Finite-State Transducers: Beyond Rational Relations*
Chu-Cheng Lin, Hao Zhu, Matthew R. Gormley and Jason Eisner
- 12:12–12:30 *Riemannian Normalizing Flow on Variational Wasserstein Autoencoder for Text Modeling*
Prince Zizhuang Wang and William Yang Wang

Monday, June 3, 2019 (continued)

Session 1F: Question Answering, Sentiment, Machine Translation, Resources & Evaluation (Posters)

Room: Hyatt Exhibit Hall

Question Answering

A Study of Incorrect Paraphrases in Crowdsourced User Utterances

Mohammad-Ali Yaghoub-Zadeh-Fard, Boualem Benatallah, Moshe Chai Barukh and Shayan Zamanirad

ComQA: A Community-sourced Dataset for Complex Factoid Question Answering with Paraphrase Clusters

Abdalghani Abujabal, Rishiraj Saha Roy, Mohamed Yahya and Gerhard Weikum

FreebaseQA: A New Factoid QA Data Set Matching Trivia-Style Question-Answer Pairs with Freebase

Kelvin Jiang, Dekun Wu and Hui Jiang

Simple Question Answering with Subgraph Ranking and Joint-Scoring

Wenbo Zhao, Tagyoung Chung, Anuj Goyal and Angeliki Metallinou

Learning to Attend On Essential Terms: An Enhanced Retriever-Reader Model for Open-domain Question Answering

Jianmo Ni, Chenguang Zhu, Weizhu Chen and Julian McAuley

UHop: An Unrestricted-Hop Relation Extraction Framework for Knowledge-Based Question Answering

Zi-Yuan Chen, Chih-Hung Chang, Yi-Pei Chen, Jijnasa Nayak and Lun-Wei Ku

BAG: Bi-directional Attention Entity Graph Convolutional Network for Multi-hop Reasoning Question Answering

Yu Cao, Meng Fang and Dacheng Tao

[SRW] *Is It Dish Washer Safe? Automatically Answering “Yes-No” Questions Using Customer Reviews*

Daria Dzendzik, Carl Vogel and Jennifer Foster

Sentiment

Vector of Locally-Aggregated Word Embeddings (VLAWE): A Novel Document-level Representation

Radu Tudor Ionescu and Andrei Butnaru

Multi-task Learning for Multi-modal Emotion Recognition and Sentiment Analysis

Md Shad Akhtar, Dushyant Chauhan, Deepanway Ghosal, Soujanya Poria, Asif Ekbal and Pushpak Bhattacharyya

Monday, June 3, 2019 (continued)

Utilizing BERT for Aspect-Based Sentiment Analysis via Constructing Auxiliary Sentence

Chi Sun, Luyao Huang and Xipeng Qiu

A Variational Approach to Weakly Supervised Document-Level Multi-Aspect Sentiment Classification

Ziqian Zeng, Wenxuan Zhou, Xin Liu and Yangqiu Song

HiGRU: Hierarchical Gated Recurrent Units for Utterance-Level Emotion Recognition

Wenxiang Jiao, Haiqin Yang, Irwin King and Michael R. Lyu

Learning Interpretable Negation Rules via Weak Supervision at Document Level: A Reinforcement Learning Approach

Nicolas Pröllochs, Stefan Feuerriegel and Dirk Neumann

Simplified Neural Unsupervised Domain Adaptation

Timothy Miller

Learning Bilingual Sentiment-Specific Word Embeddings without Cross-lingual Supervision

Yanlin Feng and Xiaojun Wan

Machine Translation

ReWE: Regressing Word Embeddings for Regularization of Neural Machine Translation Systems

Inigo Jauregi Unanue, Ehsan Zare Borzeshi, Nazanin Esmaili and Massimo Piccardi

Lost in Machine Translation: A Method to Reduce Meaning Loss

Reuben Cohn-Gordon and Noah Goodman

Bi-Directional Differentiable Input Reconstruction for Low-Resource Neural Machine Translation

Xing Niu, Weijia Xu and Marine Carpuat

Code-Switching for Enhancing NMT with Pre-Specified Translation

Kai Song, Yue Zhang, Heng Yu, Weihua Luo, Kun Wang and Min Zhang

Aligning Vector-spaces with Noisy Supervised Lexicon

Noa Yehezkel Lubin, Jacob Goldberger and Yoav Goldberg

Understanding and Improving Hidden Representations for Neural Machine Translation

Guanlin Li, Lemao Liu, Xintong Li, Conghui Zhu, Tiejun Zhao and Shuming Shi

Monday, June 3, 2019 (continued)

Resources & Evaluation

Content Differences in Syntactic and Semantic Representation

Daniel Hershcovich, Omri Abend and Ari Rappoport

Attentive Mimicking: Better Word Embeddings by Attending to Informative Contexts

Timo Schick and Hinrich Schütze

Evaluating Style Transfer for Text

Remi Mir, Bjarke Felbo, Nick Obradovich and Iyad Rahwan

Big BiRD: A Large, Fine-Grained, Bigram Relatedness Dataset for Examining Semantic Composition

Shima Asaadi, Saif Mohammad and Svetlana Kiritchenko

Outlier Detection for Improved Data Quality and Diversity in Dialog Systems

Stefan Larson, Anish Mahendran, Andrew Lee, Jonathan K. Kummerfeld, Parker Hill, Michael A. Laurenzano, Johann Hauswald, Lingjia Tang and Jason Mars

Asking the Right Question: Inferring Advice-Seeking Intentions from Personal Narratives

Liye Fu, Jonathan P. Chang and Cristian Danescu-Niculescu-Mizil

Seeing Things from a Different Angle: Discovering Diverse Perspectives about Claims

Sihao Chen, Daniel Khashabi, Wenpeng Yin, Chris Callison-Burch and Dan Roth

12:30–13:00 *Grab your lunch break*

13:00–14:30 *Careers in NLP Panel (Nicollet Grand Ballroom)*

14:30–15:00 *Coffee Break*

15:00–16:30 *Oral sessions (short papers), Posters (long and short papers) & Demos*

Session 2A: Dialogue & Discourse

Room: Northstar A, Chair: **Ellen Riloff**

15:00–15:15 *IMHO Fine-Tuning Improves Claim Detection*

Tuhin Chakrabarty, Christopher Hidey and Kathy McKeown

15:15–15:30 *Joint Multiple Intent Detection and Slot Labeling for Goal-Oriented Dialog*

Rashmi Gangadharaiah and Balakrishnan Narayanaswamy

Monday, June 3, 2019 (continued)

- 15:30–15:45 *CITE: A Corpus of Image-Text Discourse Relations*
Malihe Alikhani, Sreyasi Nag Chowdhury, Gerard de Melo and Matthew Stone
- 15:45–16:00 *Improving Dialogue State Tracking by Discerning the Relevant Context*
Sanuj Sharma, Prafulla Kumar Choubey and Ruihong Huang
- 16:00–16:15 *CLEVR-Dialog: A Diagnostic Dataset for Multi-Round Reasoning in Visual Dialog*
Satwik Kottur, José M. F. Moura, Devi Parikh, Dhruv Batra and Marcus Rohrbach
- 16:15–16:30 *Learning Outside the Box: Discourse-level Features Improve Metaphor Identification*
Jesse Mu, Helen Yannakoudakis and Ekaterina Shutova

Session 2B: Ethics, Bias & Fairness

Room: Nicollet B+C, Chair: **Preslav Nakov**

- 15:00–15:15 *Detection of Abusive Language: the Problem of Biased Datasets*
Michael Wiegand, Josef Ruppenhofer and Thomas Kleinbauer
- 15:15–15:30 *Lipstick on a Pig: Debiasing Methods Cover up Systematic Gender Biases in Word Embeddings But do not Remove Them*
Hila Gonen and Yoav Goldberg
- 15:30–15:45 *Black is to Criminal as Caucasian is to Police: Detecting and Removing Multiclass Bias in Word Embeddings*
Thomas Manzini, Lim Yao Chong, Alan W. Black and Yulia Tsvetkov
- 15:45–16:00 *On Measuring Social Biases in Sentence Encoders*
Chandler May, Alex Wang, Shikha Bordia, Samuel R. Bowman and Rachel Rudinger
- 16:00–16:15 *Gender Bias in Contextualized Word Embeddings*
Jieyu Zhao, Tianlu Wang, Mark Yatskar, Ryan Cotterell, Vicente Ordonez and Kai-Wei Chang
- 16:15–16:30 [SRW] *Identifying and Reducing Gender Bias in Word-Level Language Models Status*
Shikha Bordia and Samuel R. Bowman

Monday, June 3, 2019 (continued)

Session 2C: Style & Sentiment

Room: Nicollet D, Chair: **Diyi Yang**

- 15:00–15:15 *Combining Sentiment Lexica with a Multi-View Variational Autoencoder*
Alexander Miserlis Hoyle, Lawrence Wolf-Sonkin, Hanna Wallach, Ryan Cotterell and Isabelle Augenstein
- 15:15–15:30 *Enhancing Opinion Role Labeling with Semantic-Aware Word Representations from Semantic Role Labeling*
Meishan Zhang, Peili Liang and Guohong Fu
- 15:30–15:45 *Frowning Frodo, Wincing Leia, and a Seriously Great Friendship: Learning to Classify Emotional Relationships of Fictional Characters*
Evgeny Kim and Roman Klinger
- 15:45–16:00 *Generalizing Unmasking for Short Texts*
Janek Bevendorff, Benno Stein, Matthias Hagen and Martin Potthast
- 16:00–16:15 *Adversarial Training for Satire Detection: Controlling for Confounding Variables*
Robert McHardy, Heike Adel and Roman Klinger
- 16:15–16:30 [SRW] *Emotion impacts Speech Recognition Performance*
Rushab Munot and Ani Nenkova

Session 2D: Summarization & Information Retrieval

Room: Nicollet A, Chair: **Michael J. Paul**

- 15:00–15:15 *Keyphrase Generation: A Text Summarization Struggle*
Erion Çano and Ondřej Bojar
- 15:15–15:30 *SEQ³: Differentiable Sequence-to-Sequence-to-Sequence Autoencoder for Unsupervised Abstractive Sentence Compression*
Christos Baziotis, Ion Androutsopoulos, Ioannis Konstas and Alexandros Potamianos
- 15:30–15:45 *Crowdsourcing Lightweight Pyramids for Manual Summary Evaluation*
Ori Shapira, David Gabay, Yang Gao, Hadar Ronen, Ramakanth Pasunuru, Mohit Bansal, Yael Amsterdamer and Ido Dagan

Monday, June 3, 2019 (continued)

- 15:45–16:00 *Serial Recall Effects in Neural Language Modeling*
Hassan Hajipoor, Hadi Amiri, Maseud Rahgozar and Farhad Oroumchian
- 16:00–16:15 *Fast Concept Mention Grouping for Concept Map-based Multi-Document Summarization*
Tobias Falke and Iryna Gurevych
- 16:15–16:30 [SRW] *The Strength of the Weakest Supervision: Topic Classification Using Class Labels*
Jiatong Li, Kai Zheng, Hua Xu, Qiaozhu Mei and Yue Wang

Session 2E: Tagging, Chunking, Syntax & Parsing

Room: Greenway, Chairs: **Joel Tetreault**

- 15:00–15:15 *Syntax-aware Neural Semantic Role Labeling with Supertags*
Jungo Kasai, Dan Friedman, Robert Frank, Dragomir Radev and Owen Rambow
- 15:15–15:30 *Left-to-Right Dependency Parsing with Pointer Networks*
Daniel Fernández-González and Carlos Gómez-Rodríguez
- 15:30–15:45 *Viable Dependency Parsing as Sequence Labeling*
Michalina Strzyz, David Vilares and Carlos Gómez-Rodríguez
- 15:45–16:00 *Pooled Contextualized Embeddings for Named Entity Recognition*
Alan Akbik, Tanja Bergmann and Roland Vollgraf
- 16:00–16:15 *Better Modeling of Incomplete Annotations for Named Entity Recognition*
Zhanming Jie, Pengjun Xie, Wei Lu, Ruixue Ding and Linlin Li
- 16:16–16:30 [SRW] *Handling Noisy Labels for Robustly Learning from Self-Training Data for Low-Resource Sequence Labeling*
Debjit Paul, Mittul Singh, Michael A. Hedderich and Dietrich Klakow

Session 2F: Information Extraction, Generation & Semantics (Posters & Demos)

Room: Hyatt Exhibit Hall

Information Extraction

- Event Detection without Triggers*
Shulin Liu, Yang Li, Feng Zhang, Tao Yang and Xinpeng Zhou
- Sub-event detection from twitter streams as a sequence labeling problem*
Giannis Bekoulis, Johannes Deleu, Thomas Demeester and Chris Develder
- GraphIE: A Graph-Based Framework for Information Extraction*
Yujie Qian, Enrico Santus, Zhijing Jin, Jiang Guo and Regina Barzilay

Monday, June 3, 2019 (continued)

OpenKI: Integrating Open Information Extraction and Knowledge Bases with Relation Inference

Dongxu Zhang, Subhabrata Mukherjee, Colin Lockard, Luna Dong and Andrew McCallum

Imposing Label-Relational Inductive Bias for Extremely Fine-Grained Entity Typing

Wenhan Xiong, Jiawei Wu, Deren Lei, Mo Yu, Shiyu Chang, Xiaoxiao Guo and William Yang Wang

Improving Event Coreference Resolution by Learning Argument Compatibility from Unlabeled Data

Yin Jou Huang, Jing Lu, Sadao Kurohashi and Vincent Ng

Sentence Embedding Alignment for Lifelong Relation Extraction

Hong Wang, Wenhan Xiong, Mo Yu, Xiaoxiao Guo, Shiyu Chang and William Yang Wang

Description-Based Zero-shot Fine-Grained Entity Typing

Rasha Obeidat, Xiaoli Fern, Hamed Shahbazi and Prasad Tadepalli

[SRW] *Opinion Mining with Deep Contextualized Embeddings*

Wen-Bin Han and Noriko Kando

[SRW] *A Bag-of-concepts Model Improves Relation Extraction in a Narrow Knowledge Domain with Limited Data*

Jiyu Chen, Karin Verspoor and Zenan Zhai

Generation

Adversarial Decomposition of Text Representation

Alexey Romanov, Anna Rumshisky, Anna Rogers and David Donahue

PoMo: Generating Entity-Specific Post-Modifiers in Context

Jun Seok Kang, Robert Logan, Zewei Chu, Yang Chen, Dheeru Dua, Kevin Gimpel, Sameer Singh and Niranjan Balasubramanian

Improved Lexically Constrained Decoding for Translation and Monolingual Rewriting

J. Edward Hu, Huda Khayrallah, Ryan Culkin, Patrick Xia, Tongfei Chen, Matt Post and Benjamin Van Durme

Monday, June 3, 2019 (continued)

Courteously Yours: Inducing courteous behavior in Customer Care responses using Reinforced Pointer Generator Network

Hitesh Golchha, Mauajama Firdaus, Asif Ekbal and Pushpak Bhattacharyya

How to Avoid Sentences Spelling Boring? Towards a Neural Approach to Unsupervised Metaphor Generation

Zhiwei Yu and Xiaojun Wan

[SRW] *Generating Text through Adversarial Training Using Skip-Thought Vectors*

Afroz Ahamad

[SRW] *A Partially Rule-Based Approach to AMR Generation*

Emma Manning

Semantics

Incorporating Context and External Knowledge for Pronoun Coreference Resolution

Hongming Zhang, Yan Song and Yangqiu Song

Unsupervised Deep Structured Semantic Models for Commonsense Reasoning

Shuohang Wang, Sheng Zhang, Yelong Shen, Xiaodong Liu, Jingjing Liu, Jianfeng Gao and Jing Jiang

Recovering dropped pronouns in Chinese conversations via modeling their referents

Jingxuan Yang, Jianzhuo Tong, Si Li, Sheng Gao, Jun Guo and Nianwen Xue

The problem with probabilistic DAG automata for semantic graphs

Ieva Vasiljeva, Sorcha Gilroy and Adam Lopez

A Systematic Study of Leveraging Subword Information for Learning Word Representations

Yi Zhu, Ivan Vulić and Anna Korhonen

Better Word Embeddings by Disentangling Contextual n-Gram Information

Prakhar Gupta, Matteo Pagliardini and Martin Jaggi

Integration of Knowledge Graph Embedding Into Topic Modeling with Hierarchical Dirichlet Process

Dingcheng Li, Siamak Zamani, Jingyuan Zhang and Ping Li

Correlation Coefficients and Semantic Textual Similarity

Vitalii Zhelezniak, Aleksandar Savkov, April Shen and Nils Hammerla

Monday, June 3, 2019 (continued)

Generating Token-Level Explanations for Natural Language Inference

James Thorne, Andreas Vlachos, Christos Christodoulopoulos and Arpit Mittal

Strong Baselines for Complex Word Identification across Multiple Languages

Pierre Finamore, Elisabeth Fritsch, Daniel King, Alison Sneyd, Aneeq Ur Rehman, Fernando Alva-Manchego and Andreas Vlachos

[SRW] *Computational Investigations of Pragmatic Effects in Natural Language*

Jad Kabbara

16:30–17:00 *Coffee Break*

17:00–18:30 *Oral sessions (long papers) and Posters (long and short papers)*

Session 3A: Information Extraction & Retrieval

Room: Nicollet A, Chair: **Gerard de Melo**

17:00–17:18 *Adaptive Convolution for Multi-Relational Learning*

Xiaotian Jiang, Quan Wang and Bin Wang

17:18–17:36 *Graph Pattern Entity Ranking Model for Knowledge Graph Completion*

Takuma Ebisu and Ryutaro Ichise

17:36–17:54 *Adversarial Training for Weakly Supervised Event Detection*

Xiaozhi Wang, Xu Han, Zhiyuan Liu, Maosong Sun and Peng Li

17:54–18:12 *A Submodular Feature-Aware Framework for Label Subset Selection in Extreme Classification Problems*

Elham J. Barezi, Ian D. Wood, Pascale Fung and Hamid R. Rabiee

18:12–18:30 *Relation Extraction with Temporal Reasoning Based on Memory Augmented Distant Supervision*

Jianhao Yan, Lin He, Ruqin Huang, Jian Li and Ying Liu

Session 3B: Semantics

Room: Nicollet D, Chair: **Kevin Gimpel**

17:00–17:18 *Integrating Semantic Knowledge to Tackle Zero-shot Text Classification*

Jingqing Zhang, Piyawat Lertvittayakumjorn and Yike Guo

17:18–17:36 *WordNode2Vec: Graph-based Embedding of Words*

Procheta Sen, Debasis Ganguly and Gareth Jones

Monday, June 3, 2019 (continued)

- 17:36–17:54 *Cross-topic distributional semantic representations via unsupervised mappings*
Eleftheria Briakou, Nikos Athanasiou and Alexandros Potamianos
- 17:54–18:12 *What just happened? Evaluating retrofitted distributional word vectors*
Dmetri Hayes
- 18:12–18:30 *Linguistic Knowledge and Transferability of Contextual Representations*
Nelson F. Liu, Matt Gardner, Yonatan Belinkov, Matthew E. Peters and Noah A. Smith

Session 3C: Parsing & Modelling

Room: Greenway, Chair: **Kai-Wei Chang**

- 17:00–17:18 *Mutual Information Maximization for Simple and Accurate Part-Of-Speech Induction*
Karl Stratos
- 17:18–17:36 *Unsupervised Recurrent Neural Network Grammars*
Yoon Kim, Alexander Rush, Lei Yu, Adhiguna Kuncoro, Chris Dyer and Gábor Melis
- 17:36–17:54 *Cooperative Learning of Disjoint Syntax and Semantics*
Serhii Havrylov, Germán Kruszewski and Armand Joulin
- 17:54–18:12 *Unsupervised Latent Tree Induction with Deep Inside-Outside Recursive Auto-Encoders*
Andrew Drozdov, Patrick Verga, Mohit Yadav, Mohit Iyyer and Andrew McCallum
- 18:12–18:30 *Knowledge-Augmented Language Model and Its Application to Unsupervised Named-Entity Recognition*
Angli Liu, Jingfei Du and Veselin Stoyanov

Session 3D: Machine Translation

Room: Nicollet B+C, Chair: **Marine Carpuat**

- 17:00–17:18 *Syntax-Enhanced Neural Machine Translation with Syntax-Aware Word Representations*
Meishan Zhang, Zhenghua Li, Guohong Fu and Min Zhang
- 17:18–17:36 *Competence-based Curriculum Learning for Neural Machine Translation*
Emmanouil Antonios Platanios, Otilia Stretcu, Graham Neubig, Barnabas Poczos and Tom Mitchell

Monday, June 3, 2019 (continued)

- 17:36–17:54 *Extract and Edit: An Alternative to Back-Translation for Unsupervised Neural Machine Translation*
Jiawei Wu, Xin Wang and William Yang Wang
- 17:54–18:12 *Consistency by Agreement in Zero-Shot Neural Machine Translation*
Maruan Al-Shedivat and Ankur Parikh
- 18:12–18:30 *Modeling Recurrence for Transformer*
Jie Hao, Xing Wang, Baosong Yang, Longyue Wang, Jinfeng Zhang and Zhaopeng Tu

Session 3E: Dialogue

Room: Northstar, Chair: **Sujith Ravi**

- 17:00–17:18 *Rethinking Action Spaces for Reinforcement Learning in End-to-end Dialog Agents with Latent Variable Models*
Tiancheng Zhao, Kaige Xie and Maxine Eskenazi
- 17:18–17:36 *Skeleton-to-Response: Dialogue Generation Guided by Retrieval Memory*
Deng Cai, Yan Wang, Wei Bi, Zhaopeng Tu, Xiaojiang Liu, Wai Lam and Shuming Shi
- 17:36–17:54 *Jointly Optimizing Diversity and Relevance in Neural Response Generation*
Xiang Gao, Sungjin Lee, Yizhe Zhang, Chris Brockett, Michel Galley, Jianfeng Gao and Bill Dolan
- 17:54–18:12 *Disentangling Language and Knowledge in Task-Oriented Dialogs*
Dinesh Raghu, Nikhil Gupta and Mausam
- 18:12–18:30 [TACL] *DREAM: A Challenge Dataset and Models for Dialogue-Based Reading Comprehension*
Kai Sun, Dian Yu, Jianshu Chen, Dong Yu, Yejin Choi and Claire Cardie

Session 3F: Applications, Social Media, Biomedical NLP & Clinical Text Processing (Posters)

NLP Applications

- Tensorized Self-Attention: Efficiently Modeling Pairwise and Global Dependencies Together*
Tao Shen, Tianyi Zhou, Guodong Long, Jing Jiang and Chengqi Zhang

Monday, June 3, 2019 (continued)

WiC: the Word-in-Context Dataset for Evaluating Context-Sensitive Meaning Representations

Mohammad Taher Pilehvar and Jose Camacho-Collados

Does My Rebuttal Matter? Insights from a Major NLP Conference

Yang Gao, Steffen Eger, Iliia Kuznetsov, Iryna Gurevych and Yusuke Miyao

Casting Light on Invisible Cities: Computationally Engaging with Literary Criticism

Shufan Wang and Mohit Iyyer

PAWS: Paraphrase Adversaries from Word Scrambling

Yuan Zhang, Jason Baldridge and Luheng He

Cross-Corpora Evaluation and Analysis of Grammatical Error Correction Models — Is Single-Corpus Evaluation Enough?

Masato Mita, Tomoya Mizumoto, Masahiro Kaneko, Ryo Nagata and Kentaro Inui

Star-Transformer

Qipeng Guo, Xipeng Qiu, Pengfei Liu, Yunfan Shao, Xiangyang Xue and Zheng Zhang

[SRW] *SEDTWik: Segmentation-based Event Detection from Tweets Using Wikipedia*

Keval Morabia, Neti Lalita Bhanu Murthy, Aruna Malapati and Surender Samant

Social Media

Adaptation of Hierarchical Structured Models for Speech Act Recognition in Asynchronous Conversation

Tasnim Mohiuddin, Thanh-Tung Nguyen and Shafiq Joty

From legal to technical concept: Towards an automated classification of German political Twitter postings as criminal offenses

Frederike Zufall, Tobias Horsmann and Torsten Zesch

Joint Multi-Label Attention Networks for Social Text Annotation

Hang Dong, Wei Wang, Kaizhu Huang and Frans Coenen

Multi-Channel Convolutional Neural Network for Twitter Emotion and Sentiment Recognition

Jumayel Islam, Robert E. Mercer and Lu Xiao

Detecting Cybersecurity Events from Noisy Short Text

Semih Yagcioglu, Mehmet saygin Seyfioglu, Begum Citamak, Batuhan Bardak, Seren Guldamlasioglu, Azmi Yuksel and Emin Islam Tatli

Monday, June 3, 2019 (continued)

White-to-Black: Efficient Distillation of Black-Box Adversarial Attacks

Yotam Gil, Yoav Chai, Or Gorodissky and Jonathan Berant

Analyzing the Perceived Severity of Cybersecurity Threats Reported on Social Media

Shi Zong, Alan Ritter, Graham Mueller and Evan Wright

Fake News Detection using Deep Markov Random Fields

Duc Minh Nguyen, Tien Huu Do, Robert Calderbank and Nikos Deligiannis

Issue Framing in Online Discussion Fora

Mareike Hartmann, Tallulah Jansen, Isabelle Augenstein and Anders Søgaard

Vector of Locally Aggregated Embeddings for Text Representation

Hadi Amiri and Mitra Mohtarami

Predicting the Type and Target of Offensive Posts in Social Media

Marcos Zampieri, Shervin Malmasi, Preslav Nakov, Sara Rosenthal, Noura Farra and Ritesh Kumar

Biomedical NLP & Clinical Text Processing

Biomedical Event Extraction based on Knowledge-driven Tree-LSTM

Diya Li, Lifu Huang, Heng Ji and Jiawei Han

Detecting cognitive impairments by agreeing on interpretations of linguistic features

Zining Zhu, Jekaterina Novikova and Frank Rudzicz

Relation Extraction using Explicit Context Conditioning

Gaurav Singh and Parminder Bhatia

Conversation Model Fine-Tuning for Classifying Client Utterances in Counseling Dialogues

Sungjoon Park, Donghyun Kim and Alice Oh

Using Similarity Measures to Select Pretraining Data for NER

Xiang Dai, Sarvnaz Karimi, Ben Hachey and Cecile Paris

Predicting Annotation Difficulty to Improve Task Routing and Model Performance for Biomedical Information Extraction

Yinfei Yang, Oshin Agarwal, Chris Tar, Byron C. Wallace and Ani Nenkova

Detecting Depression in Social Media using Fine-Grained Emotions

Mario Ezra Aragon, Adrian Pastor Lopez Monroy, Luis Carlos Gonzalez Gurrola and Manuel Montes-y-Gomez

Tuesday, June 4, 2019

[SRW] *Kickstarting NLP for the Whole-person Function Domain with Representation Learning and Data Analysis*
Denis Newman-Griffis

A Silver Standard Corpus of Human Phenotype-Gene Relations
Diana Sousa, Andre Lamurias and Francisco M Couto

9:00–10:30 *Oral sessions (long papers) and Posters (long and short papers)*

Session 4A: Phonology & Morphology
Room: Nicollet A, Chair: **Greg Kondrak**

9:00–9:18 *Improving Lemmatization of Non-Standard Languages with Joint Learning*
Enrique Manjavacas, Ákos Kádár and Mike Kestemont

9:18–9:36 *One Size Does Not Fit All: Comparing NMT Representations of Different Granularities*
Nadir Durrani, Fahim Dalvi, Hassan Sajjad, Yonatan Belinkov and Preslav Nakov

9:36–9:54 *A Simple Joint Model for Improved Contextual Neural Lemmatization*
Chaitanya Malaviya, Shijie Wu and Ryan Cotterell

9:54–10:12 *A Probabilistic Generative Model of Linguistic Typology*
Johannes Bjerva, Yova Kementchedjhieva, Ryan Cotterell and Isabelle Augenstein

10:12–10:30 *Quantifying the morphosyntactic content of Brown Clusters*
Manuel Ciosici, Leon Derczynski and Ira Assent

Session 4B: Multilingual NLP
Room: Nicollet D, Chair: **Ekaterina Shutova**

9:00–9:18 *Analyzing Bayesian Crosslingual Transfer in Topic Models*
Shudong Hao and Michael J. Paul

9:18–9:36 *Recursive Subtree Composition in LSTM-Based Dependency Parsing*
Miryam de Lhoneux, Miguel Ballesteros and Joakim Nivre

9:36–9:54 *Cross-lingual CCG Induction*
Kilian Evang

9:54–10:12 *Density Matching for Bilingual Word Embedding*
Chunting Zhou, Xuezhe Ma, Di Wang and Graham Neubig

10:12–10:30 *Cross-Lingual Alignment of Contextual Word Embeddings, with Applications to Zero-shot Dependency Parsing*
Tal Schuster, Ori Ram, Regina Barzilay and Amir Globerson

Tuesday, June 4, 2019 (continued)

Session 4C: Social Media

Room: Nicollet B+C, Chair: **Xiaodan Zhu**

- 9:00–9:18 *Early Rumour Detection*
Kaimin Zhou, Chang Shu, Binyang Li and Jey Han Lau
- 9:18–9:36 *Microblog Hashtag Generation via Encoding Conversation Contexts*
Yue Wang, Jing Li, Irwin King, Michael R. Lyu and Shuming Shi
- 9:36–9:54 *Text Processing Like Humans Do: Visually Attacking and Shielding NLP Systems*
Steffen Eger, Gözde Gül Şahin, Andreas Rücklé, Ji-Ung Lee, Claudia Schulz, Mohsen Mesgar, Krishnkant Swarnkar, Edwin Simpson and Iryna Gurevych
- 9:54–10:12 *Something’s Brewing! Early Prediction of Controversy-causing Posts from Discussion Features*
Jack Hessel and Lillian Lee
- 10:12–10:30 *No Permanent Friends or Enemies: Tracking Relationships between Nations from News*
Xiaochuang Han, Eunsol Choi and Chenhao Tan

Session 4D: Generation

Room: Northstar A, Chair: Ion Androutsopoulos

- 9:00–9:18 *Improving Human Text Comprehension through Semi-Markov CRF-based Neural Section Title Generation*
Sebastian Gehrmann, Steven Layne and Franck Dernoncourt
- 9:18–9:36 *Unifying Human and Statistical Evaluation for Natural Language Generation*
Tatsunori Hashimoto, Hugh Zhang and Percy Liang
- 9:36–9:54 *What makes a good conversation? How controllable attributes affect human judgments*
Abigail See, Stephen Roller, Douwe Kiela and Jason Weston
- 9:54–10:12 *An Empirical Investigation of Global and Local Normalization for Recurrent Neural Sequence Models Using a Continuous Relaxation to Beam Search*
Kartik Goyal, Chris Dyer and Taylor Berg-Kirkpatrick
- 10:12–10:30 *Pun Generation with Surprise*
He He, Nanyun Peng and Percy Liang

Tuesday, June 4, 2019 (continued)

Session 4E: Industry Session: Real World Challenges

Room: Greenway

Session 4F: Discourse, Information Retrieval, Machine Translation, Vision & Robotics (Posters)

Discourse

Single Document Summarization as Tree Induction

Yang Liu, Ivan Titov and Mirella Lapata

Fixed That for You: Generating Contrastive Claims with Semantic Edits

Christopher Hidey and Kathy McKeown

Box of Lies: Multimodal Deception Detection in Dialogues

Felix Soldner, Verónica Pérez-Rosas and Rada Mihalcea

A Crowdsourced Corpus of Multiple Judgments and Disagreement on Anaphoric Interpretation

Massimo Poesio, Jon Chamberlain, Silviu Paun, Juntao Yu, Alexandra Uma and Udo Kruschwitz

A Streamlined Method for Sourcing Discourse-level Argumentation Annotations from the Crowd

Tristan Miller, Maria Sukhareva and Iryna Gurevych

Unsupervised Dialog Structure Learning

Weiyang Shi, Tiancheng Zhao and Zhou Yu

Modeling Document-level Causal Structures for Event Causal Relation Identification

Lei Gao, Prafulla Kumar Choubey and Ruihong Huang

[TACL] *Planning, Inference, and Pragmatics in Sequential Language Games*

Fereshte Khani, Noah Goodman and Percy Liang

Information Retrieval

Hierarchical User and Item Representation with Three-Tier Attention for Recommendation

Chuhan Wu, Fangzhao Wu, Junxin Liu and Yongfeng Huang

Tuesday, June 4, 2019 (continued)

Text Similarity Estimation Based on Word Embeddings and Matrix Norms for Targeted Marketing

Tim von der Brück and Marc Pouly

Glocal: Incorporating Global Information in Local Convolution for Keyphrase Extraction

Animesh Prasad and Min-Yen Kan

A Study of Latent Structured Prediction Approaches to Passage Reranking

Iryna Haponchyk and Alessandro Moschitti

Combining Distant and Direct Supervision for Neural Relation Extraction

Iz Beltagy, Kyle Lo and Waleed Ammar

Tweet Stance Detection Using an Attention based Neural Ensemble Model

Umme Aymun Siddiqua, Abu Nowshed Chy and Masaki Aono

Machine Translation

Word Embedding-Based Automatic MT Evaluation Metric using Word Position Information

Hiroshi Echizen'ya, Kenji Araki and Eduard Hovy

Learning to Stop in Structured Prediction for Neural Machine Translation

Mingbo Ma, Renjie Zheng and Liang Huang

Learning Unsupervised Multilingual Word Embeddings with Incremental Multilingual Hubs

Geert Heyman, Bregt Verreet, Ivan Vulić and Marie-Francine Moens

Curriculum Learning for Domain Adaptation in Neural Machine Translation

Xuan Zhang, Pamela Shapiro, Gaurav Kumar, Paul McNamee, Marine Carpuat and Kevin Duh

Improving Robustness of Machine Translation with Synthetic Noise

Vaibhav Vaibhav, Sumeet Singh, Craig Stewart and Graham Neubig

Non-Parametric Adaptation for Neural Machine Translation

Ankur Bapna and Orhan Firat

Online Distilling from Checkpoints for Neural Machine Translation

Hao-Ran Wei, Shujian Huang, Ran Wang, Xin-Yu Dai and Jiajun Chen

Tuesday, June 4, 2019 (continued)

Vision & Robotics

Value-based Search in Execution Space for Mapping Instructions to Programs

Dor Muhlgay, Jonathan Herzig and Jonathan Berant

VQD: Visual Query Detection In Natural Scenes

Manoj Acharya, Karan Jariwala and Christopher Kanan

Improving Natural Language Interaction with Robots Using Advice

Nikhil Mehta and Dan Goldwasser

Generating Knowledge Graph Paths from Textual Definitions using Sequence-to-Sequence Models

Victor Prokhorov, Mohammad Taher Pilehvar and Nigel Collier

Shifting the Baseline: Single Modality Performance on Visual Navigation & QA

Jesse Thomason, Daniel Gordon and Yonatan Bisk

ExCL: Extractive Clip Localization Using Natural Language Descriptions

Soham Ghosh, Anuva Agarwal, Zarana Parekh and Alexander Hauptmann

10:30–11:00 *Coffee Break*

11:00–12:30 *Oral Sessions (short papers), Posters (long and short papers) & Demos*

Session 5A: Multilingual NLP

Room: Nicollet D, Chair: **Valia Kordoni**

11:00–11:15 *Detecting dementia in Mandarin Chinese using transfer learning from a parallel corpus*

Bai Li, Yi-Te Hsu and Frank Rudzicz

11:15–11:30 *Cross-lingual Visual Verb Sense Disambiguation*

Spandana Gella, Desmond Elliott and Frank Keller

11:30–11:45 *Subword-Level Language Identification for Intra-Word Code-Switching*

Manuel Mager, Özlem Çetinoğlu and Katharina Kann

Tuesday, June 4, 2019 (continued)

- 11:45–12:00 *MuST-C: a Multilingual Speech Translation Corpus*
Mattia A. Di Gangi, Roldano Cattoni, Luisa Bentivogli, Matteo Negri and Marco Turchi
- 12:00–12:15 *Contextualization of Morphological Inflection*
Ekaterina Vylomova, Ryan Cotterell, Trevor Cohn, Timothy Baldwin and Jason Eisner
- 12:15–12:30 *A Robust Abstractive System for Cross-Lingual Summarization*
Jessica Ouyang, Boya Song and Kathy McKeown

Session 5B: Machine Translation

Room: Nicollet B+C, Chair: **Daisuke Kawahara**

- 11:00–11:15 *Improving Neural Machine Translation with Neural Syntactic Distance*
Chunpeng Ma, Akihiro Tamura, Masao Utiyama, Eiichiro Sumita and Tiejun Zhao
- 11:15–11:30 *Measuring Immediate Adaptation Performance for Neural Machine Translation*
Patrick Simianer, Joern Wuebker and John DeNero
- 11:30–11:45 *Differentiable Sampling with Flexible Reference Word Order for Neural Machine Translation*
Weijia Xu, Xing Niu and Marine Carpuat
- 11:45–12:00 *Reinforcement Learning based Curriculum Optimization for Neural Machine Translation*
Gaurav Kumar, George Foster, Colin Cherry and Maxim Krikun
- 12:00–12:15 *Overcoming Catastrophic Forgetting During Domain Adaptation of Neural Machine Translation*
Brian Thompson, Jeremy Gwinnup, Huda Khayrallah, Kevin Duh and Philipp Koehn
- 12:15–12:30 [SRW] *Multimodal Machine Translation with Embedding Prediction*
Tosho Hirasawa, Hayahide Yamagishi, Yukio Matsumura and Mamoru Komachi

Tuesday, June 4, 2019 (continued)

Session 5C: Social Media

Room: Greenway, Chair: **Chenhao Tan**

- 11:00–11:15 *Short-Term Meaning Shift: A Distributional Exploration*
Marco Del Tredici, Raquel Fernández and Gemma Boleda
- 11:15–11:30 *Detecting Derogatory Compounds – An Unsupervised Approach*
Michael Wiegand, Maximilian Wolf and Josef Ruppenhofer
- 11:30–11:45 *Personalized Neural Embeddings for Collaborative Filtering with Text*
Guangneng Hu
- 11:45–12:00 *An Embarrassingly Simple Approach for Transfer Learning from Pretrained Language Models*
Alexandra Chronopoulou, Christos Baziotis and Alexandros Potamianos
- 12:00–12:15 *Incorporating Emoji Descriptions Improves Tweet Classification*
Abhishek Singh, Eduardo Blanco and Wei Jin
- 12:15–12:30 *Modeling Personal Biases in Language Use by Inducing Personalized Word Embeddings*
Daisuke Oba, Naoki Yoshinaga, Shoetsu Sato, Satoshi Akasaki and Masashi Toyoda

Session 5D: Text Analysis

Room: Northstar A, Chair: **Saif Mohammad**

- 11:00–11:15 *Multi-Task Ordinal Regression for Jointly Predicting the Trustworthiness and the Leading Political Ideology of News Media*
Ramy Baly, Georgi Karadzhov, Abdelrhman Saleh, James Glass and Preslav Nakov
- 11:15–11:30 *Joint Detection and Location of English Puns*
Yanyan Zou and Wei Lu
- 11:30–11:45 *Harry Potter and the Action Prediction Challenge from Natural Language*
David Vilares and Carlos Gómez-Rodríguez
- 11:45–12:00 *Argument Mining for Understanding Peer Reviews*
Xinyu Hua, Mitko Nikolov, Nikhil Badugu and Lu Wang

Tuesday, June 4, 2019 (continued)

12:00–12:15 *An annotated dataset of literary entities*
David Bamman, Sejal Papat and Sheng Shen

12:15–12:30 *Abusive Language Detection with Graph Convolutional Networks*
Pushkar Mishra, Marco Del Tredici, Helen Yannakoudakis and Ekaterina Shutova

Session 5E: Semantics

Room: Nicollet A, Chair: **Samuel Bowman**

11:00–11:15 *On the Importance of Distinguishing Word Meaning Representations: A Case Study on Reverse Dictionary Mapping*
Mohammad Taher Pilehvar

11:15–11:30 *Factorising AMR generation through syntax*
Kris Cao and Stephen Clark

11:30–11:45 *A Crowdsourced Frame Disambiguation Corpus with Ambiguity*
Anca Dumitrache, Lora Aroyo and Chris Welty

11:45–12:00 *Inoculation by Fine-Tuning: A Method for Analyzing Challenge Datasets*
Nelson F. Liu, Roy Schwartz and Noah A. Smith

12:00–12:15 [SRW] *Word Polysemy Aware Document Vector Estimation*
Vivek Gupta, Ankit Saw, Harshit Gupta, Pegah Nokhiz and Partha Talukdar

12:15–12:30 [SRW] *EQUATE: A Benchmark Evaluation Framework for Quantitative Reasoning in Natural Language Inference*
Abhilasha Ravichander, Aakanksha Naik, Carolyn Rose and Eduard Hovy

Session 5F: Information Retrieval, Question Answering, Generation & Syntax (Posters & Demos)

Information Retrieval

A Capsule Network-based Embedding Model for Knowledge Graph Completion and Search Personalization

Dai Quoc Nguyen, Thanh Vu, Tu Dinh Nguyen, Dat Quoc Nguyen and Dinh Phung

Partial Or Complete, That's The Question

Qiang Ning, Hangfeng He, Chuchu Fan and Dan Roth

Sequential Attention with Keyword Mask Model for Community-based Question Answering

Jianxin Yang, Wenge Rong, Libin Shi and Zhang Xiong

Simple Attention-Based Representation Learning for Ranking Short Social Media Posts

Peng Shi, Jinfeng Rao and Jimmy Lin

Tuesday, June 4, 2019 (continued)

AttentiveChecker: A Bi-Directional Attention Flow Mechanism for Fact Verification
Santosh Tokala, Vishal G, Avirup Saha and Niloy Ganguly

Practical, Efficient, and Customizable Active Learning for Named Entity Recognition in the Digital Humanities

Alexander Erdmann, David Joseph Wrisley, Benjamin Allen, Christopher Brown, Sophie Cohen-Bodénès, Micha Elsner, Yukun Feng, Brian Joseph, Béatrice Joyeux-Prunel and Marie-Catherine de Marneffe

Doc2hash: Learning Discrete Latent variables for Documents Retrieval
Yifei Zhang and Hao Zhu

Generation

Evaluating Text GANs as Language Models

Guy Tevet, Gavriel Habib, Vered Shwartz and Jonathan Berant

Latent Code and Text-based Generative Adversarial Networks for Soft-text Generation

Md Akmal Haidar, Mehdi Rezagholizadeh, Alan Do Omri and Ahmad Rashid

Neural Text Generation from Rich Semantic Representations

Valerie Hajdik, Jan Buys, Michael Wayne Goodman and Emily M. Bender

Step-by-Step: Separating Planning from Realization in Neural Data-to-Text Generation

Amit Moryossef, Yoav Goldberg and Ido Dagan

Evaluating Rewards for Question Generation Models

Tom Hosking and Sebastian Riedel

Text Generation from Knowledge Graphs with Graph Transformers

Rik Koncel-Kedziorski, Dhanush Bekal, Yi Luan, Mirella Lapata and Hannaneh Hajishirzi

Question Answering

Open Information Extraction from Question-Answer Pairs

Nikita Bhutani, Yoshihiko Suhara, Wang-Chiew Tan, Alon Halevy and H. V. Jagadish

Question Answering by Reasoning Across Documents with Graph Convolutional Networks

Nicola De Cao, Wilker Aziz and Ivan Titov

A Qualitative Comparison of CoQA, SQuAD 2.0 and QuAC

Mark Yatskar

Tuesday, June 4, 2019 (continued)

BERT Post-Training for Review Reading Comprehension and Aspect-based Sentiment Analysis

Hu Xu, Bing Liu, Lei Shu and Philip Yu

Old is Gold: Linguistic Driven Approach for Entity and Relation Linking of Short Text

Ahmad Sakor, Isaiah Onando Mulang', Kuldeep Singh, Saeedeh Shekarpour, Maria Esther Vidal, Jens Lehmann and Sören Auer

Be Consistent! Improving Procedural Text Comprehension using Label Consistency

Xinya Du, Bhavana Dalvi, Niket Tandon, Antoine Bosselut, Wen-tau Yih, Peter Clark and Claire Cardie

MathQA: Towards Interpretable Math Word Problem Solving with Operation-Based Formalisms

Aida Amini, Saadia Gabriel, Shanchuan Lin, Rik Koncel-Kedziorski, Yejin Choi and Hannaneh Hajishirzi

DROP: A Reading Comprehension Benchmark Requiring Discrete Reasoning Over Paragraphs

Dheeru Dua, Yizhong Wang, Pradeep Dasigi, Gabriel Stanovsky, Sameer Singh and Matt Gardner

Syntax

An Encoding Strategy Based Word-Character LSTM for Chinese NER

Wei Liu, Tongge Xu, Qinghua Xu, Jiayu Song and Yueran Zu

Highly Effective Arabic Diacritization using Sequence to Sequence Modeling

Hamdy Mubarak, Ahmed Abdelali, Hassan Sajjad, Younes Samih and Kareem Darwish

SC-LSTM: Learning Task-Specific Representations in Multi-Task Learning for Sequence Labeling

Peng Lu, Ting Bai and Philippe Langlais

Learning to Denoise Distantly-Labeled Data for Entity Typing

Yasumasa Onoe and Greg Durrett

A Simple and Robust Approach to Detecting Subject-Verb Agreement Errors

Simon Flachs, Ophélie Lacroix, Marek Rei, Helen Yannakoudakis and Anders Søgaard

Tuesday, June 4, 2019 (continued)

A Grounded Unsupervised Universal Part-of-Speech Tagger for Low-Resource Languages

Ronald Cardenas, Ying Lin, Heng Ji and Jonathan May

On Difficulties of Cross-Lingual Transfer with Order Differences: A Case Study on Dependency Parsing

Wasi Ahmad, Zhisong Zhang, Xuezhe Ma, Eduard Hovy, Kai-Wei Chang and Nanyun Peng

A Multi-Task Approach for Disentangling Syntax and Semantics in Sentence Representations

Mingda Chen, Qingming Tang, Sam Wiseman and Kevin Gimpel

12:30–14:00 *Lunch Break*

14:00–15:00 *Keynote 2: Rada Mihalcea "When the Computers Spot the Lie (and People Don't)"*
(Nicollet Grand Ballroom)

15:00–15:30 *Coffee Break*

15:30–17:00 *Oral sessions (long papers), Posters (long and short papers) & Demos*

Session 6A: Sentiment Analysis

Room: Northstar A, Chair: **Sara Rosenthal**

15:30–15:48 *Self-Discriminative Learning for Unsupervised Document Embedding*

Hong-You Chen, Chin-Hua Hu, Leila Wehbe and Shou-de Lin

15:48–16:06 *Adaptive Convolution for Text Classification*

Byung-Ju Choi, Jun-Hyung Park and SangKeun Lee

16:06–16:24 *Zero-Shot Cross-Lingual Opinion Target Extraction*

Soufian Jebbara and Philipp Cimiano

16:24–16:42 *Adversarial Category Alignment Network for Cross-domain Sentiment Classification*

Xiaoye Qu, Zhikang Zou, Yu Cheng, Yang Yang and Pan Zhou

16:42–17:00 *Target-oriented Opinion Words Extraction with Target-fused Neural Sequence Labeling*

Zhifang Fan, Zhen Wu, Xin-Yu Dai, Shujian Huang and Jiajun Chen

Tuesday, June 4, 2019 (continued)

Session 6B: Summarization

Room: Greenway, Chair: **Ani Nenkova**

- 15:30–15:48 *Abstractive Summarization of Reddit Posts with Multi-level Memory Networks*
Byeongchang Kim, Hyunwoo Kim and Gunhee Kim
- 15:48–16:06 *Automatic learner summary assessment for reading comprehension*
Menglin Xia, Ekaterina Kochmar and Ted Briscoe
- 16:06–16:24 *Data-efficient Neural Text Compression with Interactive Learning*
Avinesh P.V.S and Christian M. Meyer
- 16:24–16:42 *Text Generation with Exemplar-based Adaptive Decoding*
Hao Peng, Ankur Parikh, Manaal Faruqui, Bhuwan Dhingra and Dipanjan Das
- 16:42–17:00 *Guiding Extractive Summarization with Question-Answering Rewards*
Kristjan Arumae and Fei Liu

Session 6C: Vision & Robotics

Room: Nicollet A, Chair: **William Yang Wang**

- 15:30–15:48 *Beyond task success: A closer look at jointly learning to see, ask, and GuessWhat*
Ravi Shekhar, Aashish Venkatesh, Tim Baumgärtner, Elia Bruni, Barbara Plank, Raffaella Bernardi and Raquel Fernández
- 15:48–16:06 *The World in My Mind: Visual Dialog with Adversarial Multi-modal Feature Encoding*
Yiqun Yao, Jiaming Xu and Bo Xu
- 16:06–16:24 *Strong and Simple Baselines for Multimodal Utterance Embeddings*
Paul Pu Liang, Yao Chong Lim, Yao-Hung Hubert Tsai, Ruslan Salakhutdinov and Louis-Philippe Morency
- 16:24–16:42 *Learning to Navigate Unseen Environments: Back Translation with Environmental Dropout*
Hao Tan, Licheng Yu and Mohit Bansal
- 16:42–17:00 *Towards Content Transfer through Grounded Text Generation*
Shrimai Prabhumoye, Chris Quirk and Michel Galley

Tuesday, June 4, 2019 (continued)

Session 6D: Question Answering

Room: Nicollet B+C, Chair: **Eduardo Blanco**

- 15:30–15:48 *Improving Machine Reading Comprehension with General Reading Strategies*
Kai Sun, Dian Yu, Dong Yu and Claire Cardie
- 15:48–16:06 *Multi-task Learning with Sample Re-weighting for Machine Reading Comprehension*
Yichong Xu, Xiaodong Liu, Yelong Shen, Jingjing Liu and Jianfeng Gao
- 16:06–16:24 *Semantically-Aligned Equation Generation for Solving and Reasoning Math Word Problems*
Ting-Rui Chiang and Yun-Nung Chen
- 16:24–16:42 *Iterative Search for Weakly Supervised Semantic Parsing*
Pradeep Dasigi, Matt Gardner, Shikhar Murty, Luke Zettlemoyer and Eduard Hovy
- 16:42–17:00 *Alignment over Heterogeneous Embeddings for Question Answering*
Vikas Yadav, Steven Bethard and Mihai Surdeanu

Session 6E: Industry Session: Deployed Systems

Room: Nicollet D

Session 6F: Phonology, Speech and Text Mining (Posters & Demos)

Phonology

Bridging the Gap: Attending to Discontinuity in Identification of Multiword Expressions

Omid Rohanian, Shiva Taslimipour, Samaneh Kouchaki, Le An Ha and Ruslan Mitkov

Incorporating Word Attention into Character-Based Word Segmentation

Shohei Higashiyama, Masao Utiyama, Eiichiro Sumita, Masao Ideuchi, Yoshiaki Oida, Yohei Sakamoto and Isaac Okada

VCWE: Visual Character-Enhanced Word Embeddings

Chi Sun, Xipeng Qiu and Xuanjing Huang

Subword Encoding in Lattice LSTM for Chinese Word Segmentation

Jie Yang, Yue Zhang and Shuailong Liang

Tuesday, June 4, 2019 (continued)

Improving Cross-Domain Chinese Word Segmentation with Word Embeddings

Yuxiao Ye, Weikang Li, Yue Zhang, Likun Qiu and Jian Sun

Neural Semi-Markov Conditional Random Fields for Robust Character-Based Part-of-Speech Tagging

Apostolos Kemos, Heike Adel and Hinrich Schütze

Shrinking Japanese Morphological Analyzers With Neural Networks and Semi-supervised Learning

Arseny Tolmachev, Daisuke Kawahara and Sadao Kurohashi

[TACL] *Grammar Error Correction in Morphologically-Rich Languages: The Case of Russian*

Alla Rozovskaya and Dan Roth

[SRW] *Deep Learning and Sociophonetics: Automatic Coding of Rhoticity Using Neural Networks*

Sarah Gupta and Anthony DiPadova

[SRW] *Learn Languages First and Then Convert: towards Effective Simplified to Traditional Chinese Conversion*

Pranav A, S.F. Hui, I-Tsun Cheng, Ishaan Batra and Chiu Yik Hei

Speech

Neural Constituency Parsing of Speech Transcripts

Paria Jamshid Lou, Yufei Wang and Mark Johnson

Acoustic-to-Word Models with Conversational Context Information

Suyoun Kim and Florian Metze

A Dynamic Speaker Model for Conversational Interactions

Hao Cheng, Hao Fang and Mari Ostendorf

Fluent Translations from Disfluent Speech in End-to-End Speech Translation

Elizabeth Salesky, Matthias Sperber and Alexander Waibel

[SRW] *Data Augmentation by Data Noising for Open-vocabulary Slots in Spoken Language Understanding*

Hwa-Yeon Kim, Yoon-Hyung Roh and Young-Kil Kim

[SRW] *Expectation and Locality Effects in the Prediction of Disfluent Fillers and Repairs in English Speech*

Samvit Dammalapati, Rajakrishnan Rajkumar and Sumeet Agarwal

Tuesday, June 4, 2019 (continued)

Text Mining

Relation Classification Using Segment-Level Attention-based CNN and Dependency-based RNN

Van-Hien Tran, Van-Thuy Phi, Hiroyuki Shindo and Yuji Matsumoto

Document-Level Event Factuality Identification via Adversarial Neural Network

Zhong Qian, Peifeng Li, Qiaoming Zhu and Guodong Zhou

Distant Supervision Relation Extraction with Intra-Bag and Inter-Bag Attentions

Zhi-Xiu Ye and Zhen-Hua Ling

Ranking-Based Autoencoder for Extreme Multi-label Classification

Bingyu Wang, Li Chen, Wei Sun, Kechen Qin, Kefeng Li and Hui Zhou

Posterior-regularized REINFORCE for Instance Selection in Distant Supervision

Qi Zhang, Siliang Tang, Xiang Ren, Fei Wu, Shiliang Pu and Yueting Zhuang

Scalable Collapsed Inference for High-Dimensional Topic Models

Rashidul Islam and James Foulds

An Integrated Approach for Keyphrase Generation via Exploring the Power of Retrieval and Extraction

Wang Chen, Hou Pong Chan, Piji Li, Lidong Bing and Irwin King

Predicting Malware Attributes from Cybersecurity Texts

Arpita Roy, Youngja Park and Shimei Pan

Improving Distantly-supervised Entity Typing with Compact Latent Space Clustering

Bo Chen, Xiaotao Gu, Yufeng Hu, Siliang Tang, Guoping Hu, Yueting Zhuang and Xiang Ren

Modelling Instance-Level Annotator Reliability for Natural Language Labelling Tasks

Maolin Li, Arvid Fahlström Myrman, Tingting Mu and Sophia Ananiadou

Review-Driven Multi-Label Music Style Classification by Exploiting Style Correlations

Guangxiang Zhao, Jingjing Xu, Qi Zeng, Xuancheng Ren and Xu Sun

Fact Discovery from Knowledge Base via Facet Decomposition

Zihao Fu, Yankai Lin, Zhiyuan Liu and Wai Lam

A Richer-but-Smarter Shortest Dependency Path with Attentive Augmentation for Relation Extraction

Duy-Cat Can, Hoang-Quynh Le, Quang-Thuy Ha and Nigel Collier

Wednesday, June 5, 2019

9:00–10:00 *Keynote 3: Kieran Snyder "Leaving the Lab: Building NLP Applications that Real People can Use" (Nicollet Grand Ballroom)*

10:00–10:30 *Coffee Break*

10:30–12:00 *Oral sessions (long papers) and Posters (long and short papers)*

Session 7A: Question Answering

Room: Greenway, Chair: **Alessandro Moschitti**

10:30–10:48 *Bidirectional Attentive Memory Networks for Question Answering over Knowledge Bases*

Yu Chen, Lingfei Wu and Mohammed J Zaki

10:48–11:06 *BoolQ: Exploring the Surprising Difficulty of Natural Yes/No Questions*

Christopher Clark, Kenton Lee, Ming-Wei Chang, Tom Kwiatkowski, Michael Collins and Kristina Toutanova

11:06–11:24 *Enhancing Key-Value Memory Neural Networks for Knowledge Based Question Answering*

Kun Xu, Yuxuan Lai, Yansong Feng and Zhiguo Wang

11:24–11:42 *Repurposing Entailment for Multi-Hop Question Answering Tasks*

Harsh Trivedi, Heeyoung Kwon, Tushar Khot, Ashish Sabharwal and Niranjan Balasubramanian

11:42–12:00 [TACL] *CoQA: A Conversational Question Answering Challenge*

Siva Reddy, Danqi Chen and Christopher D. Manning

Session 7B: Ethics, Bias & Fairness

Room: Nicollet A, Chair: **Emily Prud'hommeaux**

10:30–10:48 [TACL] *Mind the GAP: A Balanced Corpus of Gendered Ambiguous Pronouns*

Kellie Webster, Marta Recasens, Vera Axelrod and Jason Baldridge

10:48–11:06 *GenderQuant: Quantifying Mention-Level Genderedness*

Ananya, Nitya Parthasarathi and Sameer Singh

Wednesday, June 5, 2019 (continued)

11:06–11:24 *Analyzing Polarization in Social Media: Method and Application to Tweets on 21 Mass Shootings*
Dorottya Demszky, Nikhil Garg, Rob Voigt, James Zou, Jesse Shapiro, Matthew Gentzkow and Dan Jurafsky

11:24–11:42 *Learning to Decipher Hate Symbols*
Jing Qian, Mai ElSherief, Elizabeth Belding and William Yang Wang

11:42–12:00 [TACL] *Data Statements for Natural Language Processing: Toward Mitigating System Bias and Enabling Better Science*
Emily M. Bender and Batya Friedman

Session 7C: Information Extraction

Room: Nicollet D, Chair: **Heng Ji**

10:30–10:48 *Long-tail Relation Extraction via Knowledge Graph Embeddings and Graph Convolution Networks*
Ningyu Zhang, Shumin Deng, Zhanlin Sun, Guanying Wang, Xi Chen, Wei Zhang and Huajun Chen

10:48–11:06 *GAN Driven Semi-distant Supervision for Relation Extraction*
Pengshuai Li, Xinsong Zhang, Weijia Jia and Hai Zhao

11:06–11:24 *A general framework for information extraction using dynamic span graphs*
Yi Luan, Dave Wadden, Luheng He, Amy Shah, Mari Ostendorf and Hannaneh Hajishirzi

11:24–11:42 *OpenCeres: When Open Information Extraction Meets the Semi-Structured Web*
Colin Lockard, Prashant Shiralkar and Xin Luna Dong

11:42–12:00 *Structured Minimally Supervised Learning for Neural Relation Extraction*
Fan Bai and Alan Ritter

Session 7D: Machine Translation

Room: Northstar A, Chair: **Colin Cherry**

10:30–10:48 *Neural Machine Translation of Text from Non-Native Speakers*
Antonios Anastasopoulos, Alison Lui, Toan Q. Nguyen and David Chiang

10:48–11:06 *Improving Domain Adaptation Translation with Domain Invariant and Specific Information*
Shuhao Gu, Yang Feng and Qun Liu

Wednesday, June 5, 2019 (continued)

- 11:06–11:24 *Selective Attention for Context-aware Neural Machine Translation*
Sameen Maruf, André F. T. Martins and Gholamreza Haffari
- 11:24–11:42 *On Evaluation of Adversarial Perturbations for Sequence-to-Sequence Models*
Paul Michel, Xian Li, Graham Neubig and Juan Pino
- 11:42–12:00 *Accelerated Reinforcement Learning for Sentence Generation by Vocabulary Prediction*
Kazuma Hashimoto and Yoshimasa Tsuruoka

Session 7E: Text Analysis

Room: Nicollet B+C, Chair: **Steven Bethard**

- 10:30–10:48 *Mitigating Uncertainty in Document Classification*
Xuchao Zhang, Fanglan Chen, ChangTien Lu and Naren Ramakrishnan
- 10:48–11:06 *Complexity-Weighted Loss and Diverse Reranking for Sentence Simplification*
Reno Kriz, Joao Sedoc, Marianna Apidianaki, Carolina Zheng, Gaurav Kumar, Eleni Miltsakaki and Chris Callison-Burch
- 11:06–11:24 *Predicting Helpful Posts in Open-Ended Discussion Forums: A Neural Architecture*
Kishalay Halder, Min-Yen Kan and Kazunari Sugiyama
- 11:24–11:42 *Text Classification with Few Examples using Controlled Generalization*
Abhijit Mahabal, Jason Baldridge, Burcu Karagol Ayan, Vincent Perot and Dan Roth
- 11:42–12:00 *Reinforcement Learning Based Text Style Transfer without Parallel Training Corpus*
Hongyu Gong, Suma Bhat, Lingfei Wu, JinJun Xiong and Wen-mei Hwu

Wednesday, June 5, 2019 (continued)

Session 7F: Machine Learning, Tagging, Chunking, Syntax & Parsing (Posters)

Machine Learning

Adapting RNN Sequence Prediction Model to Multi-label Set Prediction

Kechen Qin, Cheng Li, Virgil Pavlu and Javed Aslam

Customizing Grapheme-to-Phoneme System for Non-Trivial Transcription Problems in Bangla Language

Sudipta Saha Shubha, Nafis Sadeq, Shafayat Ahmed, Md. Nahidul Islam, Muhammad Abdullah Adnan, Md. Yasin Ali Khan and Mohammad Zuberul Islam

Connecting Language and Knowledge with Heterogeneous Representations for Neural Relation Extraction

Peng Xu and Denilson Barbosa

Segmentation-free compositional n-gram embedding

Geewook Kim, Kazuki Fukui and Hidetoshi Shimodaira

Exploiting Noisy Data in Distant Supervision Relation Classification

Kaijia Yang, Liang He, Xin-Yu Dai, Shujian Huang and Jiajun Chen

Misspelling Oblivious Word Embeddings

Aleksandra Piktus, Necati Bora Edizel, Piotr Bojanowski, Edouard Grave, Rui Ferreira and Fabrizio Silvestri

Learning Relational Representations by Analogy using Hierarchical Siamese Networks

Gaetano Rossiello, Alfio Gliozzo, Robert Farrell, Nicolas Fauceglia and Michael Glass

An Effective Label Noise Model for DNN Text Classification

Ishan Jindal, Daniel Pressel, Brian Lester and Matthew Nokleby

Understanding Learning Dynamics Of Language Models with SVCCA

Naomi Saphra and Adam Lopez

Using Large Corpus N-gram Statistics to Improve Recurrent Neural Language Models

Yiben Yang, Ji-Ping Wang and Doug Downey

Continual Learning for Sentence Representations Using Conceptors

Tianlin Liu, Lyle Ungar and Joao Sedoc

Wednesday, June 5, 2019 (continued)

Relation Discovery with Out-of-Relation Knowledge Base as Supervision

Yan Liang, Xin Liu, Jianwen Zhang and Yangqiu Song

Corpora Generation for Grammatical Error Correction

Jared Lichtarge, Chris Alberti, Shankar Kumar, Noam Shazeer, Niki Parmar and Simon Tong

Structural Supervision Improves Learning of Non-Local Grammatical Dependencies

Ethan Wilcox, Peng Qian, Richard Futrell, Miguel Ballesteros and Roger Levy

Benchmarking Approximate Inference Methods for Neural Structured Prediction

Lifu Tu and Kevin Gimpel

Evaluating and Enhancing the Robustness of Dialogue Systems: A Case Study on a Negotiation Agent

Minhao Cheng, Wei Wei and Cho-Jui Hsieh

Investigating Robustness and Interpretability of Link Prediction via Adversarial Modifications

Pouya Pezeshkpour, Yifan Tian and Sameer Singh

Analysis Methods in Neural Language Processing: A Survey

Yonatan Belinkov and James Glass

[TACL] *Attentive Convolution: Equipping CNNs with RNN-style Attention Mechanisms*

Wenpeng Yin and Hinrich Schütze

[TACL] *Rotational Unit of Memory: A Novel Representation Unit for RNNs with Scalable Applications*

Rumen Dangovski, Li Jing, Preslav Nakov, Mićo Tatalović and Marin Soljačić

Transferable Neural Projection Representations

Chinnadhurai Sankar, Sujith Ravi and Zornitsa Kozareva

[SRW] *Gating Mechanisms for Combining Character and Word-level Word Representations: an Empirical Study*

Jorge Balazs and Yutaka Matsuo

Tagging, Chunking, Syntax & Parsing

Semantic Role Labeling with Associated Memory Network

Chaoyu Guan, Yuhao Cheng and Hai Zhao

Better, Faster, Stronger Sequence Tagging Constituent Parsers

David Vilares, Mostafa Abdou and Anders Søgaard

Wednesday, June 5, 2019 (continued)

CAN-NER: Convolutional Attention Network for Chinese Named Entity Recognition
Yuying Zhu and Guoxin Wang

Decomposed Local Models for Coordinate Structure Parsing
Hiroki Teranishi, Hiroyuki Shindo and Yuji Matsumoto

Multi-Task Learning for Japanese Predicate Argument Structure Analysis
Hikaru Omori and Mamoru Komachi

Domain adaptation for part-of-speech tagging of noisy user-generated text
Luisa März, Dietrich Trautmann and Benjamin Roth

Neural Chinese Address Parsing
Hao Li, Wei Lu, Pengjun Xie and Linlin Li

[SRW] *A Pregroup Representation of Word Order Alternation Using Hindi Syntax*
Alok Debnath and Manish Shrivastava

12:00–12:30 *Grab your lunch break*

12:30–13:30 *NAACL Business Meeting (Nicollet B+C)*

13:30–15:00 *Oral Sessions (long papers) and Posters (long and short papers)*

Session 8A: Discourse
Room: Northstar A, Chair: **Vincent Ng**

13:30–13:48 *Learning Hierarchical Discourse-level Structure for Fake News Detection*
Hamid Karimi and Jiliang Tang

13:48–14:06 *DiscoFuse: A Large-Scale Dataset for Discourse-Based Sentence Fusion*
Mor Geva, Eric Malmi, Idan Szpektor and Jonathan Berant

14:06–14:24 *Linguistically-Informed Specificity and Semantic Plausibility for Dialogue Generation*
Wei-Jen Ko, Greg Durrett and Junyi Jessy Li

14:24–14:42 *Learning to Describe Unknown Phrases with Local and Global Contexts*
Shonosuke Ishiwatari, Hiroaki Hayashi, Naoki Yoshinaga, Graham Neubig, Shoetsu Sato, Masashi Toyoda and Masaru Kitsuregawa

Wednesday, June 5, 2019 (continued)

14:42–15:00 *Mining Discourse Markers for Unsupervised Sentence Representation Learning*
Damien Sileo, Tim Van de Cruys, Camille Pradel and Philippe Muller

Session 8B: Machine Learning

Room: Nicollet B+C, Chair: **Anna Rumshisky**

13:30–13:48 *How Large a Vocabulary Does Text Classification Need? A Variational Approach to Vocabulary Selection*

Wenhu Chen, Yu Su, Yilin Shen, Zhiyu Chen, Xifeng Yan and William Yang Wang

13:48–14:06 *Subword-based Compact Reconstruction of Word Embeddings*

Shota Sasaki, Jun Suzuki and Kentaro Inui

14:06–14:24 *Bayesian Learning for Neural Dependency Parsing*

Ehsan Shareghi, Yingzhen Li, Yi Zhu, Roi Reichart and Anna Korhonen

14:24–14:42 *AutoSeM: Automatic Task Selection and Mixing in Multi-Task Learning*

Han Guo, Ramakanth Pasunuru and Mohit Bansal

14:42–15:00 *Studying the Inductive Biases of RNNs with Synthetic Variations of Natural Languages*

Shauli Ravfogel, Yoav Goldberg and Tal Linzen

Session 8C: Applications

Room: Nicollet A, Chair: **T. J. Hazen**

13:30–13:48 *Attention is not Explanation*

Sarthak Jain and Byron C. Wallace

13:48–14:06 *Playing Text-Adventure Games with Graph-Based Deep Reinforcement Learning*

Prithviraj Ammanabrolu and Mark Riedl

14:06–14:24 *Information Aggregation for Multi-Head Attention with Routing-by-Agreement*

Jian Li, Baosong Yang, Zi-Yi Dou, Xing Wang, Michael R. Lyu and Zhaopeng Tu

14:24–14:42 *Context Dependent Semantic Parsing over Temporally Structured Data*

Charles Chen and Razvan Bunescu

Wednesday, June 5, 2019 (continued)

14:42–15:00 *Structural Scaffolds for Citation Intent Classification in Scientific Publications*
Arman Cohan, Waleed Ammar, Madeleine van Zuylen and Field Cady

Session 8D: Semantics

Room: Greenway, Chair: **Matt Gardner**

13:30–13:48 *pair2vec: Compositional Word-Pair Embeddings for Cross-Sentence Inference*
Mandar Joshi, Eunsol Choi, Omer Levy, Daniel Weld and Luke Zettlemoyer

13:48–14:06 *Submodular Optimization-based Diverse Paraphrasing and its Effectiveness in Data Augmentation*
Ashutosh Kumar, Satwik Bhattamishra, Manik Bhandari and Partha Talukdar

14:06–14:24 *Let's Make Your Request More Persuasive: Modeling Persuasive Strategies via Semi-Supervised Neural Nets on Crowdfunding Platforms*
Diyi Yang, Jiaao Chen, Zichao Yang, Dan Jurafsky and Eduard Hovy

14:24–14:42 *Recursive Routing Networks: Learning to Compose Modules for Language Understanding*
Ignacio Cases, Clemens Rosenbaum, Matthew Riemer, Atticus Geiger, Tim Klinger, Alex Tamkin, Olivia Li, Sandhini Agarwal, Joshua D. Greene, Dan Jurafsky, Christopher Potts and Lauri Karttunen

14:42–15:00 *Structural Neural Encoders for AMR-to-text Generation*
Marco Damonte and Shay B. Cohen

Session 8E: Biomedical NLP & Clinical Text Processing

Room: Nicollet D, Chair: **Timothy Miller**

13:30–13:48 *Multilingual prediction of Alzheimer's disease through domain adaptation and concept-based language modelling*
Kathleen C. Fraser, Nicklas Linz, Bai Li, Kristina Lundholm Fors, Frank Rudzicz, Alexandra Konig, Jan Alexandersson, Philippe Robert and Dimitrios Kokkinakis

13:48–14:06 *Ranking and Selecting Multi-Hop Knowledge Paths to Better Predict Human Needs*
Debjit Paul and Anette Frank

14:06–14:24 *NLP Whack-A-Mole: Challenges in Cross-Domain Temporal Expression Extraction*
Amy Olex, Luke Maffey and Bridget McInnes

14:24–14:42 *Document-Level N-ary Relation Extraction with Multiscale Representation Learning*
Robin Jia, Cliff Wong and Hoifung Poon

Wednesday, June 5, 2019 (continued)

14:42–15:00 *Inferring Which Medical Treatments Work from Reports of Clinical Trials*
Eric Lehman, Jay DeYoung, Regina Barzilay and Byron C. Wallace

Session 8F: Dialogue, Multilingual NLP & Summarization (Posters)

Dialogue

Decay-Function-Free Time-Aware Attention to Context and Speaker Indicator for Spoken Language Understanding
Jonggu Kim and Jong-Hyeok Lee

Dialogue Act Classification with Context-Aware Self-Attention
Vipul Raheja and Joel Tetreault

Affect-Driven Dialog Generation
Pierre Colombo, Wojciech Witon, Ashutosh Modi, James Kennedy and Mubbasir Kapadia

Multi-Level Memory for Task Oriented Dialogs
Revanth Gangi Reddy, Danish Contractor, Dinesh Raghu and Sachindra Joshi

Topic Spotting using Hierarchical Networks with Self Attention
Pooja Chitkara, Ashutosh Modi, Pravalika Avvaru, Sepehr Janghorbani and Mubbasir Kapadia

Top-Down Structurally-Constrained Neural Response Generation with Lexicalized Probabilistic Context-Free Grammar
Wenchao Du and Alan W. Black

What do Entity-Centric Models Learn? Insights from Entity Linking in Multi-Party Dialogue
Laura Aina, Carina Silberer, Ionut-Teodor Sorodoc, Matthijs Westera and Gemma Boleda

Continuous Learning for Large-scale Personalized Domain Classification
Han Li, Jihwan Lee, Sidharth Mudgal, Ruhi Sarikaya and Young-Bum Kim

Multilingual NLP

Cross-lingual Transfer Learning for Multilingual Task Oriented Dialog
Sebastian Schuster, Sonal Gupta, Rushin Shah and Mike Lewis

Evaluating Coherence in Dialogue Systems using Entailment
Nouha Dziri, Ehsan Kamaloo, Kory Mathewson and Osmar Zaiane

Wednesday, June 5, 2019 (continued)

On Knowledge distillation from complex networks for response prediction

Siddhartha Arora, Mitesh M. Khapra and Harish G. Ramaswamy

Cross-lingual Multi-Level Adversarial Transfer to Enhance Low-Resource Name Tagging

Lifu Huang, Heng Ji and Jonathan May

Unsupervised Extraction of Partial Translations for Neural Machine Translation

Benjamin Marie and Atsushi Fujita

Low-Resource Syntactic Transfer with Unsupervised Source Reordering

Mohammad Sadegh Rasooli and Michael Collins

Revisiting Adversarial Autoencoder for Unsupervised Word Translation with Cycle Consistency and Improved Training

Tasnim Mohiuddin and Shafiq Joty

Addressing word-order Divergence in Multilingual Neural Machine Translation for extremely Low Resource Languages

Rudra Murthy, Anoop Kunchukuttan and Pushpak Bhattacharyya

Massively Multilingual Neural Machine Translation

Roei Aharoni, Melvin Johnson and Orhan Firat

A Large-Scale Comparison of Historical Text Normalization Systems

Marcel Bollmann

Combining Discourse Markers and Cross-lingual Embeddings for Synonym–Antonym Classification

Michael Roth and Shyam Upadhyay

Context-Aware Cross-Lingual Mapping

Hanan Aldarmaki and Mona Diab

Polyglot Contextual Representations Improve Crosslingual Transfer

Phoebe Mulcaire, Jungo Kasai and Noah A. Smith

Typological Features for Multilingual Delexicalised Dependency Parsing

Manon Scholivet, Franck Dary, Alexis Nasr, Benoit Favre and Carlos Ramisch

Wednesday, June 5, 2019 (continued)

Summarization

Recommendations for Datasets for Source Code Summarization

Alexander LeClair and Collin McMillan

Question Answering as an Automatic Evaluation Metric for News Article Summarization

Matan Eyal, Tal Baumel and Michael Elhadad

Understanding the Behaviour of Neural Abstractive Summarizers using Contrastive Examples

Krtin Kumar and Jackie Chi Kit Cheung

Jointly Extracting and Compressing Documents with Summary State Representations

Afonso Mendes, Shashi Narayan, Sebastião Miranda, Zita Marinho, André F. T. Martins and Shay B. Cohen

News Article Teaser Tweets and How to Generate Them

Sanjeev Kumar Karn, Mark Buckley, Ulli Waltinger and Hinrich Schütze

Cross-referencing Using Fine-grained Topic Modeling

Jeffrey Lund, Piper Armstrong, Wilson Fearn, Stephen Cowley, Emily Hales and Kevin Seppi

Conversation Initiation by Diverse News Contents Introduction

Satoshi Akasaki and Nobuhiro Kaji

Positional Encoding to Control Output Sequence Length

Sho Takase and Naoaki Okazaki

15:00–15:30 *Coffee Break*

15:30–16:30 *Oral Sessions (short papers) and Posters (Industry track)*

Session 9A: Question Answering

Room: Greenway, Chair: **Mo Yu**

15:30–15:45 *The Lower The Simpler: Simplifying Hierarchical Recurrent Models*

Chao Wang and Hui Jiang

15:45–16:00 *Using Natural Language Relations between Answer Choices for Machine Comprehension*

Rajkumar Pujari and Dan Goldwasser

Wednesday, June 5, 2019 (continued)

16:00–16:15 *Saliency Learning: Teaching the Model Where to Pay Attention*
Reza Ghaeini, Xiaoli Fern, Hamed Shahbazi and Prasad Tadepalli

16:15–16:30 *Understanding Dataset Design Choices for Multi-hop Reasoning*
Jifan Chen and Greg Durrett

Session 9B: Applications

Room: Nicollet A, Chair: **Zornitsa Kozareva**

15:30–15:45 *Neural Grammatical Error Correction with Finite State Transducers*
Felix Stahlberg, Christopher Bryant and Bill Byrne

15:45–16:00 *Convolutional Self-Attention Networks*
Baosong Yang, Longyue Wang, Derek F. Wong, Lidia S. Chao and Zhaopeng Tu

16:00–16:15 *Rethinking Complex Neural Network Architectures for Document Classification*
Ashutosh Adhikari, Achyudh Ram, Raphael Tang and Jimmy Lin

16:15–16:30 [SRW] *Speak Up, Fight Back! Detection of Social Media Disclosures of Sexual Harassment*
Arijit Ghosh Chowdhury, Ramit Sawhney, Puneet Mathur, Debanjan Mahata and Rajiv Ratn Shah

Session 9C: Generation

Room: Northstar A, Chair: **Fei Liu**

15:30–15:45 *Pre-trained language model representations for language generation*
Sergey Edunov, Alexei Baevski and Michael Auli

15:45–16:00 *Pragmatically Informative Text Generation*
Sheng Shen, Daniel Fried, Jacob Andreas and Dan Klein

16:00–16:15 *Stochastic Wasserstein Autoencoder for Probabilistic Sentence Generation*
Hareesh Bahuleyan, Lili Mou, Hao Zhou and Olga Vechtomova

16:15–16:30 *Benchmarking Hierarchical Script Knowledge*
Yonatan Bisk, Jan Buys, Karl Pichotta and Yejin Choi

Wednesday, June 5, 2019 (continued)

Session 9D: Cognitive Modeling & Psycholinguistics

Room: Nicollet D, Chair: **Bridget McInnes**

- 15:30–15:45 [SRW] *SNAP-BATNET: Cascading Author Profiling and Social Network Graphs for Suicide Ideation Detection on Social Media*
Rohan Mishra, Pradyumn Prakhar Sinha, Ramit Sawhney, Debanjan Mahata, Puneet Mathur and Rajiv Ratn Shah
- 15:45–16:00 *A large-scale study of the effects of word frequency and predictability in naturalistic reading*
Cory Shain
- 16:00–16:15 *Augmenting word2vec with latent Dirichlet allocation within a clinical application*
Akshay Budhkar and Frank Rudzicz
- 16:15–16:30 *On the Idiosyncrasies of the Mandarin Chinese Classifier System*
Shijia Liu, Hongyuan Mei, Adina Williams and Ryan Cotterell

Session 9E: Machine Learning

Room: Nicollet B+C, Chair: **Byron C. Wallace**

- 15:30–15:45 *Joint Learning of Pre-Trained and Random Units for Domain Adaptation in Part-of-Speech Tagging*
Sara Meftah, Youssef Tamaazousti, Nasredine Semmar, Hassane Essafi and Fatiha Sadat
- 15:45–16:00 *Show Some Love to Your n-grams: A Bit of Progress and Stronger n-gram Language Modeling Baselines*
Ehsan Shareghi, Daniela Gerz, Ivan Vulić and Anna Korhonen
- 16:00–16:15 *Training Data Augmentation for Context-Sensitive Neural Lemmatizer Using Inflection Tables and Raw Text*
Toms Bergmanis and Sharon Goldwater
- 16:15–16:30 *A Structural Probe for Finding Syntax in Word Representations*
John Hewitt and Christopher D. Manning

Wednesday, June 5, 2019 (continued)

Session 9F: Industry Session (posters)

Room: Hyatt Exhibit Hall

16:30–16:45 *Short Break*

Best Paper Session

Room: (Nicollet Grand Ballroom)

16:45–17:03 *CNM: An Interpretable Complex-valued Network for Matching*
Qiuchi Li, Benyou Wang and Massimo Melucci

17:03–17:21 *CommonsenseQA: A Question Answering Challenge Targeting Commonsense Knowledge*
Alon Talmor, Jonathan Herzig, Nicholas Lourie and Jonathan Berant

17:21–17:39 *Probing the Need for Visual Context in Multimodal Machine Translation*
Ozan Caglayan, Pranava Madhyastha, Lucia Specia and Loïc Barrault

17:39–17:57 *BERT: Pre-training of Deep Bidirectional Transformers for Language Understanding*
Jacob Devlin, Ming-Wei Chang, Kenton Lee and Kristina Toutanova

17:57–18:15 *What's in a Name? Reducing Bias in Bios without Access to Protected Attributes*
Alexey Romanov, Maria De-Arteaga, Hanna Wallach, Jennifer Chayes, Christian Borgs, Alexandra Chouldechova, Sahin Geyik, Krishnaram Kenthapadi, Anna Rumshisky and Adam Kalai

18:15–18:30 *Closing Remarks*

