

COLING 2018

**The 27th International Conference  
on Computational Linguistics**

**Proceedings of the Conference**

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## Preface: General Chair

On behalf of the International Committee on Computational Linguistics, I am thrilled to welcome you all to the 27th International Conference on Computational Linguistics (COLING 2018) here in Santa Fe, New-Mexico. Many of you are too young to remember the last COLING that took place in North America: it was actually the Montreal 1998 joint COLING-ACL conference. And indeed, most of you are too young to remember the last COLING in the U.S.A. which (would you believe?) was held as far back as 1984, also as a joint COLING-ACL conference. Moreover, the only other COLING that took place in the U.S.A. was the very first one, chaired by David G. Hays back in 1965. It gave rise to the oldest publication you can currently read in the ACL anthology. Whatever the reasons for the rarity COLING in the USA, we are very proud to bring you the present one and our team has worked very hard to make it a memorable event.

Over the last 18 months, a tremendous amount of work has been carried out by the COLING 2018 organizing committee. Please join me in thanking Sergei Nirenburg (Local Organizer), Emily Bender and Leon Derczynski (Program Chairs), Tim Baldwin, Yoav Goldberg and Jin Jiang (Workshop Chairs), Donia Scott, Pascale Fung and Marilyn Walker (Tutorial Chairs), Dongyan Zhao (Demonstration Chair), Xiaodan Zhu and Zhiyuan Liu (Publications Chairs), Yuji Matsumoto and Hiroshi Noji (Publicity Chairs), Qian Chen and Christine Tang (Webmasters) and last but not least, Leo Wanner, Soo-Min Pantel, Satoshi Sekine and Le Sun (Sponsorship Chairs).

I hope that you will enjoy the special atmosphere and the spectacular scenery offered by Santa Fe, the convenience of our meeting site as well as the social events and excursions carefully arranged by our Local Organizing Committee.

Most importantly, I hope that you will love the content of our conference. I trust that the COLING difference will be unmistakable. While paying due tribute to the hottest methods and trends of the times, we will also offer you a more diversified intellectual menu. Our Program Chairs deserve highly special thanks for their truly remarkable work in setting up a program that comprises some 331 papers which, in addition to the ubiquitous type of scientific contribution these days (“NLP engineering experiment”), accommodates a variety of other worthwhile kinds of contributions, each with appropriate evaluation criteria. This emphasis on diversity is also visible in their choice of our four outstanding invited speakers: Fabiola Henri, James Pustejovsky, Min-Yen Kan and Hannah Rohde. Throughout their program development work, Emily and Leon have made sure to engage our community on all aspects of their decision-making through a lively blog. And as if this wasn’t enough, they also found the energy to setup a highly successful mentoring program for authors. Our scientific program also includes 35 system demonstrations, seven enticing tutorials, and twelve different workshops.

I would like to thank our generous COLING 2018 sponsors:

Amazon Alexa, Baidu, Disney Research, the Linguist List, Lenovo, Brandeis University, the University of Washington and the University of Colorado. And last but not least, I offer my sincere thanks to all those who have submitted papers and demos to COLING 2018 as well as to all those who have served as area chairs, reviewers or helped our organizing committee in any other way.

I wish you all a pleasant and fruitful conference.

Pierre Isabelle (National Research Council, Canada)  
COLING 2018 General Chair

## Preface: Program Chairs

COLING is the oldest Computational Linguistics conference, from its first instance fifty-three years ago in 1965, held in New York. This year marks its third visit to the USA, after the second in 1984 at Stanford. COLING remains the strongest conference in the field that is beyond the ACL, instead organised by the ICCL. The ICCL and COLING hold ideals of being a conference for all, originally to bring together both NATO and Soviet scientists without an overseeing US-based organization. These are values that we have constantly held in mind with our construction of COLING 2018, in Santa Fe, and we are honored to have had so much support in doing so.

As we began the process of constructing the program for COLING 2018, we started by identifying our goals. These were set on our PC blog in a post in August 2017. They are: (1) to create a program of high quality papers which represent diverse approaches to and applications of computational linguistics, written and presented by researchers from throughout our international community; (2) to facilitate thoughtful reviewing which is both informative to ACs (and to us as PC co-chairs), and helpful to authors; and (3) to ensure that the results published at COLING 2018 are as reproducible as possible.

To give a bit more detail on the first goal, by diverse approaches/applications, we mean that we aimed to attract (in the tradition of COLING):

- papers which develop linguistic insight as well as papers which deepen our understanding of how machine learning can be applied to NLP—and papers that do both!
- research on a broad variety of languages and genres
- many different types of research contributions (application papers, resource papers, methodology papers, position papers, reproduction papers. . .)

We had the challenge and the privilege of taking on this role at a time when our field is growing tremendously quickly. We seized the opportunity to advance the way our conferences work by trying new things and improving the experience from all sides. To this end, while ever-mindful of author, reviewer and chair workload, we took specific actions.

### Paper types

We reasoned that one cause of a lack of diversity of type of papers is that the typical review form in our field is primarily designed for the dominant type (which we dubbed ‘NLP engineering experiment paper’), and that this makes it harder for other paper types to receive positive reviews. We decided to address this by identifying a small range of paper types and creating specialized review forms for each one. We developed an initial set, then solicited community feedback via a PC blog post (of 17 August 2017), then refined the types based on that input. A second function of the paper types was to explicitly elicit submissions of non-standard format. The paper types defined are (in order of number of submissions we received in each type): NLP engineering experiment paper, computer assisted linguistic analysis paper, resource paper, reproduction paper, position paper, and survey paper. Though the NLP engineering experiment paper type remains dominant, we are pleased at how the process has led to the diverse range of papers appearing in this volume. Submission and acceptance numbers for each type are given in Table 1.

Type	Submitted	Withdrawn	Accepted	Acceptance rate
NLPEE	657	85	217	37.94%
CALA	163	28	45	33.33%
Resource	106	7	32	32.32%
Reproduction	35	0	17	48.57%
Position	31	6	8	32.00%
Survey	25	3	12	54.55%
Overall	1017	129	331	37.27%

Table 1: Submission and acceptance, by paper type

## Mentoring

One of our strategies for achieving goal (1) given above was to create a writing mentoring program, which took place before the reviewing stage. This optional program focused on helping those who perhaps aren't used to publishing in the field of computational linguistics, are early in their careers, and so on. We see mentoring as a tool that makes a conference accessible for a broader range of high-quality ideas. In other words, this isn't about pushing borderline papers into acceptance but rather alleviating presentational problems with papers that, in their underlying research quality, easily make the high required standard.

The response from mentors was very enthusiastic—over 100 people volunteered! We see this as a good indication of the long-term viability of mentoring programs. There were fewer papers submitted for mentoring than available mentors, but still a strong number: 56. We asked authors seeking mentoring to submit an abstract 4 weeks ahead of the deadline and a draft for feedback 3 weeks ahead. We asked mentors to bid on abstracts once they were received and to provide feedback on papers within one week (leaving 2 weeks for mentees to revise their submissions based on that feedback). We also provided a structured mentoring form. Of the 56 papers receiving mentoring, 47 were ultimately submitted to the conference, 3 subsequently withdrawn, and 14 accepted. We see value in the mentoring of all of these papers, both those that ultimately ended up in this volume and those that did not. The authors received valuable feedback from their mentors which can inform their future work, both on the mentored papers specifically and more generally.

## Real double-blind

We know that non-blind peer review favors work by well-recognized authors or from well-recognized institutions (Tomkins et al. 2017, Laband and Piette 2014, Peters and Ceci 1982). This has two unfavorable impacts: first, substandard work may be presented as more worthy of reader and audience time than it is; secondly, when presentation slots are limited, substandard work will displace excellent work from beyond well-recognized institutions or authors. We took steps at every point of COLING 2018's review process to reduce or remove this bias.

Firstly, unlike the majority of conferences in the field, we hid author identities from area chairs, who are those making the primary recommendation about paper acceptance. We also hid reviewer identities from each other, thinking that reviewers may be inadvertently swayed by comments from a well-known reviewer, or afraid to contradict e.g. a potential future employer.<sup>1</sup> We also took pains to hide author identities from ourselves as PC co-chairs in making our final decisions. In addition, we hid authors

<sup>1</sup>We did set things up so that reviewer identities were revealed to co-reviewers at the end of the process, and announced this to reviewers. The goal here was to promote civility in reviews.

from the best paper committee; this involved withholding the “Accepted Papers” list until the best paper awards had been nominated and fixed. Finally, we followed ACL policy on preprints, blocking from consideration non-blind papers that had been published within the month before the deadline. We made one mistake in this process, where we asked authors to contact their ACs about belated author responses; this leaked author identity in a handful of cases (fewer than ten submissions).

To avoid the second unfavorable impact, we were lucky enough to have a venue of size such that we did not need to limit the number of accepted papers. Poster and oral presentation are of identical standard and receive the same treatment in the proceedings, which helped with this space limit. Having sufficient room meant that the acceptance of a substandard paper based on its author’s name or institution did not lead to another, better paper being displaced. Additionally, we did not impose a maximum acceptance rate. Fixed acceptance rates under non-blind review lead to good borderline papers being lost in favor of weaker papers from well-recognized origins. Fixed acceptance rates also risk that some excellent work will be missed (Church 2005).

## **Reviewing quality**

It is important to maintain consistency, good standards, and to be responsive. To achieve this, we had at least two people involved at every step in the program selection process. The PC chairs were co-chairs; each area had two chairs, who were both in the same coarse-grained geographic region for all but one area; all papers were reviewed by many people; and then to ensure this continued, there were Special Circumstances ACs who filled in AC gaps, and the General Chair would stand in when a PC co-chair couldn’t.

We know that reviewing in computer science can be a little harsher than in general (Meyer 2011). Reviewers are not as kind to authors, or to each other. Malicious or unconstructive reviews hurt quality. So, we asked ACs to specifically look out for this kind of behavior and to ask reviewers to edit their reviews for tone where necessary, and we discounted malicious reviews when making acceptance decisions. Reviews tend to be of better tone and more constructive when signed by the author, so we gave the option for reviewers to add their names to their reviews. This couldn’t be compulsory: this might risk reviewers disagreeing by name with e.g. their later bosses, which is too much to ask of the generally young CL reviewing pool.

Review quality also suffers when area chairs’ jobs are too difficult. This can be addressed by reducing area chair load. To enable flexible load management, we provided information as early as possible, helped ACs move unrelated papers out of their areas, gave rapid responses during the critical period (being nine hours apart enabled an almost 24h availability), and critically, kept area size limited. This meant that there was, for example, no one area for machine translation—this would have been unmanageable and have had unacceptably low reviewing quality. Instead, papers with facets that placed them in very large areas were placed based on their other features. For example, papers on MT in low-resourced languages might be put together; those on MT for dialogue would also be grouped, but in a separate area. This way, load was managed and the risk of unreliable (and so unfair) review reduced.

## **Broader recognition**

In keeping with building a diverse program that brings together excellent work in all aspects of our field, we wanted to make sure that our awards also recognized the many kinds of excellence to be found in work on computational linguistics. To this end, we enumerated 10 awards, of which 9 were ultimately given. We received 44 nominations for best papers over these categories, and conferred best paper awards in the categories as follows:

- Best error analysis: ‘SGM: Sequence Generation Model for Multi-label Classification’, by Pengcheng Yang, Xu Sun, Wei Li, Shuming Ma, Wei Wu and Houfeng Wang.
- Best evaluation: ‘SGM: Sequence Generation Model for Multi-label Classification’, by Pengcheng Yang, Xu Sun, Wei Li, Shuming Ma, Wei Wu and Houfeng Wang.
- Best linguistic analysis: ‘Distinguishing affixoid formations from compounds’, by Josef Ruppenhofer, Michael Wiegand, Rebecca Wilm and Katja Markert
- Best NLP engineering experiment: ‘Authorless Topic Models: Biasing Models Away from Known Structure’, by Laure Thompson and David Mimno
- Best position paper: ‘Arguments and Adjuncts in Universal Dependencies’, by Adam Przepiórkowski and Agnieszka Patejuk
- Best reproduction paper: ‘Neural Network Models for Paraphrase Identification, Semantic Textual Similarity, Natural Language Inference, and Question Answering’, by Wuwei Lan and Wei Xu
- Best resource paper: ‘AnlamVer: Semantic Model Evaluation Dataset for Turkish—Word Similarity and Relatedness’, by Gökhan Ercan and Olcay Taner Yıldız
- Best survey paper: ‘A Survey on Open Information Extraction’, by Christina Niklaus, Matthias Cetto, André Freitas and Siegfried Handschuh
- Most reproducible: ‘Design Challenges and Misconceptions in Neural Sequence Labeling’, by Jie Yang, Shuailong Liang and Yue Zhang

The lack of an award in the “Best challenge” category (for a paper that sets a new challenge) may reflect one of two things. On the one hand, reviewers and ACs may not have been on the look-out for this kind of excellence. On the other, there may not have been any papers with this particular strength at COLING 2018.

We also used the best paper awards to further our goal of promoting reproducibility. Specifically, we required that, in order to be eligible for one of the above awards, any code/resources associated with the research reported be publicly available by camera ready time. This encouraged all authors (not just those of nominated papers) to be sure their code/resources were available.

## A team effort

In total, we relied upon and COLING was excellently supported by 76 area chairs, 1029 reviewers, and 11 best paper committee members, all of whom we thank profusely for an excellent iteration of the International Conference on Computational Linguistics.

Emily M. Bender (University of Washington)  
 Leon Derczynski (IT University of Copenhagen)  
 COLING 2018 Program Committee Co-chairs

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## Table of Contents

<i>A New Approach to Animacy Detection</i> Labiba Jahan, Geeticka Chauhan and Mark Finlayson .....	1
<i>Zero Pronoun Resolution with Attention-based Neural Network</i> Qingyu Yin, Yu Zhang, Weinan Zhang, Ting Liu and William Yang Wang .....	13
<i>They Exist! Introducing Plural Mentions to Coreference Resolution and Entity Linking</i> Ethan Zhou and Jinho D. Choi .....	24
<i>Triad-based Neural Network for Coreference Resolution</i> Yuanliang Meng and Anna Rumshisky .....	35
<i>Unsupervised Morphology Learning with Statistical Paradigms</i> Hongzhi Xu, Mitchell Marcus, Charles Yang and Lyle Ungar .....	44
<i>Challenges of language technologies for the indigenous languages of the Americas</i> Manuel Mager, Ximena Gutierrez-Vasques, Gerardo Sierra and Ivan Meza-Ruiz .....	55
<i>Low-resource Cross-lingual Event Type Detection via Distant Supervision with Minimal Effort</i> Aldrian Obaja Muis, Naoki Otani, Nidhi Vyas, Ruo Chen Xu, Yiming Yang, Teruko Mitamura and Eduard Hovy .....	70
<i>Neural Transition-based String Transduction for Limited-Resource Setting in Morphology</i> Peter Makarov and Simon Clematide .....	83
<i>Distance-Free Modeling of Multi-Predicate Interactions in End-to-End Japanese Predicate-Argument Structure Analysis</i> Yuichiroh Matsubayashi and Kentaro Inui .....	94
<i>Sprucing up the trees – Error detection in treebanks</i> Ines Rehbein and Josef Ruppenhofer .....	107
<i>Two Local Models for Neural Constituent Parsing</i> Zhiyang Teng and Yue Zhang .....	119
<i>RNN Simulations of Grammaticality Judgments on Long-distance Dependencies</i> Shammur Absar Chowdhury and Roberto Zamparelli .....	133
<i>How Predictable is Your State? Leveraging Lexical and Contextual Information for Predicting Legislative Floor Action at the State Level</i> Vladimir Eidelman, Anastassia Kornilova and Daniel Argyle .....	145
<i>Learning to Search in Long Documents Using Document Structure</i> Mor Geva and Jonathan Berant .....	161
<i>Incorporating Image Matching Into Knowledge Acquisition for Event-Oriented Relation Recognition</i> Yu Hong, Yang Xu, Huibin Ruan, Bowei Zou, Jianmin Yao and Guodong Zhou .....	177
<i>Representation Learning of Entities and Documents from Knowledge Base Descriptions</i> Ikuya Yamada, Hiroyuki Shindo and Yoshiyasu Takefuji .....	190
<i>Simple Neologism Based Domain Independent Models to Predict Year of Authorship</i> Vivek Kulkarni, Yingtao Tian, Parth Dandiwala and Steve Skiena .....	202

<i>Neural Math Word Problem Solver with Reinforcement Learning</i> Danqing Huang, Jing Liu, Chin-Yew Lin and Jian Yin .....	213
<i>Personalizing Lexical Simplification</i> John Lee and Chak Yan Yeung .....	224
<i>From Text to Lexicon: Bridging the Gap between Word Embeddings and Lexical Resources</i> Iliia Kuznetsov and Iryna Gurevych .....	233
<i>Lexi: A tool for adaptive, personalized text simplification</i> Joachim Bingel, Gustavo Paetzold and Anders Søgaaard .....	245
<i>Identifying Emergent Research Trends by Key Authors and Phrases</i> Shenhao Jiang, Animesh Prasad, Min-Yen Kan and Kazunari Sugiyama .....	259
<i>Embedding WordNet Knowledge for Textual Entailment</i> Yunshi Lan and Jing Jiang .....	270
<i>Attributed and Predictive Entity Embedding for Fine-Grained Entity Typing in Knowledge Bases</i> Hailong Jin, Lei Hou, Juanzi Li and Tiansi Dong .....	282
<i>Joint Learning from Labeled and Unlabeled Data for Information Retrieval</i> Bo Li, Ping Cheng and Le Jia .....	293
<i>Modeling the Readability of German Targeting Adults and Children: An empirically broad analysis and its cross-corpus validation</i> Zarah Weiß and Detmar Meurers .....	303
<i>Automatic Assessment of Conceptual Text Complexity Using Knowledge Graphs</i> Sanja Štajner and Ioana Hulpus .....	318
<i>Par4Sim – Adaptive Paraphrasing for Text Simplification</i> Seid Muhie Yimam and Chris Biemann .....	331
<i>Topic or Style? Exploring the Most Useful Features for Authorship Attribution</i> Yunita Sari, Mark Stevenson and Andreas Vlachos .....	343
<i>A Deep Dive into Word Sense Disambiguation with LSTM</i> Minh Le, Marten Postma, Jacopo Urbani and Piek Vossen .....	354
<i>Enriching Word Embeddings with Domain Knowledge for Readability Assessment</i> Zhiwei Jiang, Qing Gu, Yafeng Yin and Daoxu Chen .....	366
<i>WikiRef: Wikilinks as a route to recommending appropriate references for scientific Wikipedia pages</i> Abhik Jana, Pranjal Kanojiya, Pawan Goyal and Animesh Mukherjee .....	379
<i>Authorship Identification for Literary Book Recommendations</i> Haifa Alharthi, Diana Inkpen and Stan Szpakowicz .....	390
<i>A Nontrivial Sentence Corpus for the Task of Sentence Readability Assessment in Portuguese</i> Sidney Evaldo Leal, Magali Sanches Duran and Sandra Maria Aluísio .....	401
<i>Adopting the Word-Pair-Dependency-Triplets with Individual Comparison for Natural Language Inference</i> Qianlong Du, Chengqing Zong and Keh-Yih Su .....	414

<i>Cooperative Denoising for Distantly Supervised Relation Extraction</i>	
Kai Lei, Daoyuan Chen, Yaliang Li, Nan Du, Min Yang, Wei Fan and Ying Shen.....	426
<i>Adversarial Feature Adaptation for Cross-lingual Relation Classification</i>	
Bowei Zou, Zengzhuang Xu, Yu Hong and Guodong Zhou.....	437
<i>One-shot Learning for Question-Answering in Gaokao History Challenge</i>	
Zhuosheng Zhang and Hai Zhao .....	449
<i>Dynamic Multi-Level Multi-Task Learning for Sentence Simplification</i>	
Han Guo, Ramakanth Pasunuru and Mohit Bansal .....	462
<i>Interpretation of Implicit Conditions in Database Search Dialogues</i>	
Shunya Fukunaga, Hitoshi Nishikawa, Takenobu Tokunaga, Hikaru Yokono and Tetsuro Takahashi ..	477
<i>Few-Shot Charge Prediction with Discriminative Legal Attributes</i>	
Zikun Hu, Xiang Li, Cunchao Tu, Zhiyuan Liu and Maosong Sun .....	487
<i>Can Taxonomy Help? Improving Semantic Question Matching using Question Taxonomy</i>	
Deepak Gupta, Rajkumar Pujari, Asif Ekbal, Pushpak Bhattacharyya, Anutosh Maitra, Tom Jain and Shubhashis Sengupta .....	499
<i>Natural Language Interface for Databases Using a Dual-Encoder Model</i>	
Ionel Alexandru Hosu, Radu Cristian Alexandru Iacob, Florin Brad, Stefan Ruseti and Traian Rebedea .....	514
<i>Employing Text Matching Network to Recognise Nuclearity in Chinese Discourse</i>	
Sheng Xu, Peifeng Li, Guodong Zhou and Qiaoming Zhu .....	525
<i>Joint Modeling of Structure Identification and Nuclearity Recognition in Macro Chinese Discourse Treebank</i>	
Xiaomin Chu, Feng Jiang, Yi Zhou, Guodong Zhou and Qiaoming Zhu .....	536
<i>Implicit Discourse Relation Recognition using Neural Tensor Network with Interactive Attention and Sparse Learning</i>	
Fengyu Guo, Ruifang He, Di Jin, Jianwu Dang, Longbiao Wang and Xiangang Li.....	547
<i>Transition-based Neural RST Parsing with Implicit Syntax Features</i>	
Nan Yu, Meishan Zhang and Guohong Fu .....	559
<i>Deep Enhanced Representation for Implicit Discourse Relation Recognition</i>	
Hongxiao Bai and Hai Zhao .....	571
<i>A Knowledge-Augmented Neural Network Model for Implicit Discourse Relation Classification</i>	
Yudai Kishimoto, Yugo Murawaki and Sadao Kurohashi.....	584
<i>Modeling Coherence for Neural Machine Translation with Dynamic and Topic Caches</i>	
Shaohui Kuang, Deyi Xiong, Weihua Luo and Guodong Zhou.....	596
<i>Fusing Recency into Neural Machine Translation with an Inter-Sentence Gate Model</i>	
Shaohui Kuang and Deyi Xiong .....	607
<i>Improving Neural Machine Translation by Incorporating Hierarchical Subword Features</i>	
Makoto Morishita, Jun Suzuki and Masaaki Nagata .....	618

<i>Design Challenges in Named Entity Transliteration</i>	
Yuval Merhav and Stephen Ash .....	630
<i>A Comparison of Transformer and Recurrent Neural Networks on Multilingual Neural Machine Translation</i>	
Surafel Melaku Lakew, Mauro Cettolo and Marcello Federico .....	641
<i>On Adversarial Examples for Character-Level Neural Machine Translation</i>	
Javid Ebrahimi, Daniel Lowd and Dejing Dou .....	653
<i>Systematic Study of Long Tail Phenomena in Entity Linking</i>	
Filip Ilievski, Piek Vossen and Stefan Schlobach .....	664
<i>Neural Collective Entity Linking</i>	
Yixin Cao, Lei Hou, Juanzi Li and Zhiyuan Liu .....	675
<i>Exploiting Structure in Representation of Named Entities using Active Learning</i>	
Nikita Bhutani, Kun Qian, Yunyao Li, H. V. Jagadish, Mauricio Hernandez and Mitesh Vasa ..	687
<i>A Practical Incremental Learning Framework For Sparse Entity Extraction</i>	
Hussein Al-Olimat, Steven Gustafson, Jason Mackay, Krishnaprasad Thirunarayan and Amit Sheth ..	700
<i>An Empirical Study on Fine-Grained Named Entity Recognition</i>	
Khai Mai, Thai-Hoang Pham, Minh Trung Nguyen, Nguyen Tuan Duc, Danushka Bollegala, Ryohei Sasano and Satoshi Sekine .....	711
<i>Does Higher Order LSTM Have Better Accuracy for Segmenting and Labeling Sequence Data?</i>	
Yi Zhang, Xu Sun, Shuming Ma, Yang Yang and Xuancheng Ren .....	723
<i>Ant Colony System for Multi-Document Summarization</i>	
Asma Al-Saleh and Mohamed El Bachir Menai .....	734
<i>Multi-task dialog act and sentiment recognition on Mastodon</i>	
Christophe Cerisara, Somayeh Jafaritazehjani, Adedayo Oluokun and Hoa T. Le .....	745
<i>RuSentiment: An Enriched Sentiment Analysis Dataset for Social Media in Russian</i>	
Anna Rogers, Alexey Romanov, Anna Rumshisky, Svitlana Volkova, Mikhail Gronas and Alex Gribov .....	755
<i>Self-Normalization Properties of Language Modeling</i>	
Jacob Goldberger and Oren Melamud .....	764
<i>A Position-aware Bidirectional Attention Network for Aspect-level Sentiment Analysis</i>	
Shuqin Gu, Lipeng Zhang, Yuexian Hou and Yin Song .....	774
<i>Dynamic Feature Selection with Attention in Incremental Parsing</i>	
Ryosuke Kohita, Hiroshi Noji and Yuji Matsumoto .....	785
<i>Vocabulary Tailored Summary Generation</i>	
Kundan Krishna, Aniket Murhekar, Saumitra Sharma and Balaji Vasani Srinivasan .....	795
<i>Reading Comprehension with Graph-based Temporal-Casual Reasoning</i>	
Yawei Sun, Gong Cheng and Yuzhong Qu .....	806
<i>Projecting Embeddings for Domain Adaption: Joint Modeling of Sentiment Analysis in Diverse Domains</i>	
Jeremy Barnes, Roman Klinger and Sabine Schulte im Walde .....	818

<i>Cross-lingual Argumentation Mining: Machine Translation (and a bit of Projection) is All You Need!</i> Steffen Eger, Johannes Daxenberger, Christian Stab and Iryna Gurevych .....	831
<i>HL-EncDec: A Hybrid-Level Encoder-Decoder for Neural Response Generation</i> Sixing Wu, Dawei Zhang, Ying Li, Xing Xie and Zhonghai Wu .....	845
<i>Multi-Perspective Context Aggregation for Semi-supervised Cloze-style Reading Comprehension</i> Liang Wang, Sujian Li, Wei Zhao, Kewei Shen, Meng Sun, Ruoyu Jia and Jingming Liu .....	857
<i>A Lexicon-Based Supervised Attention Model for Neural Sentiment Analysis</i> Yicheng Zou, Tao Gui, Qi Zhang and Xuanjing Huang .....	868
<i>Open-Domain Event Detection using Distant Supervision</i> Jun Araki and Teruko Mitamura .....	878
<i>Semi-Supervised Lexicon Learning for Wide-Coverage Semantic Parsing</i> Bo Chen, Bo An, Le Sun and Xianpei Han .....	892
<i>Summarization Evaluation in the Absence of Human Model Summaries Using the Compositionality of Word Embeddings</i> Elaheh ShafieiBavani, Mohammad Ebrahimi, Raymond Wong and Fang Chen .....	905
<i>A review of Spanish corpora annotated with negation</i> Salud María Jiménez-Zafra, Roser Morante, Maite Martin and L. Alfonso Urena Lopez .....	915
<i>Document-level Multi-aspect Sentiment Classification by Jointly Modeling Users, Aspects, and Overall Ratings</i> Junjie Li, Haitong Yang and Chengqing Zong .....	925
<i>Leveraging Meta-Embeddings for Bilingual Lexicon Extraction from Specialized Comparable Corpora</i> Amir Hazem and Emmanuel Morin .....	937
<i>Learning Emotion-enriched Word Representations</i> Ameeta Agrawal, Aijun An and Manos Papagelis .....	950
<i>Evaluating the text quality, human likeness and tailoring component of PASS: A Dutch data-to-text system for soccer</i> Chris van der Lee, Bart Verduijn, Emiel Kraahmer and Sander Wubben .....	962
<i>Answerable or Not: Devising a Dataset for Extending Machine Reading Comprehension</i> Mao Nakanishi, Tetsunori Kobayashi and Yoshihiko Hayashi .....	973
<i>Style Obfuscation by Invariance</i> Chris Emmerly, Enrique Manjavacas Arevalo and Grzegorz Chrupała .....	984
<i>Encoding Sentiment Information into Word Vectors for Sentiment Analysis</i> Zhe Ye, Fang Li and Timothy Baldwin .....	997
<i>Multi-Task Neural Models for Translating Between Styles Within and Across Languages</i> Xing Niu, Sudha Rao and Marine Carpuat .....	1008
<i>Towards a Language for Natural Language Treebank Transductions</i> Carlos A. Prolo .....	1022

<i>Generating Reasonable and Diversified Story Ending Using Sequence to Sequence Model with Adversarial Training</i>	
Zhongyang Li, Xiao Ding and Ting Liu .....	1033
<i>Point Precisely: Towards Ensuring the Precision of Data in Generated Texts Using Delayed Copy Mechanism</i>	
Liunian Li and Xiaojun Wan .....	1044
<i>Enhancing General Sentiment Lexicons for Domain-Specific Use</i>	
Tim Kreuz and Walter Daelemans .....	1056
<i>An Operation Network for Abstractive Sentence Compression</i>	
Naitong Yu, Jie Zhang, Minlie Huang and Xiaoyan Zhu .....	1065
<i>Enhanced Aspect Level Sentiment Classification with Auxiliary Memory</i>	
Peisong Zhu and Tiejun Qian .....	1077
<i>Author Profiling for Abuse Detection</i>	
Pushkar Mishra, Marco Del Tredici, Helen Yannakoudakis and Ekaterina Shutova .....	1088
<i>Automated Scoring: Beyond Natural Language Processing</i>	
Nitin Madnani and Aoife Cahill .....	1099
<i>Aspect and Sentiment Aware Abstractive Review Summarization</i>	
Min Yang, Qiang Qu, Ying Shen, Qiao Liu, Wei Zhao and Jia Zhu .....	1110
<i>Effective Attention Modeling for Aspect-Level Sentiment Classification</i>	
Ruidan He, Wee Sun Lee, Hwee Tou Ng and Daniel Dahlmeier .....	1121
<i>Bringing replication and reproduction together with generalisability in NLP: Three reproduction studies for Target Dependent Sentiment Analysis</i>	
Andrew Moore and Paul Rayson .....	1132
<i>Multilevel Heuristics for Rationale-Based Entity Relation Classification in Sentences</i>	
Shiou Tian Hsu, Mandar Chaudhary and Nagiza Samatova .....	1145
<i>Adversarial Multi-lingual Neural Relation Extraction</i>	
Xiaozhi Wang, Xu Han, Yankai Lin, Zhiyuan Liu and Maosong Sun .....	1156
<i>Neural Relation Classification with Text Descriptions</i>	
Feiliang Ren, Di Zhou, Zhihui Liu, Yongcheng Li, Rongsheng Zhao, Yongkang Liu and Xiaobo Liang .....	1167
<i>Abstract Meaning Representation for Multi-Document Summarization</i>	
Kexin Liao, Logan Lebanoff and Fei Liu .....	1178
<i>Abstractive Unsupervised Multi-Document Summarization using Paraphrastic Sentence Fusion</i>	
Mir Tafseer Nayeem, Tanvir Ahmed Fuad and Yllias Chali .....	1191
<i>Adversarial Domain Adaptation for Variational Neural Language Generation in Dialogue Systems</i>	
Van-Khanh Tran and Le-Minh Nguyen .....	1205
<i>Ask No More: Deciding when to guess in referential visual dialogue</i>	
Ravi Shekhar, Tim Baumgärtner, Aashish Venkatesh, Elia Bruni, Raffaella Bernardi and Raquel Fernández .....	1218

<i>Sequence-to-Sequence Data Augmentation for Dialogue Language Understanding</i> Yutai Hou, Yijia Liu, Wanxiang Che and Ting Liu .....	1234
<i>Dialogue-act-driven Conversation Model : An Experimental Study</i> Harshit Kumar, Arvind Agarwal and Sachindra Joshi .....	1246
<i>Structured Dialogue Policy with Graph Neural Networks</i> Lu Chen, Bowen Tan, Sishan Long and Kai Yu .....	1257
<i>JTAV: Jointly Learning Social Media Content Representation by Fusing Textual, Acoustic, and Visual Features</i> Hongru Liang, Haozheng Wang, Jun Wang, Shaodi You, Zhe Sun, Jin-Mao Wei and Zhenglu Yang .....	1269
<i>MEMD: A Diversity-Promoting Learning Framework for Short-Text Conversation</i> Meng Zou, Xihan Li, Haokun Liu and Zhihong Deng .....	1281
<i>Refining Source Representations with Relation Networks for Neural Machine Translation</i> Wen Zhang, Jiawei Hu, Yang Feng and Qun Liu .....	1292
<i>A Survey of Domain Adaptation for Neural Machine Translation</i> Chenhui Chu and Rui Wang .....	1304
<i>An Evaluation of Neural Machine Translation Models on Historical Spelling Normalization</i> Gongbo Tang, Fabienne Cap, Eva Pettersson and Joakim Nivre .....	1320
<i>Fine-Grained Arabic Dialect Identification</i> Mohammad Salameh and Houda Bouamor .....	1332
<i>Who Feels What and Why? Annotation of a Literature Corpus with Semantic Roles of Emotions</i> Evgeny Kim and Roman Klinger .....	1345
<i>Local String Transduction as Sequence Labeling</i> Joana Ribeiro, Shashi Narayan, Shay B. Cohen and Xavier Carreras .....	1360
<i>Deep Neural Networks at the Service of Multilingual Parallel Sentence Extraction</i> Ahmad Aghaebrahimian .....	1372
<i>Diachronic word embeddings and semantic shifts: a survey</i> Andrey Kutuzov, Lilja Øvrelid, Terrence Szymanski and Erik Velldal .....	1384
<i>Interaction-Aware Topic Model for Microblog Conversations through Network Embedding and User Attention</i> Ruifang He, Xuefei Zhang, Di Jin, Longbiao Wang, Jianwu Dang and Xiangang Li .....	1398
<i>Cross-media User Profiling with Joint Textual and Social User Embedding</i> Jingjing Wang, Shoushan Li, Mingqi Jiang, Hanqian Wu and Guodong Zhou .....	1410
<i>Incorporating Syntactic Uncertainty in Neural Machine Translation with a Forest-to-Sequence Model</i> Poorya Zareemoodi and Gholamreza Haffari .....	1421
<i>Ensure the Correctness of the Summary: Incorporate Entailment Knowledge into Abstractive Sentence Summarization</i> Haoran Li, Junnan Zhu, Jiajun Zhang and Chengqing Zong .....	1430



<i>Extracting Parallel Sentences with Bidirectional Recurrent Neural Networks to Improve Machine Translation</i> Francis Grégoire and Philippe Langlais .....	1442
<i>Fast and Accurate Reordering with ITG Transition RNN</i> Hao Zhang, Axel Ng and Richard Sproat .....	1454
<i>Neural Machine Translation with Decoding History Enhanced Attention</i> Mingxuan Wang, Jun Xie, Zhixing Tan, Jinsong Su, Deyi Xiong and Chao Bian .....	1464
<i>Transfer Learning for a Letter-Ngrams to Word Decoder in the Context of Historical Handwriting Recognition with Scarce Resources</i> Adeline Granet, Emmanuel Morin, Harold Mouchère, Solen Quiniou and Christian Viard-Gaudin ..	1474
<i>SMHD: a Large-Scale Resource for Exploring Online Language Usage for Multiple Mental Health Conditions</i> Arman Cohan, Bart Desmet, Andrew Yates, Luca Soldaini, Sean MacAvaney and Nazli Goharian ..	1485
<i>Crowdsourcing a Large Corpus of Clickbait on Twitter</i> Martin Potthast, Tim Gollub, Kristof Komlossy, Sebastian Schuster, Matti Wiegmann, Erika Patricia Garces Fernandez, Matthias Hagen and Benno Stein .....	1498
<i>Cross-lingual Knowledge Projection Using Machine Translation and Target-side Knowledge Base Completion</i> Naoki Otani, Hirokazu Kiyomaru, Daisuke Kawahara and Sadao Kurohashi .....	1508
<i>Assessing Quality Estimation Models for Sentence-Level Prediction</i> Hoang Cuong and Jia Xu .....	1521
<i>User-Level Race and Ethnicity Predictors from Twitter Text</i> Daniel Preoțiu-Pietro and Lyle Ungar .....	1534
<i>Multi-Source Multi-Class Fake News Detection</i> Hamid Karimi, Proteek Roy, Sari Saba-Sadiya and Jiliang Tang .....	1546
<i>Killing Four Birds with Two Stones: Multi-Task Learning for Non-Literal Language Detection</i> Erik-Lân Do Dinh, Steffen Eger and Iryna Gurevych .....	1558
<i>Twitter corpus of Resource-Scarce Languages for Sentiment Analysis and Multilingual Emoji Prediction</i> Narendra Choudhary, Rajat Singh, Vijjini Anvesh Rao and Manish Shrivastava .....	1570
<i>Towards identifying the optimal datasize for lexically-based Bayesian inference of linguistic phylogenies</i> Taraka Rama and Søren Wichmann .....	1578
<i>The Road to Success: Assessing the Fate of Linguistic Innovations in Online Communities</i> Marco Del Tredici and Raquel Fernández .....	1591
<i>Ab Initio: Automatic Latin Proto-word Reconstruction</i> Alina Maria Ciobanu and Liviu P. Dinu .....	1604
<i>A Computational Model for the Linguistic Notion of Morphological Paradigm</i> Miikka Silfverberg, Ling Liu and Mans Hulden .....	1615
<i>Relation Induction in Word Embeddings Revisited</i> Zied Bouraoui, Shoab Jameel and Steven Schockaert .....	1627
<i>Contextual String Embeddings for Sequence Labeling</i> Alan Akbik, Duncan Blythe and Roland Vollgraf .....	1638



<i>Learning Word Meta-Embeddings by Autoencoding</i>	
Danushka Bollegala and Cong Bao .....	1650
<i>GenSense: A Generalized Sense Retrofitting Model</i>	
Yang-Yin Lee, Ting-Yu Yen, Hen-Hsen Huang, Yow-Ting Shiue and Hsin-Hsi Chen .....	1662
<i>Variational Attention for Sequence-to-Sequence Models</i>	
Hareesh Bahuleyan, Lili Mou, Olga Vechtomova and Pascal Poupart .....	1672
<i>A New Concept of Deep Reinforcement Learning based Augmented General Tagging System</i>	
Yu Wang, Abhishek Patel and Hongxia Jin .....	1683
<i>Learning from Measurements in Crowdsourcing Models: Inferring Ground Truth from Diverse Annotation Types</i>	
Paul Felt, Eric Ringger, Jordan Boyd-Graber and Kevin Seppi .....	1694
<i>Reproducing and Regularizing the SCRN Model</i>	
Olzhas Kabdolov, Zhenisbek Assylbekov and Rustem Takhanov .....	1705
<i>Structure-Infused Copy Mechanisms for Abstractive Summarization</i>	
Kaiqiang Song, Lin Zhao and Fei Liu .....	1717
<i>Measuring the Diversity of Automatic Image Descriptions</i>	
Emiel van Miltenburg, Desmond Elliott and Piek Vossen .....	1730
<i>Extractive Headline Generation Based on Learning to Rank for Community Question Answering</i>	
Tatsuru Higurashi, Hayato Kobayashi, Takeshi Masuyama and Kazuma Murao .....	1742
<i>A Multi-Attention based Neural Network with External Knowledge for Story Ending Predicting Task</i>	
Qian Li, Ziwei Li, Jin-Mao Wei, Yanhui Gu, Adam Jatowt and Zhenglu Yang .....	1754
<i>A Reinforcement Learning Framework for Natural Question Generation using Bi-discriminators</i>	
Zhihao Fan, Zhongyu Wei, Siyuan Wang, Yang Liu and Xuanjing Huang .....	1763
<i>Embedding Words as Distributions with a Bayesian Skip-gram Model</i>	
Arthur Bražiņskas, Serhii Havrylov and Ivan Titov .....	1775
<i>Assessing Composition in Sentence Vector Representations</i>	
Allyson Ettinger, Ahmed Elgohary, Colin Phillips and Philip Resnik .....	1790
<i>Subword-augmented Embedding for Cloze Reading Comprehension</i>	
Zhuosheng Zhang, Yafang Huang and Hai Zhao .....	1802
<i>Enhancing Sentence Embedding with Generalized Pooling</i>	
Qian Chen, Zhen-Hua Ling and Xiaodan Zhu .....	1815
<i>Treat us like the sequences we are: Prepositional Paraphrasing of Noun Compounds using LSTM</i>	
Girishkumar Ponkiya, Kevin Patel, Pushpak Bhattacharyya and Girish Palshikar .....	1827
<i>CASCADE: Contextual Sarcasm Detection in Online Discussion Forums</i>	
Devamanyu Hazarika, Soujanya Poria, Sruthi Gorantla, Erik Cambria, Roger Zimmermann and Rada Mihalcea .....	1837
<i>Recognizing Humour using Word Associations and Humour Anchor Extraction</i>	
Andrew Cattle and Xiaojuan Ma .....	1849

<i>A Retrospective Analysis of the Fake News Challenge Stance-Detection Task</i>	
Andreas Hanselowski, Avinesh PVS, Benjamin Schiller, Felix Caspelherr, Debanjan Chaudhuri, Christian M. Meyer and Iryna Gurevych . . . . .	1859
<i>Exploiting Syntactic Structures for Humor Recognition</i>	
Lizhen Liu, Donghai Zhang and Wei Song . . . . .	1875
<i>An Attribute Enhanced Domain Adaptive Model for Cold-Start Spam Review Detection</i>	
Zhenni You, Tiejun Qian and Bing Liu . . . . .	1884
<i>Robust Lexical Features for Improved Neural Network Named-Entity Recognition</i>	
Abbas Ghaddar and Phillippe Langlais . . . . .	1896
<i>A Pseudo Label based Dataless Naive Bayes Algorithm for Text Classification with Seed Words</i>	
Ximing Li and Bo Yang . . . . .	1908
<i>Visual Question Answering Dataset for Bilingual Image Understanding: A Study of Cross-Lingual Transfer Using Attention Maps</i>	
Nobuyuki Shimizu, Na Rong and Takashi Miyazaki . . . . .	1918
<i>Style Detection for Free Verse Poetry from Text and Speech</i>	
Timo Baumann, Hussein Hussein and Burkhard Meyer-Sickendiek . . . . .	1929
<i>A Neural Question Answering Model Based on Semi-Structured Tables</i>	
Hao Wang, Xiaodong Zhang, Shuming Ma, Xu Sun, Houfeng Wang and Mengxiang Wang . .	1941
<i>LCQMC:A Large-scale Chinese Question Matching Corpus</i>	
Xin Liu, Qingcai Chen, Chong Deng, Huajun Zeng, Jing Chen, Dongfang Li and Buzhou Tang . .	1952
<i>Genre Identification and the Compositional Effect of Genre in Literature</i>	
Joseph Worsham and Jugal Kalita . . . . .	1963
<i>Transfer Learning for Entity Recognition of Novel Classes</i>	
Juan Diego Rodriguez, Adam Caldwell and Alexander Liu . . . . .	1974
<i>Location Name Extraction from Targeted Text Streams using Gazetteer-based Statistical Language Models</i>	
Hussein Al-Olimat, Krishnaprasad Thirunarayan, Valerie Shalin and Amit Sheth . . . . .	1986
<i>The APVA-TURBO Approach To Question Answering in Knowledge Base</i>	
Yue Wang, Richong Zhang, Cheng Xu and Yongyi Mao . . . . .	1998
<i>An Interpretable Reasoning Network for Multi-Relation Question Answering</i>	
Mantong Zhou, Minlie Huang and Xiaoyan Zhu . . . . .	2010
<i>Task-oriented Word Embedding for Text Classification</i>	
Qian Liu, Heyan Huang, Yang Gao, Xiaochi Wei, Yuxin Tian and Luyang Liu . . . . .	2023
<i>Adaptive Learning of Local Semantic and Global Structure Representations for Text Classification</i>	
Jianyu Zhao, Zhiqiang Zhan, Qichuan Yang, Yang Zhang, Changjian Hu, Zhensheng Li, Liuxin Zhang and Zhiqiang He . . . . .	2033
<i>Lyrics Segmentation: Textual Macrostructure Detection using Convolutions</i>	
Michael Fell, Yaroslav Nechaev, Elena Cabrio and Fabien Gandon . . . . .	2044
<i>Learning What to Share: Leaky Multi-Task Network for Text Classification</i>	
Liqiang Xiao, Honglun Zhang, Wenqing Chen, Yongkun Wang and Yaohui Jin . . . . .	2055

<i>Towards an argumentative content search engine using weak supervision</i> Ran Levy, Ben Bogin, Shai Gretz, Ranit Aharonov and Noam Slonim .....	2066
<i>Improving Named Entity Recognition by Jointly Learning to Disambiguate Morphological Tags</i> Onur Gungor, Suzan Uskudarli and Tunga Gungor .....	2082
<i>Farewell Freebase: Migrating the SimpleQuestions Dataset to DBpedia</i> Michael Azmy, Peng Shi, Jimmy Lin and Ihab Ilyas .....	2093
<i>An Analysis of Annotated Corpora for Emotion Classification in Text</i> Laura Ana Maria Bostan and Roman Klinger .....	2104
<i>Investigating the Working of Text Classifiers</i> Devendra Sachan, Manzil Zaheer and Ruslan Salakhutdinov .....	2120
<i>A Review on Deep Learning Techniques Applied to Answer Selection</i> Tuan Manh Lai, Trung Bui and Sheng Li .....	2132
<i>A Survey on Recent Advances in Named Entity Recognition from Deep Learning models</i> Vikas Yadav and Steven Bethard .....	2145
<i>Distantly Supervised NER with Partial Annotation Learning and Reinforcement Learning</i> Yaosheng Yang, Wenliang Chen, Zhenghua Li, Zhengqiu He and Min Zhang .....	2159
<i>Joint Neural Entity Disambiguation with Output Space Search</i> Hamed Shahbazi, Xiaoli Fern, Reza Ghaeini, Chao Ma, Rasha Mohammad Obeidat and Prasad Tadepalli .....	2170
<i>Learning to Progressively Recognize New Named Entities with Sequence to Sequence Models</i> Lingzhen Chen and Alessandro Moschitti .....	2181
<i>Responding E-commerce Product Questions via Exploiting QA Collections and Reviews</i> Qian Yu, Wai Lam and Zihao Wang .....	2192
<i>Aff2Vec: Affect-Enriched Distributional Word Representations</i> Sopan Khosla, Niyati Chhaya and Kushal Chawla .....	2204
<i>Aspect-based summarization of pros and cons in unstructured product reviews</i> Florian Kunneman, Sander Wubben, Antal van den Bosch and Emiel Krahmer .....	2219
<i>Learning Sentiment Composition from Sentiment Lexicons</i> Orith Toledo-Ronen, Roy Bar-Haim, Alon Halfon, Charles Jochim, Amir Menczel, Ranit Aharonov and Noam Slonim .....	2230
<i>Representations and Architectures in Neural Sentiment Analysis for Morphologically Rich Languages: A Case Study from Modern Hebrew</i> Adam Amram, Anat Ben-David and Reut Tsarfaty .....	2242
<i>Scoring and Classifying Implicit Positive Interpretations: A Challenge of Class Imbalance</i> Chantal van Son, Roser Morante, Lora Aroyo and Piek Vossen .....	2253
<i>Exploratory Neural Relation Classification for Domain Knowledge Acquisition</i> Yan Fan, Chengyu Wang and Xiaofeng He .....	2265
<i>Who is Killed by Police: Introducing Supervised Attention for Hierarchical LSTMs</i> Minh Nguyen and Thien Nguyen .....	2277

<i>Open Information Extraction from Conjunctive Sentences</i> Swarnadeep Saha and Mausam - .....	2288
<i>Graphene: Semantically-Linked Propositions in Open Information Extraction</i> Matthias Cetto, Christina Niklaus, André Freitas and Siegfried Handschuh .....	2300
<i>An Exploration of Three Lightly-supervised Representation Learning Approaches for Named Entity Classification</i> Ajay Nagesh and Mihai Surdeanu .....	2312
<i>Multimodal Grounding for Language Processing</i> Lisa Beinborn, Teresa Botschen and Iryna Gurevych .....	2325
<i>Stress Test Evaluation for Natural Language Inference</i> Aakanksha Naik, Abhilasha Ravichander, Norman Sadeh, Carolyn Rose and Graham Neubig ..	2340
<i>Grounded Textual Entailment</i> Hoa Vu, Claudio Greco, Aliia Erofeeva, Somayeh Jafaritazehjan, Guido Linders, Marc Tanti, Alberto Testoni, Raffaella Bernardi and Albert Gatt .....	2354
<i>Recurrent One-Hop Predictions for Reasoning over Knowledge Graphs</i> Wenpeng Yin, Yadollah Yaghoobzadeh and Hinrich Schütze .....	2369
<i>Hybrid Attention based Multimodal Network for Spoken Language Classification</i> Yue Gu, Kangning Yang, Shiyu Fu, Shuhong Chen, Xinyu Li and Ivan Marsic .....	2379
<i>Exploring the Influence of Spelling Errors on Lexical Variation Measures</i> Ryo Nagata, Taisei Sato and Hiroya Takamura .....	2391
<i>Stance Detection with Hierarchical Attention Network</i> Qingying Sun, Zhongqing Wang, Qiaoming Zhu and Guodong Zhou .....	2399
<i>Correcting Chinese Word Usage Errors for Learning Chinese as a Second Language</i> Yow-Ting Shiue, Hen-Hsen Huang and Hsin-Hsi Chen .....	2410
<i>Retrofitting Distributional Embeddings to Knowledge Graphs with Functional Relations</i> Ben Lengerich, Andrew Maas and Christopher Potts .....	2423
<i>Context-Sensitive Generation of Open-Domain Conversational Responses</i> Weinan Zhang, Yiming Cui, Yifa Wang, Qingfu Zhu, Lingzhi Li, Lianqiang Zhou and Ting Liu ..	2437
<i>A LSTM Approach with Sub-Word Embeddings for Mongolian Phrase Break Prediction</i> Rui Liu, Feilong Bao, Guanglai Gao, Hui Zhang and Yonghe Wang .....	2448
<i>Synonymy in Bilingual Context: The CzEngClass Lexicon</i> Zdenka Uresova, Eva Fucikova, Eva Hajicova and Jan Hajic .....	2456
<i>Convolutional Neural Network for Universal Sentence Embeddings</i> Xiaoqi Jiao, Fang Wang and Dan Feng .....	2470
<i>Rich Character-Level Information for Korean Morphological Analysis and Part-of-Speech Tagging</i> Andrew Matteson, Chanhee Lee, Youngbum Kim and Heuseok Lim .....	2482
<i>Why does PairDiff work? - A Mathematical Analysis of Bilinear Relational Compositional Operators for Analogy Detection</i> Huda Hakami, Kohei Hayashi and Danushka Bollegala .....	2493

<i>Real-time Change Point Detection using On-line Topic Models</i> Yunli Wang and Cyril Goutte .....	2505
<i>Automatically Creating a Lexicon of Verbal Polarity Shifters: Mono- and Cross-lingual Methods for German</i> Marc Schulder, Michael Wiegand and Josef Ruppenhofer .....	2516
<i>Part-of-Speech Tagging on an Endangered Language: a Parallel Griko-Italian Resource</i> Antonios Anastasopoulos, Marika Lekakou, Josep Quer, Eleni Zimianiti, Justin DeBenedetto and David Chiang .....	2529
<i>One vs. Many QA Matching with both Word-level and Sentence-level Attention Network</i> Lu Wang, Shoushan Li, Changlong Sun, Luo Si, Xiaozhong Liu, Min Zhang and Guodong Zhou ..	2540
<i>Learning to Generate Word Representations using Subword Information</i> Yeanchan Kim, Kang-Min Kim, Ji-Min Lee and SangKeun Lee .....	2551
<i>Urdu Word Segmentation using Conditional Random Fields (CRFs)</i> Haris Bin Zia, Agha Ali Raza and Awais Athar .....	2562
<i>ReSyf: a French lexicon with ranked synonyms</i> Mokhtar Boumedyen BILLAMI, Thomas François and Nuria Gala .....	2570
<i>If you've seen some, you've seen them all: Identifying variants of multiword expressions</i> Caroline Pasquer, Agata Savary, Carlos Ramisch and Jean-Yves Antoine .....	2582
<i>Learning Multilingual Topics from Incomparable Corpora</i> Shudong Hao and Michael J. Paul .....	2595
<i>Using Word Embeddings for Unsupervised Acronym Disambiguation</i> Jean Charbonnier and Christian Wartena .....	2610
<i>Indigenous language technologies in Canada: Assessment, challenges, and successes</i> Patrick Littell, Anna Kazantseva, Roland Kuhn, Aidan Pine, Antti Arppe, Christopher Cox and Marie-Odile Junker .....	2620
<i>Pluralizing Nouns across Agglutinating Bantu Languages</i> Joan Byamugisha, C. Maria Keet and Brian DeRenzi .....	2633
<i>Automatically Extracting Qualia Relations for the Rich Event Ontology</i> Ghazaleh Kazeminejad, Claire Bonial, Susan Windisch Brown and Martha Palmer .....	2644
<i>SeVeN: Augmenting Word Embeddings with Unsupervised Relation Vectors</i> Luis Espinosa Anke and Steven Schockaert .....	2653
<i>Evaluation of Unsupervised Compositional Representations</i> Hanan Aldarmaki and Mona Diab .....	2666
<i>Using Formulaic Expressions in Writing Assistance Systems</i> Kenichi Iwatsuki and Akiko Aizawa .....	2678
<i>What's in Your Embedding, And How It Predicts Task Performance</i> Anna Rogers, Shashwath Hosur Ananthakrishna and Anna Rumshisky .....	2690

<i>Word Sense Disambiguation Based on Word Similarity Calculation Using Word Vector Representation from a Knowledge-based Graph</i>	
Dongsuk O, Sunjae Kwon, Kyungsun Kim and Youngjoong Ko . . . . .	2704
<i>Learning Semantic Sentence Embeddings using Sequential Pair-wise Discriminator</i>	
Badri Narayana Patro, Vinod Kumar Kurmi, Sandeep Kumar and Vinay Namboodiri . . . . .	2715
<i>A Reassessment of Reference-Based Grammatical Error Correction Metrics</i>	
Shamil Chollampatt and Hwee Tou Ng . . . . .	2730
<i>Information Aggregation via Dynamic Routing for Sequence Encoding</i>	
Jingjing Gong, Xipeng Qiu, Shaojing Wang and Xuanjing Huang . . . . .	2742
<i>A Full End-to-End Semantic Role Labeler, Syntactic-agnostic Over Syntactic-aware?</i>	
Jiaxun Cai, Shexia He, Zuchao Li and Hai Zhao . . . . .	2753
<i>Authorship Attribution By Consensus Among Multiple Features</i>	
Jagadeesh Patchala and Raj Bhatnagar . . . . .	2766
<i>Modeling with Recurrent Neural Networks for Open Vocabulary Slots</i>	
Jun-Seong Kim, Junghoe Kim, SeungUn Park, Kwangyong Lee and Yoonju Lee . . . . .	2778
<i>Challenges and Opportunities of Applying Natural Language Processing in Business Process Management</i>	
Han Van der Aa, Josep Carmona, Henrik Leopold, Jan Mendling and Lluís Padró . . . . .	2791
<i>Novelty Goes Deep. A Deep Neural Solution To Document Level Novelty Detection</i>	
Tirthankar Ghosal, Vignesh Edithal, Asif Ekbal, Pushpak Bhattacharyya, George Tsatsaronis and Srinivasa Satya Sameer Kumar Chivukula . . . . .	2802
<i>What represents "style" in authorship attribution?</i>	
Kalaivani Sundararajan and Damon Woodard . . . . .	2814
<i>Learning Target-Specific Representations of Financial News Documents For Cumulative Abnormal Return Prediction</i>	
Junwen Duan, Yue Zhang, Xiao Ding, Ching-Yun Chang and Ting Liu . . . . .	2823
<i>Model-Free Context-Aware Word Composition</i>	
Bo An, Xianpei Han and Le Sun . . . . .	2834
<i>Learning Features from Co-occurrences: A Theoretical Analysis</i>	
Yanpeng Li . . . . .	2846
<i>Towards a unified framework for bilingual terminology extraction of single-word and multi-word terms</i>	
Jingshu Liu, Emmanuel Morin and Peña Saldarriaga . . . . .	2855
<i>Neural Activation Semantic Models: Computational lexical semantic models of localized neural activations</i>	
Nikos Athanasiou, Elias Iosif and Alexandros Potamianos . . . . .	2867
<i>Folksonomication: Predicting Tags for Movies from Plot Synopses using Emotion Flow Encoded Neural Network</i>	
Sudipta Kar, Suraj Maharjan and Thamar Solorio . . . . .	2879
<i>Emotion Representation Mapping for Automatic Lexicon Construction (Mostly) Performs on Human Level</i>	
Sven Buechel and Udo Hahn . . . . .	2892

<i>Emotion Detection and Classification in a Multigenre Corpus with Joint Multi-Task Deep Learning</i> Shabnam Tafreshi and Mona Diab .....	2905
<i>How emotional are you? Neural Architectures for Emotion Intensity Prediction in Microblogs</i> Devang Kulshreshtha, Pranav Goel and Anil Kumar Singh .....	2914
<i>Expressively vulgar: The socio-dynamics of vulgarity and its effects on sentiment analysis in social media</i> Isabel Cachola, Eric Holgate, Daniel Preoțiu-Pietro and Junyi Jessy Li .....	2927
<i>Clausal Modifiers in the Grammar Matrix</i> Kristen Howell and Olga Zamaraeva .....	2939
<i>Sliced Recurrent Neural Networks</i> Zeping Yu and Gongshen Liu .....	2953
<i>Multi-Task Learning for Sequence Tagging: An Empirical Study</i> Soravit Changpinyo, Hexiang Hu and Fei Sha .....	2965
<i>Using J-K-fold Cross Validation To Reduce Variance When Tuning NLP Models</i> Henry Moss, David Leslie and Paul Rayson .....	2978
<i>Incremental Natural Language Processing: Challenges, Strategies, and Evaluation</i> Arne Köhn .....	2990
<i>Gold Standard Annotations for Preposition and Verb Sense with Semantic Role Labels in Adult-Child Interactions</i> Lori Moon, Christos Christodoulopoulos, Fisher Cynthia, Sandra Franco and Dan Roth .....	3004
<i>Multi-layer Representation Fusion for Neural Machine Translation</i> Qiang Wang, Fuxue Li, Tong Xiao, Yanyang Li, Yinqiao Li and Jingbo Zhu .....	3015
<i>Toward Better Loanword Identification in Uyghur Using Cross-lingual Word Embeddings</i> Chenggang Mi, Yating Yang, Lei Wang, Xi Zhou and Tonghai Jiang .....	3027
<i>Adaptive Weighting for Neural Machine Translation</i> Yachao Li, Junhui Li and Min Zhang .....	3038
<i>Generic refinement of expressive grammar formalisms with an application to discontinuous constituent parsing</i> Kilian Gebhardt .....	3049
<i>Double Path Networks for Sequence to Sequence Learning</i> Kaitao Song, Xu Tan, Di He, Jianfeng Lu, Tao Qin and Tie-Yan Liu .....	3064
<i>An Empirical Investigation of Error Types in Vietnamese Parsing</i> Quy Nguyen, Yusuke Miyao, Hiroshi Noji and Nhung Nguyen .....	3075
<i>Learning with Noise-Contrastive Estimation: Easing training by learning to scale</i> Matthieu Labeau and Alexandre Allauzen .....	3090
<i>Parallel Corpora for bi-lingual English-Ethiopian Languages Statistical Machine Translation</i> Solomon Teferra Abate, Michael Melese, Martha Yifiru Tachbelie, Million Meshesha, Solomon Atinafu, Wondwossen Mulugeta, Yaregal Assibie, Hafte Abera, Binyam Ephrem, Tewodros Abebe, Wondimagegnhue Tsegaye, Amanuel Lemma, Tsegaye Andargie and Seifedin Shifaw .....	3102



<i>Multilingual Neural Machine Translation with Task-Specific Attention</i> Graeme Blackwood, Miguel Ballesteros and Todd Ward .....	3112
<i>Combining Information-Weighted Sequence Alignment and Sound Correspondence Models for Improved Cognate Detection</i> Johannes Dellert .....	3123
<i>Tailoring Neural Architectures for Translating from Morphologically Rich Languages</i> Peyman Passban, Andy Way and Qun Liu .....	3134
<i>deepQuest: A Framework for Neural-based Quality Estimation</i> Julia Ive, Frédéric Blain and Lucia Specia .....	3146
<i>Butterfly Effects in Frame Semantic Parsing: impact of data processing on model ranking</i> Alexandre Kabbach, Corentin Ribeyre and Aurélie Herbelot .....	3158
<i>Sensitivity to Input Order: Evaluation of an Incremental and Memory-Limited Bayesian Cross-Situational Word Learning Model</i> Sepideh Sadeghi and Matthias Scheutz .....	3170
<i>Sentence Weighting for Neural Machine Translation Domain Adaptation</i> Shiqi Zhang and Deyi Xiong .....	3181
<i>Quantifying training challenges of dependency parsers</i> Lauriane Aufrant, Guillaume Wisniewski and François Yvon .....	3191
<i>Seq2seq Dependency Parsing</i> Zuchao Li, Jiaxun Cai, Shexia He and Hai Zhao .....	3203
<i>Revisiting the Hierarchical Multiscale LSTM</i> Ákos Kádár, Marc-Alexandre Côté, Grzegorz Chrupała and Afra Alishahi .....	3215
<i>Character-Level Feature Extraction with Densely Connected Networks</i> Chanhee Lee, Young-Bum Kim, Dongyub Lee and Heuseok Lim .....	3228
<i>Neural Machine Translation Incorporating Named Entity</i> Arata Ugawa, Akihiro Tamura, Takashi Ninomiya, Hiroya Takamura and Manabu Okumura ..	3240
<i>Semantic Parsing for Technical Support Questions</i> Abhirut Gupta, Anupama Ray, Gargi Dasgupta, Gautam Singh, Pooja Aggarwal and Prateeti Mohapatra ..	3251
<i>Deconvolution-Based Global Decoding for Neural Machine Translation</i> Junyang Lin, Xu Sun, Xuancheng Ren, Shuming Ma, Jinsong Su and Qi Su .....	3260
<i>Pattern-revising Enhanced Simple Question Answering over Knowledge Bases</i> Yanchao Hao, Hao Liu, Shizhu He, Kang Liu and Jun Zhao .....	3272
<i>Integrating Question Classification and Deep Learning for improved Answer Selection</i> Harish Tayyar Madabushi, Mark Lee and John Barnden .....	3283
<i>Knowledge as A Bridge: Improving Cross-domain Answer Selection with External Knowledge</i> Yang Deng, Ying Shen, Min Yang, Yaliang Li, Nan Du, Wei Fan and Kai Lei .....	3295
<i>Modeling Semantics with Gated Graph Neural Networks for Knowledge Base Question Answering</i> Daniil Sorokin and Iryna Gurevych .....	3306



<i>Rethinking the Agreement in Human Evaluation Tasks</i> Jacopo Amidei, Paul Piwek and Alistair Willis .....	3318
<i>Dependent Gated Reading for Cloze-Style Question Answering</i> Reza Ghaeini, Xiaoli Fern, Hamed Shahbazi and Prasad Tadepalli .....	3330
<i>Automated Fact Checking: Task Formulations, Methods and Future Directions</i> James Thorne and Andreas Vlachos .....	3346
<i>Can Rumour Stance Alone Predict Veracity?</i> Sebastian Dungs, Ahmet Aker, Norbert Fuhr and Kalina Bontcheva .....	3360
<i>Attending Sentences to detect Satirical Fake News</i> Sohan De Sarkar, Fan Yang and Arjun Mukherjee .....	3371
<i>Predicting Stances from Social Media Posts using Factorization Machines</i> Akira Sasaki, Kazuaki Hanawa, Naoaki Okazaki and Kentaro Inui .....	3381
<i>Automatic Detection of Fake News</i> Verónica Pérez-Rosas, Bennett Kleinberg, Alexandra Lefevre and Rada Mihalcea .....	3391
<i>All-in-one: Multi-task Learning for Rumour Verification</i> Elena Kochkina, Maria Liakata and Arkaitz Zubiaga .....	3402
<i>Open Information Extraction on Scientific Text: An Evaluation</i> Paul Groth, Mike Lauruhn, Antony Scerri and Ron Daniel, Jr. ....	3414
<i>Simple Algorithms For Sentiment Analysis On Sentiment Rich, Data Poor Domains.</i> Prathusha K Sarma and William Sethares .....	3424
<i>Word-Level Loss Extensions for Neural Temporal Relation Classification</i> Artuur Leeuwenberg and Marie-Francine Moens .....	3436
<i>Personalized Text Retrieval for Learners of Chinese as a Foreign Language</i> Chak Yan Yeung and John Lee .....	3448
<i>Punctuation as Native Language Interference</i> Iliia Markov, Vivi Nastase and Carlo Strapparava .....	3456
<i>Investigating Productive and Receptive Knowledge: A Profile for Second Language Learning</i> Leonardo Zilio, Rodrigo Wilkens and Cédrick Fairon .....	3467
<i>iParaphrasing: Extracting Visually Grounded Paraphrases via an Image</i> Chenhui Chu, Mayu Otani and Yuta Nakashima .....	3479
<i>MCDTB: A Macro-level Chinese Discourse TreeBank</i> Feng Jiang, Sheng Xu, Xiaomin Chu, Peifeng Li, Qiaoming Zhu and Guodong Zhou .....	3493
<i>Corpus-based Content Construction</i> Balaji Vasan Srinivasan, Pranav Maneriker, Kundan Krishna and Natwar Modani .....	3505
<i>Bridging resolution: Task definition, corpus resources and rule-based experiments</i> Ina Roesiger, Arndt Riester and Jonas Kuhn .....	3516
<i>Semi-Supervised Disfluency Detection</i> Feng Wang, Wei Chen, Zhen Yang, Qianqian Dong, Shuang Xu and Bo Xu .....	3529

<i>ISO-Standard Domain-Independent Dialogue Act Tagging for Conversational Agents</i>	
Stefano Mezza, Alessandra Cervone, Evgeny Stepanov, Giuliano Tortoreto and Giuseppe Riccardi . . .	3539
<i>Arrows are the Verbs of Diagrams</i>	
Malihe Alikhani and Matthew Stone . . . . .	3552
<i>Improving Feature Extraction for Pathology Reports with Precise Negation Scope Detection</i>	
Olga Zamaraeva, Kristen Howell and Adam Rhine . . . . .	3564
<i>Bridge Video and Text with Cascade Syntactic Structure</i>	
Guolong Wang, Zheng Qin, Kaiping Xu, Kai Huang and Shuxiong Ye . . . . .	3576
<i>Multi-task and Multi-lingual Joint Learning of Neural Lexical Utterance Classification based on Partially-shared Modeling</i>	
Ryo Masumura, Tomohiro Tanaka, Ryuichiro Higashinaka, Hirokazu Masataki and Yushi Aono . . .	3586
<i>Source Critical Reinforcement Learning for Transferring Spoken Language Understanding to a New Language</i>	
He Bai, Yu Zhou, Jiajun Zhang, Liang Zhao, Mei-Yuh Hwang and Chengqing Zong . . . . .	3597
<i>A Prospective-Performance Network to Alleviate Myopia in Beam Search for Response Generation</i>	
Zongsheng Wang, Yunzhi Bai, Bowen Wu, Zhen Xu, Zhuoran Wang and Baoxun Wang . . . . .	3608
<i>Adaptive Multi-Task Transfer Learning for Chinese Word Segmentation in Medical Text</i>	
Junjie Xing, Kenny Zhu and Shaodian Zhang . . . . .	3619
<i>Addressee and Response Selection for Multilingual Conversation</i>	
Motoki Sato, Hiroki Ouchi and Yuta Tsuboi . . . . .	3631
<i>Graph Based Decoding for Event Sequencing and Coreference Resolution</i>	
Zhengzhong Liu, Teruko Mitamura and Eduard Hovy . . . . .	3645
<i>DIDEC: The Dutch Image Description and Eye-tracking Corpus</i>	
Emiel van Miltenburg, Ákos Kádár, Ruud Koolen and Emiel Kraemer . . . . .	3658
<i>Narrative Schema Stability in News Text</i>	
Dan Simonson and Anthony Davis . . . . .	3670
<i>NIPS Conversational Intelligence Challenge 2017 Winner System: Skill-based Conversational Agent with Supervised Dialog Manager</i>	
Idris Yusupov and Yurii Kuratov . . . . .	3681
<i>AMR Beyond the Sentence: the Multi-sentence AMR corpus</i>	
Tim O’Gorman, Michael Regan, Kira Griffitt, Ulf Hermjakob, Kevin Knight and Martha Palmer . . .	3693
<i>Incorporating Argument-Level Interactions for Persuasion Comments Evaluation using Co-attention Model</i>	
Lu Ji, Zhongyu Wei, Xiangkun Hu, Yang Liu, Qi Zhang and Xuanjing Huang . . . . .	3703
<i>Learning Visually-Grounded Semantics from Contrastive Adversarial Samples</i>	
Haoyue Shi, Jiayuan Mao, Tete Xiao, Yuning Jiang and Jian Sun . . . . .	3715
<i>Structured Representation Learning for Online Debate Stance Prediction</i>	
Chang Li, Aldo Porco and Dan Goldwasser . . . . .	3728

<i>Modeling Multi-turn Conversation with Deep Utterance Aggregation</i>	
Zhuosheng Zhang, Jiangtong Li, Pengfei Zhu, Hai Zhao and Gongshen Liu .....	3740
<i>Argumentation Synthesis following Rhetorical Strategies</i>	
Henning Wachsmuth, Manfred Stede, Roxanne El Baff, Khalid Al Khatib, Maria Skeppstedt and Benno Stein .....	3753
<i>A Dataset for Building Code-Mixed Goal Oriented Conversation Systems</i>	
Suman Banerjee, Nikita Moghe, Siddhartha Arora and Mitesh M. Khapra .....	3766
<i>Sequence-to-Sequence Learning for Task-oriented Dialogue with Dialogue State Representation</i>	
Haoyang Wen, Yijia Liu, Wanxiang Che, Libo Qin and Ting Liu .....	3781
<i>Incorporating Deep Visual Features into Multiobjective based Multi-view Search Results Clustering</i>	
Sayantana Mitra, Mohammed Hasanuzzaman, Sriparna Saha and Andy Way .....	3793
<i>Integrating Tree Structures and Graph Structures with Neural Networks to Classify Discussion Discourse Acts</i>	
Yasuhide Miura, Ryuji Kano, Motoki Taniguchi, Tomoki Taniguchi, Shotaro Misawa and Tomoko Ohkuma .....	3806
<i>AnlamVer: Semantic Model Evaluation Dataset for Turkish - Word Similarity and Relatedness</i>	
Gökhan Ercan and Olcay Taner Yıldız .....	3819
<i>Arguments and Adjuncts in Universal Dependencies</i>	
Adam Przepiórkowski and Agnieszka Patejuk .....	3837
<i>Distinguishing affixoid formations from compounds</i>	
Josef Ruppenhofer, Michael Wiegand, Rebecca Wilm and Katja Markert .....	3853
<i>A Survey on Open Information Extraction</i>	
Christina Niklaus, Matthias Cetto, André Freitas and Siegfried Handschuh .....	3866
<i>Design Challenges and Misconceptions in Neural Sequence Labeling</i>	
Jie Yang, Shuailong Liang and Yue Zhang .....	3879
<i>Neural Network Models for Paraphrase Identification, Semantic Textual Similarity, Natural Language Inference, and Question Answering</i>	
Wuwei Lan and Wei Xu .....	3890
<i>Authorless Topic Models: Biasing Models Away from Known Structure</i>	
Laure Thompson and David Mimno .....	3903
<i>SGM: Sequence Generation Model for Multi-label Classification</i>	
Pengcheng Yang, Xu Sun, Wei Li, Shuming Ma, Wei Wu and Houfeng Wang .....	3915



# Conference Program

**Tuesday 21st August**

**9:00–9:30**      **Opening ceremony**

**9:30–10:30**    **Invited talk: James Pustejovsky**

**10:30–11:00**   **Refreshment break**

**11:00–12:20**   **Session 1-1-a: Co-reference**

*A New Approach to Animacy Detection*

Labiba Jahan, Geeticka Chauhan and Mark Finlayson

*Zero Pronoun Resolution with Attention-based Neural Network*

Qingyu Yin, Yu Zhang, Weinan Zhang, Ting Liu and William Yang Wang

*They Exist! Introducing Plural Mentions to Coreference Resolution and Entity Linking*

Ethan Zhou and Jinho D. Choi

*Triad-based Neural Network for Coreference Resolution*

Yuanliang Meng and Anna Rumshisky

**Tuesday 21st August (continued)**

**11:00–12:20 Session 1-1-b: Low-resource languages**

*Unsupervised Morphology Learning with Statistical Paradigms*

Hongzhi Xu, Mitchell Marcus, Charles Yang and Lyle Ungar

*Challenges of language technologies for the indigenous languages of the Americas*

Manuel Mager, Ximena Gutierrez-Vasques, Gerardo Sierra and Ivan Meza-Ruiz

*Low-resource Cross-lingual Event Type Detection via Distant Supervision with Minimal Effort*

Aldrian Obaja Muis, Naoki Otani, Nidhi Vyas, Ruochen Xu, Yiming Yang, Teruko Mitamura and Eduard Hovy

*Neural Transition-based String Transduction for Limited-Resource Setting in Morphology*

Peter Makarov and Simon Clematide

**11:00–12:20 Session 1-1-c: Parsing**

*Distance-Free Modeling of Multi-Predicate Interactions in End-to-End Japanese Predicate-Argument Structure Analysis*

Yuichiroh Matsubayashi and Kentaro Inui

*Sprucing up the trees – Error detection in treebanks*

Ines Rehbein and Josef Ruppenhofer

*Two Local Models for Neural Constituent Parsing*

Zhiyang Teng and Yue Zhang

*RNN Simulations of Grammaticality Judgments on Long-distance Dependencies*

Shammur Absar Chowdhury and Roberto Zamparelli

**Tuesday 21st August (continued)**

**11:00–12:20 Session 1-1-posters: Application, extraction and knowledge**

*How Predictable is Your State? Leveraging Lexical and Contextual Information for Predicting Legislative Floor Action at the State Level*

Vladimir Eidelman, Anastassia Kornilova and Daniel Argyle

*Learning to Search in Long Documents Using Document Structure*

Mor Geva and Jonathan Berant

*Incorporating Image Matching Into Knowledge Acquisition for Event-Oriented Relation Recognition*

Yu Hong, Yang Xu, Huibin Ruan, Bowei Zou, Jianmin Yao and Guodong Zhou

*Representation Learning of Entities and Documents from Knowledge Base Descriptions*

Ikuya Yamada, Hiroyuki Shindo and Yoshiyasu Takefuji

*Simple Neologism Based Domain Independent Models to Predict Year of Authorship*

Vivek Kulkarni, Yingtao Tian, Parth Dandiwala and Steve Skiena

*Neural Math Word Problem Solver with Reinforcement Learning*

Danqing Huang, Jing Liu, Chin-Yew Lin and Jian Yin

*Personalizing Lexical Simplification*

John Lee and Chak Yan Yeung

*From Text to Lexicon: Bridging the Gap between Word Embeddings and Lexical Resources*

Ilya Kuznetsov and Iryna Gurevych

*Lexi: A tool for adaptive, personalized text simplification*

Joachim Bingel, Gustavo Paetzold and Anders Søgaard

*Identifying Emergent Research Trends by Key Authors and Phrases*

Shenhao Jiang, Animesh Prasad, Min-Yen Kan and Kazunari Sugiyama

*Embedding WordNet Knowledge for Textual Entailment*

Yunshi Lan and Jing Jiang

**Tuesday 21st August (continued)**

*Attributed and Predictive Entity Embedding for Fine-Grained Entity Typing in Knowledge Bases*

Hailong Jin, Lei Hou, Juanzi Li and Tiansi Dong

*Joint Learning from Labeled and Unlabeled Data for Information Retrieval*

Bo Li, Ping Cheng and Le Jia

*Modeling the Readability of German Targeting Adults and Children: An empirically broad analysis and its cross-corpus validation*

Zarah Weiß and Detmar Meurers

*Automatic Assessment of Conceptual Text Complexity Using Knowledge Graphs*

Sanja Štajner and Ioana Hulpus

*Par4Sim – Adaptive Paraphrasing for Text Simplification*

Seid Muhie Yimam and Chris Biemann

*Topic or Style? Exploring the Most Useful Features for Authorship Attribution*

Yunita Sari, Mark Stevenson and Andreas Vlachos

*A Deep Dive into Word Sense Disambiguation with LSTM*

Minh Le, Marten Postma, Jacopo Urbani and Piek Vossen

*Enriching Word Embeddings with Domain Knowledge for Readability Assessment*

Zhiwei Jiang, Qing Gu, Yafeng Yin and Daoxu Chen

*WikiRef: Wikilinks as a route to recommending appropriate references for scientific Wikipedia pages*

Abhik Jana, Pranjal Kanojiya, Pawan Goyal and Animesh Mukherjee

*Authorship Identification for Literary Book Recommendations*

Haifa Alharthi, Diana Inkpen and Stan Szpakowicz

*A Nontrivial Sentence Corpus for the Task of Sentence Readability Assessment in Portuguese*

Sidney Evaldo Leal, Magali Sanches Duran and Sandra Maria Aluísio

*Adopting the Word-Pair-Dependency-Triplets with Individual Comparison for Natural Language Inference*

Qianlong Du, Chengqing Zong and Keh-Yih Su



**Tuesday 21st August (continued)**

*Cooperative Denoising for Distantly Supervised Relation Extraction*

Kai Lei, Daoyuan Chen, Yaliang Li, Nan Du, Min Yang, Wei Fan and Ying Shen

*Adversarial Feature Adaptation for Cross-lingual Relation Classification*

Bowei Zou, Zengzhuang Xu, Yu Hong and Guodong Zhou

*One-shot Learning for Question-Answering in Gaokao History Challenge*

Zhuosheng Zhang and Hai Zhao

*Dynamic Multi-Level Multi-Task Learning for Sentence Simplification*

Han Guo, Ramakanth Pasunuru and Mohit Bansal

*Interpretation of Implicit Conditions in Database Search Dialogues*

Shunya Fukunaga, Hitoshi Nishikawa, Takenobu Tokunaga, Hikaru Yokono and Tetsuro Takahashi

*Few-Shot Charge Prediction with Discriminative Legal Attributes*

Zikun Hu, Xiang Li, Cunchao Tu, Zhiyuan Liu and Maosong Sun

*Can Taxonomy Help? Improving Semantic Question Matching using Question Taxonomy*

Deepak Gupta, Rajkumar Pujari, Asif Ekbal, Pushpak Bhattacharyya, Anutosh Maitra, Tom Jain and Shubhashis Sengupta

*Natural Language Interface for Databases Using a Dual-Encoder Model*

Ionel Alexandru Hosu, Radu Cristian Alexandru Iacob, Florin Brad, Stefan Ruseti and Traian Rebedea

**Tuesday 21st August (continued)**

**12:20–13:50 Lunch**

**13:50–15:50 Session 1-2-a: Discourse relations**

*Employing Text Matching Network to Recognise Nuclearity in Chinese Discourse*

Sheng Xu, Peifeng Li, Guodong Zhou and Qiaoming Zhu

*Joint Modeling of Structure Identification and Nuclearity Recognition in Macro Chinese Discourse Treebank*

Xiaomin Chu, Feng Jiang, Yi Zhou, Guodong Zhou and Qiaoming Zhu

*Implicit Discourse Relation Recognition using Neural Tensor Network with Interactive Attention and Sparse Learning*

Fengyu Guo, Ruifang He, Di Jin, Jianwu Dang, Longbiao Wang and Xiangang Li

*Transition-based Neural RST Parsing with Implicit Syntax Features*

Nan Yu, Meishan Zhang and Guohong Fu

*Deep Enhanced Representation for Implicit Discourse Relation Recognition*

Hongxiao Bai and Hai Zhao

*A Knowledge-Augmented Neural Network Model for Implicit Discourse Relation Classification*

Yudai Kishimoto, Yugo Murawaki and Sadao Kurohashi

**Tuesday 21st August (continued)**

**13:50–15:50 Session 1-2-b: Machine translation**

*Modeling Coherence for Neural Machine Translation with Dynamic and Topic Caches*

Shaohui Kuang, Deyi Xiong, Weihua Luo and Guodong Zhou

*Fusing Recency into Neural Machine Translation with an Inter-Sentence Gate Model*

Shaohui Kuang and Deyi Xiong

*Improving Neural Machine Translation by Incorporating Hierarchical Subword Features*

Makoto Morishita, Jun Suzuki and Masaaki Nagata

*Design Challenges in Named Entity Transliteration*

Yuval Merhav and Stephen Ash

*A Comparison of Transformer and Recurrent Neural Networks on Multilingual Neural Machine Translation*

Surafel Melaku Lakew, Mauro Cettolo and Marcello Federico

*On Adversarial Examples for Character-Level Neural Machine Translation*

Javid Ebrahimi, Daniel Lowd and Dejing Dou

**13:50–15:50 Session 1-2-c: Named entities**

*Systematic Study of Long Tail Phenomena in Entity Linking*

Filip Ilievski, Piek Vossen and Stefan Schlobach

*Neural Collective Entity Linking*

Yixin Cao, Lei Hou, Juanzi Li and Zhiyuan Liu

*Exploiting Structure in Representation of Named Entities using Active Learning*

Nikita Bhutani, Kun Qian, Yunyao Li, H. V. Jagadish, Mauricio Hernandez and Mitesh Vasa

*A Practical Incremental Learning Framework For Sparse Entity Extraction*

Hussein Al-Olimat, Steven Gustafson, Jason Mackay, Krishnaprasad Thirunarayan and Amit Sheth

**Tuesday 21st August (continued)**

*An Empirical Study on Fine-Grained Named Entity Recognition*

Khai Mai, Thai-Hoang Pham, Minh Trung Nguyen, Nguyen Tuan Duc, Danushka Bollegala, Ryohei Sasano and Satoshi Sekine

*Does Higher Order LSTM Have Better Accuracy for Segmenting and Labeling Sequence Data?*

Yi Zhang, Xu Sun, Shuming Ma, Yang Yang and Xuancheng Ren

**13:50–15:50 Session 1-2-posters: Sentiment, NLG, understanding**

*Ant Colony System for Multi-Document Summarization*

Asma Al-Saleh and Mohamed El Bachir Menai

*Multi-task dialog act and sentiment recognition on Mastodon*

Christophe Cerisara, Somayeh Jafaritazehjani, Adedayo Oluokun and Hoa T. Le

*RuSentiment: An Enriched Sentiment Analysis Dataset for Social Media in Russian*

Anna Rogers, Alexey Romanov, Anna Rumshisky, Svitlana Volkova, Mikhail Gronas and Alex Gribov

*Self-Normalization Properties of Language Modeling*

Jacob Goldberger and Oren Melamud

*A Position-aware Bidirectional Attention Network for Aspect-level Sentiment Analysis*

Shuqin Gu, Lipeng Zhang, Yuexian Hou and Yin Song

*Dynamic Feature Selection with Attention in Incremental Parsing*

Ryosuke Kohita, Hiroshi Noji and Yuji Matsumoto

*Vocabulary Tailored Summary Generation*

Kundan Krishna, Aniket Murhekar, Saumitra Sharma and Balaji Vasan Srinivasan

*Reading Comprehension with Graph-based Temporal-Casual Reasoning*

Yawei Sun, Gong Cheng and Yuzhong Qu

*Projecting Embeddings for Domain Adaption: Joint Modeling of Sentiment Analysis in Diverse Domains*

Jeremy Barnes, Roman Klinger and Sabine Schulte im Walde

**Tuesday 21st August (continued)**

*Cross-lingual Argumentation Mining: Machine Translation (and a bit of Projection) is All You Need!*

Steffen Eger, Johannes Daxenberger, Christian Stab and Iryna Gurevych

*HL-EncDec: A Hybrid-Level Encoder-Decoder for Neural Response Generation*

Sixing Wu, Dawei Zhang, Ying Li, Xing Xie and Zhonghai Wu

*Multi-Perspective Context Aggregation for Semi-supervised Cloze-style Reading Comprehension*

Liang Wang, Sujian Li, Wei Zhao, Kewei Shen, Meng Sun, Ruoyu Jia and Jingming Liu

*A Lexicon-Based Supervised Attention Model for Neural Sentiment Analysis*

Yicheng Zou, Tao Gui, Qi Zhang and Xuanjing Huang

*Open-Domain Event Detection using Distant Supervision*

Jun Araki and Teruko Mitamura

*Semi-Supervised Lexicon Learning for Wide-Coverage Semantic Parsing*

Bo Chen, Bo An, Le Sun and Xianpei Han

*Summarization Evaluation in the Absence of Human Model Summaries Using the Compositionality of Word Embeddings*

Elaheh ShafieiBavani, Mohammad Ebrahimi, Raymond Wong and Fang Chen

*A review of Spanish corpora annotated with negation*

Salud María Jiménez-Zafra, Roser Morante, Maite Martin and L. Alfonso Urena Lopez

*Document-level Multi-aspect Sentiment Classification by Jointly Modeling Users, Aspects, and Overall Ratings*

Junjie Li, Haitong Yang and Chengqing Zong

*Leveraging Meta-Embeddings for Bilingual Lexicon Extraction from Specialized Comparable Corpora*

Amir Hazem and Emmanuel Morin

*Learning Emotion-enriched Word Representations*

Ameeta Agrawal, Aijun An and Manos Papagelis

*Evaluating the text quality, human likeness and tailoring component of PASS: A Dutch data-to-text system for soccer*

Chris van der Lee, Bart Verduijn, Emiel Kraemer and Sander Wubben

**Tuesday 21st August (continued)**

*Answerable or Not: Devising a Dataset for Extending Machine Reading Comprehension*

Mao Nakanishi, Tetsunori Kobayashi and Yoshihiko Hayashi

*Style Obfuscation by Invariance*

Chris Emmery, Enrique Manjavacas Arevalo and Grzegorz Chrupala

*Encoding Sentiment Information into Word Vectors for Sentiment Analysis*

Zhe Ye, Fang Li and Timothy Baldwin

*Multi-Task Neural Models for Translating Between Styles Within and Across Languages*

Xing Niu, Sudha Rao and Marine Carpuat

*Towards a Language for Natural Language Treebank Transductions*

Carlos A. Prolo

*Generating Reasonable and Diversified Story Ending Using Sequence to Sequence Model with Adversarial Training*

Zhongyang Li, Xiao Ding and Ting Liu

*Point Precisely: Towards Ensuring the Precision of Data in Generated Texts Using Delayed Copy Mechanism*

Liunian Li and Xiaojun Wan

*Enhancing General Sentiment Lexicons for Domain-Specific Use*

Tim Kreutz and Walter Daelemans

*An Operation Network for Abstractive Sentence Compression*

Naitong Yu, Jie Zhang, Minlie Huang and Xiaoyan Zhu

*Enhanced Aspect Level Sentiment Classification with Auxiliary Memory*

Peisong Zhu and Tieyun Qian

**Tuesday 21st August (continued)**

**15:50–16:20 Refreshment break**

**16:20–18:00 Session 1-3-a: Aspect-based sentiment, Ethics**

*Author Profiling for Abuse Detection*

Pushkar Mishra, Marco Del Tredici, Helen Yannakoudakis and Ekaterina Shutova

*Automated Scoring: Beyond Natural Language Processing*

Nitin Madnani and Aoife Cahill

*Aspect and Sentiment Aware Abstractive Review Summarization*

Min Yang, Qiang Qu, Ying Shen, Qiao Liu, Wei Zhao and Jia Zhu

*Effective Attention Modeling for Aspect-Level Sentiment Classification*

Ruidan He, Wee Sun Lee, Hwee Tou Ng and Daniel Dahlmeier

*Bringing replication and reproduction together with generalisability in NLP: Three reproduction studies for Target Dependent Sentiment Analysis*

Andrew Moore and Paul Rayson

**16:20–18:00 Session 1-3-b: Relation extraction, Summarization**

*Multilevel Heuristics for Rationale-Based Entity Relation Classification in Sentences*

Shiou Tian Hsu, Mandar Chaudhary and Nagiza Samatova

*Adversarial Multi-lingual Neural Relation Extraction*

Xiaozhi Wang, Xu Han, Yankai Lin, Zhiyuan Liu and Maosong Sun

*Neural Relation Classification with Text Descriptions*

Feiliang Ren, Di Zhou, Zhihui Liu, Yongcheng Li, Rongsheng Zhao, Yongkang Liu and Xiaobo Liang

*Abstract Meaning Representation for Multi-Document Summarization*

Kexin Liao, Logan Lebanoff and Fei Liu

**Tuesday 21st August (continued)**

*Abstractive Unsupervised Multi-Document Summarization using Paraphrastic Sentence Fusion*

Mir Tafseer Nayeem, Tanvir Ahmed Fuad and Yllias Chali

**16:20–18:00 Session 1-3-c: Dialogue systems**

*Adversarial Domain Adaptation for Variational Neural Language Generation in Dialogue Systems*

Van-Khanh Tran and Le-Minh Nguyen

*Ask No More: Deciding when to guess in referential visual dialogue*

Ravi Shekhar, Tim Baumgärtner, Aashish Venkatesh, Elia Bruni, Raffaella Bernardi and Raquel Fernández

*Sequence-to-Sequence Data Augmentation for Dialogue Language Understanding*

Yutai Hou, Yijia Liu, Wanxiang Che and Ting Liu

*Dialogue-act-driven Conversation Model : An Experimental Study*

Harshit Kumar, Arvind Agarwal and Sachindra Joshi

*Structured Dialogue Policy with Graph Neural Networks*

Lu Chen, Bowen Tan, Sishan Long and Kai Yu

**16:20–18:00 Session 1-3-posters: Translation, Variation**

*JTAV: Jointly Learning Social Media Content Representation by Fusing Textual, Acoustic, and Visual Features*

Hongru Liang, Haozheng Wang, Jun Wang, Shaodi You, Zhe Sun, Jin-Mao Wei and Zhenglu Yang

*MEMD: A Diversity-Promoting Learning Framework for Short-Text Conversation*

Meng Zou, Xihan Li, Haokun Liu and Zhihong Deng

*Refining Source Representations with Relation Networks for Neural Machine Translation*

Wen Zhang, Jiawei Hu, Yang Feng and Qun Liu

*A Survey of Domain Adaptation for Neural Machine Translation*

Chenhui Chu and Rui Wang



**Tuesday 21st August (continued)**

*An Evaluation of Neural Machine Translation Models on Historical Spelling Normalization*

Gongbo Tang, Fabienne Cap, Eva Pettersson and Joakim Nivre

*Fine-Grained Arabic Dialect Identification*

Mohammad Salameh and Houda Bouamor

*Who Feels What and Why? Annotation of a Literature Corpus with Semantic Roles of Emotions*

Evgeny Kim and Roman Klinger

*Local String Transduction as Sequence Labeling*

Joana Ribeiro, Shashi Narayan, Shay B. Cohen and Xavier Carreras

*Deep Neural Networks at the Service of Multilingual Parallel Sentence Extraction*

Ahmad Aghaebrahimian

*Diachronic word embeddings and semantic shifts: a survey*

Andrey Kutuzov, Lilja Øvrelid, Terrence Szymanski and Erik Velldal

*Interaction-Aware Topic Model for Microblog Conversations through Network Embedding and User Attention*

Ruifang He, Xuefei Zhang, Di Jin, Longbiao Wang, Jianwu Dang and Xiangang Li

*Cross-media User Profiling with Joint Textual and Social User Embedding*

Jingjing Wang, Shoushan Li, Mingqi Jiang, Hanqian Wu and Guodong Zhou

*Incorporating Syntactic Uncertainty in Neural Machine Translation with a Forest-to-Sequence Model*

Poorya Zaremoodi and Gholamreza Haffari

*Ensure the Correctness of the Summary: Incorporate Entailment Knowledge into Abstractive Sentence Summarization*

Haoran Li, Junnan Zhu, Jiajun Zhang and Chengqing Zong

*Extracting Parallel Sentences with Bidirectional Recurrent Neural Networks to Improve Machine Translation*

Francis Grégoire and Philippe Langlais

*Fast and Accurate Reordering with ITG Transition RNN*

Hao Zhang, Axel Ng and Richard Sproat

**Tuesday 21st August (continued)**

*Neural Machine Translation with Decoding History Enhanced Attention*

Mingxuan Wang, Jun Xie, Zhixing Tan, Jinsong Su, Deyi Xiong and Chao Bian

*Transfer Learning for a Letter-Ngrams to Word Decoder in the Context of Historical Handwriting Recognition with Scarce Resources*

Adeline Granet, Emmanuel Morin, Harold Mouchère, Solen Quiniou and Christian Viard-Gaudin

*SMHD: a Large-Scale Resource for Exploring Online Language Usage for Multiple Mental Health Conditions*

Arman Cohan, Bart Desmet, Andrew Yates, Luca Soldaini, Sean MacAvaney and Nazli Goharian

*Crowdsourcing a Large Corpus of Clickbait on Twitter*

Martin Potthast, Tim Gollub, Kristof Komlossy, Sebastian Schuster, Matti Wiegmann, Erika Patricia Garces Fernandez, Matthias Hagen and Benno Stein

*Cross-lingual Knowledge Projection Using Machine Translation and Target-side Knowledge Base Completion*

Naoki Otani, Hirokazu Kiyomaru, Daisuke Kawahara and Sadao Kurohashi

*Assessing Quality Estimation Models for Sentence-Level Prediction*

Hoang Cuong and Jia Xu

*User-Level Race and Ethnicity Predictors from Twitter Text*

Daniel Preoțiuc-Pietro and Lyle Ungar

*Multi-Source Multi-Class Fake News Detection*

Hamid Karimi, Proteek Roy, Sari Saba-Sadiya and Jiliang Tang

*Killing Four Birds with Two Stones: Multi-Task Learning for Non-Literal Language Detection*

Erik-Lân Do Dinh, Steffen Eger and Iryna Gurevych

*Twitter corpus of Resource-Scarce Languages for Sentiment Analysis and Multilingual Emoji Prediction*

Narendra Choudhary, Rajat Singh, Vijjini Anvesh Rao and Manish Shrivastava

**Wednesday 22nd August**

**09:00–10:00 Invited talk: Fabiola Henri**

**10:00–10:30 Refreshment break**

**10:30–11:50 Session 2-1-a: Language change, Historical linguistics**

*Towards identifying the optimal dataset size for lexically-based Bayesian inference of linguistic phylogenies*

Taraka Rama and Søren Wichmann

*The Road to Success: Assessing the Fate of Linguistic Innovations in Online Communities*

Marco Del Tredici and Raquel Fernández

*Ab Initio: Automatic Latin Proto-word Reconstruction*

Alina Maria Ciobanu and Liviu P. Dinu

*A Computational Model for the Linguistic Notion of Morphological Paradigm*

Miikka Silfverberg, Ling Liu and Mans Hulden

**10:30–11:50 Session 2-1-b: Embedding creation**

*Relation Induction in Word Embeddings Revisited*

Zied Bouraoui, Shoaib Jameel and Steven Schockaert

*Contextual String Embeddings for Sequence Labeling*

Alan Akbik, Duncan Blythe and Roland Vollgraf

*Learning Word Meta-Embeddings by Autoencoding*

Danushka Bollegala and Cong Bao

*GenSense: A Generalized Sense Retrofitting Model*

Yang-Yin Lee, Ting-Yu Yen, Hen-Hsen Huang, Yow-Ting Shiue and Hsin-Hsi Chen

**Wednesday 22nd August (continued)**

**10:30–11:50    Session 2-1-c: ML methods**

*Variational Attention for Sequence-to-Sequence Models*

Hareesh Bahuleyan, Lili Mou, Olga Vechtomova and Pascal Poupart

*A New Concept of Deep Reinforcement Learning based Augmented General Tagging System*

Yu Wang, Abhishek Patel and Hongxia Jin

*Learning from Measurements in Crowdsourcing Models: Inferring Ground Truth from Diverse Annotation Types*

Paul Felt, Eric Ringger, Jordan Boyd-Graber and Kevin Seppi

*Reproducing and Regularizing the SCRN Model*

Olzhas Kabdolov, Zhenisbek Assylbekov and Rustem Takhanov

**12:00            Lunch and excursion**

**Thursday 23rd August**

**09:00–10:00    Invited talk: Hannah Rohde**

**10:00–10:30    Refreshment break**

**Thursday 23rd August (continued)**

**10:30–12:10 Session 3-1-a: Generation**

*Structure-Infused Copy Mechanisms for Abstractive Summarization*

Kaiqiang Song, Lin Zhao and Fei Liu

*Measuring the Diversity of Automatic Image Descriptions*

Emiel van Miltenburg, Desmond Elliott and Piek Vossen

*Extractive Headline Generation Based on Learning to Rank for Community Question Answering*

Tatsuru Higurashi, Hayato Kobayashi, Takeshi Masuyama and Kazuma Murao

*A Multi-Attention based Neural Network with External Knowledge for Story Ending Predicting Task*

Qian Li, Ziwei Li, Jin-Mao Wei, Yanhui Gu, Adam Jatowt and Zhenglu Yang

*A Reinforcement Learning Framework for Natural Question Generation using Bi-discriminators*

Zhihao Fan, Zhongyu Wei, Siyuan Wang, Yang Liu and Xuanjing Huang

**10:30–12:10 Session 3-1-b: Embedding creation**

*Embedding Words as Distributions with a Bayesian Skip-gram Model*

Arthur Bražinskas, Serhii Havrylov and Ivan Titov

*Assessing Composition in Sentence Vector Representations*

Allyson Ettinger, Ahmed Elgohary, Colin Phillips and Philip Resnik

*Subword-augmented Embedding for Cloze Reading Comprehension*

Zhuosheng Zhang, Yafang Huang and Hai Zhao

*Enhancing Sentence Embedding with Generalized Pooling*

Qian Chen, Zhen-Hua Ling and Xiaodan Zhu

*Treat us like the sequences we are: Prepositional Paraphrasing of Noun Compounds using LSTM*

Girishkumar Ponkiya, Kevin Patel, Pushpak Bhattacharyya and Girish Palshikar

**Thursday 23rd August (continued)**

**10:30–12:10 Session 3-1-c: Humor, rumor, sarcasm and spam**

*CASCADE: Contextual Sarcasm Detection in Online Discussion Forums*

Devamanyu Hazarika, Soujanya Poria, Sruthi Gorantla, Erik Cambria, Roger Zimmermann and Rada Mihalcea

*Recognizing Humour using Word Associations and Humour Anchor Extraction*

Andrew Cattle and Xiaojuan Ma

*A Retrospective Analysis of the Fake News Challenge Stance-Detection Task*

Andreas Hanselowski, Avinesh PVS, Benjamin Schiller, Felix Caspelherr, Debanjan Chaudhuri, Christian M. Meyer and Iryna Gurevych

*Exploiting Syntactic Structures for Humor Recognition*

Lizhen Liu, Donghai Zhang and Wei Song

*An Attribute Enhanced Domain Adaptive Model for Cold-Start Spam Review Detection*

Zhenni You, Tiejun Qian and Bing Liu

**10:30–12:10 Session 3-1-posters: Entities, QA and classification**

*Robust Lexical Features for Improved Neural Network Named-Entity Recognition*

Abbas Ghaddar and Phillippe Langlais

*A Pseudo Label based Dataless Naive Bayes Algorithm for Text Classification with Seed Words*

Ximing Li and Bo Yang

*Visual Question Answering Dataset for Bilingual Image Understanding: A Study of Cross-Lingual Transfer Using Attention Maps*

Nobuyuki Shimizu, Na Rong and Takashi Miyazaki

*Style Detection for Free Verse Poetry from Text and Speech*

Timo Baumann, Hussein Hussein and Burkhard Meyer-Sickendiek

*A Neural Question Answering Model Based on Semi-Structured Tables*

Hao Wang, Xiaodong Zhang, Shuming Ma, Xu Sun, Houfeng Wang and Mengxiang Wang

**Thursday 23rd August (continued)**

*LCQMC: A Large-scale Chinese Question Matching Corpus*

Xin Liu, Qingcai Chen, Chong Deng, Huajun Zeng, Jing Chen, Dongfang Li and Buzhou Tang

*Genre Identification and the Compositional Effect of Genre in Literature*

Joseph Worsham and Jugal Kalita

*Transfer Learning for Entity Recognition of Novel Classes*

Juan Diego Rodriguez, Adam Caldwell and Alexander Liu

*Location Name Extraction from Targeted Text Streams using Gazetteer-based Statistical Language Models*

Hussein Al-Olimat, Krishnaprasad Thirunarayan, Valerie Shalin and Amit Sheth

*The APVA-TURBO Approach To Question Answering in Knowledge Base*

Yue Wang, Richong Zhang, Cheng Xu and Yongyi Mao

*An Interpretable Reasoning Network for Multi-Relation Question Answering*

Mantong Zhou, Minlie Huang and Xiaoyan Zhu

*Task-oriented Word Embedding for Text Classification*

Qian Liu, Heyan Huang, Yang Gao, Xiaochi Wei, Yuxin Tian and Luyang Liu

*Adaptive Learning of Local Semantic and Global Structure Representations for Text Classification*

Jianyu Zhao, Zhiqiang Zhan, Qichuan Yang, Yang Zhang, Changjian Hu, Zhensheng Li, Liuxin Zhang and Zhiqiang He

*Lyrics Segmentation: Textual Macrostructure Detection using Convolutions*

Michael Fell, Yaroslav Nechaev, Elena Cabrio and Fabien Gandon

*Learning What to Share: Leaky Multi-Task Network for Text Classification*

Liqiang Xiao, Honglun Zhang, Wenqing Chen, Yongkun Wang and Yaohui Jin

*Towards an argumentative content search engine using weak supervision*

Ran Levy, Ben Bogin, Shai Gretz, Ranit Aharonov and Noam Slonim

*Improving Named Entity Recognition by Jointly Learning to Disambiguate Morphological Tags*

Onur Gungor, Suzan Uskudarli and Tunga Gungor

**Thursday 23rd August (continued)**

*Farewell Freebase: Migrating the SimpleQuestions Dataset to DBpedia*

Michael Azmy, Peng Shi, Jimmy Lin and Ihab Ilyas

*An Analysis of Annotated Corpora for Emotion Classification in Text*

Laura Ana Maria Bostan and Roman Klinger

*Investigating the Working of Text Classifiers*

Devendra Sachan, Manzil Zaheer and Ruslan Salakhutdinov

*A Review on Deep Learning Techniques Applied to Answer Selection*

Tuan Manh Lai, Trung Bui and Sheng Li

*A Survey on Recent Advances in Named Entity Recognition from Deep Learning models*

Vikas Yadav and Steven Bethard

*Distantly Supervised NER with Partial Annotation Learning and Reinforcement Learning*

Yaosheng Yang, Wenliang Chen, Zhenghua Li, Zhengqiu He and Min Zhang

*Joint Neural Entity Disambiguation with Output Space Search*

Hamed Shahbazi, Xiaoli Fern, Reza Ghaeini, Chao Ma, Rasha Mohammad Obeidat and Prasad Tadepalli

*Learning to Progressively Recognize New Named Entities with Sequence to Sequence Models*

Lingzhen Chen and Alessandro Moschitti

*Responding E-commerce Product Questions via Exploiting QA Collections and Reviews*

Qian Yu, Wai Lam and Zihao Wang



**Thursday 23rd August (continued)**

**12:10–13:40 Lunch**

**13:40–15:20 Session 3-2-a: Sentiment**

*Aff2Vec: Affect-Enriched Distributional Word Representations*

Sopan Khosla, Niyati Chhaya and Kushal Chawla

*Aspect-based summarization of pros and cons in unstructured product reviews*

Florian Kunneman, Sander Wubben, Antal van den Bosch and Emiel Krahmer

*Learning Sentiment Composition from Sentiment Lexicons*

Orith Toledo-Ronen, Roy Bar-Haim, Alon Halfon, Charles Jochim, Amir Menczel, Ranit Aharonov and Noam Slonim

*Representations and Architectures in Neural Sentiment Analysis for Morphologically Rich Languages: A Case Study from Modern Hebrew*

Adam Amram, Anat Ben-David and Reut Tsarfaty

*Scoring and Classifying Implicit Positive Interpretations: A Challenge of Class Imbalance*

Chantal van Son, Roser Morante, Lora Aroyo and Piek Vossen

**13:40–15:20 Session 3-2-b: IE**

*Exploratory Neural Relation Classification for Domain Knowledge Acquisition*

Yan Fan, Chengyu Wang and Xiaofeng He

*Who is Killed by Police: Introducing Supervised Attention for Hierarchical LSTMs*

Minh Nguyen and Thien Nguyen

*Open Information Extraction from Conjunctive Sentences*

Swarnadeep Saha and Mausam -

*Graphene: Semantically-Linked Propositions in Open Information Extraction*

Matthias Cetto, Christina Niklaus, André Freitas and Siegfried Handschuh

**Thursday 23rd August (continued)**

*An Exploration of Three Lightly-supervised Representation Learning Approaches for Named Entity Classification*

Ajay Nagesh and Mihai Surdeanu

**13:40–15:20 Session 3-2-c: Multimodal processing, ASR, NLI**

*Multimodal Grounding for Language Processing*

Lisa Beinborn, Teresa Botschen and Iryna Gurevych

*Stress Test Evaluation for Natural Language Inference*

Aakanksha Naik, Abhilasha Ravichander, Norman Sadeh, Carolyn Rose and Graham Neubig

*Grounded Textual Entailment*

Hoa Vu, Claudio Greco, Aliia Erofeeva, Somayeh Jafaritazehjan, Guido Linders, Marc Tanti, Alberto Testoni, Raffaella Bernardi and Albert Gatt

*Recurrent One-Hop Predictions for Reasoning over Knowledge Graphs*

Wenpeng Yin, Yadollah Yaghoobzadeh and Hinrich Schütze

*Hybrid Attention based Multimodal Network for Spoken Language Classification*

Yue Gu, Kangning Yang, Shiyu Fu, Shuhong Chen, Xinyu Li and Ivan Marsic

**13:40–15:20 Session 3-2-posters: Distributional information**

*Exploring the Influence of Spelling Errors on Lexical Variation Measures*

Ryo Nagata, Taisei Sato and Hiroya Takamura

*Stance Detection with Hierarchical Attention Network*

Qingying Sun, Zhongqing Wang, Qiaoming Zhu and Guodong Zhou

*Correcting Chinese Word Usage Errors for Learning Chinese as a Second Language*

Yow-Ting Shiue, Hen-Hsen Huang and Hsin-Hsi Chen

*Retrofitting Distributional Embeddings to Knowledge Graphs with Functional Relations*

Ben Lengerich, Andrew Maas and Christopher Potts

**Thursday 23rd August (continued)**

*Context-Sensitive Generation of Open-Domain Conversational Responses*

Weinan Zhang, Yiming Cui, Yifa Wang, Qingfu Zhu, Lingzhi Li, Lianqiang Zhou and Ting Liu

*A LSTM Approach with Sub-Word Embeddings for Mongolian Phrase Break Prediction*

Rui Liu, Feilong Bao, Guanglai Gao, Hui Zhang and Yonghe Wang

*Synonymy in Bilingual Context: The CzEngClass Lexicon*

Zdenka Uresova, Eva Fucikova, Eva Hajcova and Jan Hajic

*Convolutional Neural Network for Universal Sentence Embeddings*

Xiaoqi Jiao, Fang Wang and Dan Feng

*Rich Character-Level Information for Korean Morphological Analysis and Part-of-Speech Tagging*

Andrew Matteson, Chanhee Lee, Youngbum Kim and Heuseok Lim

*Why does PairDiff work? - A Mathematical Analysis of Bilinear Relational Compositional Operators for Analogy Detection*

Huda Hakami, Kohei Hayashi and Danushka Bollegala

*Real-time Change Point Detection using On-line Topic Models*

Yunli Wang and Cyril Goutte

*Automatically Creating a Lexicon of Verbal Polarity Shifters: Mono- and Cross-lingual Methods for German*

Marc Schulder, Michael Wiegand and Josef Ruppenhofer

*Part-of-Speech Tagging on an Endangered Language: a Parallel Griko-Italian Resource*

Antonios Anastasopoulos, Marika Lekakou, Josep Quer, Eleni Zimianiti, Justin DeBenedetto and David Chiang

*One vs. Many QA Matching with both Word-level and Sentence-level Attention Network*

Lu Wang, Shoushan Li, Changlong Sun, Luo Si, Xiaozhong Liu, Min Zhang and Guodong Zhou

*Learning to Generate Word Representations using Subword Information*

Yeachen Kim, Kang-Min Kim, Ji-Min Lee and SangKeun Lee

*Urdu Word Segmentation using Conditional Random Fields (CRFs)*

Haris Bin Zia, Agha Ali Raza and Awais Athar

**Thursday 23rd August (continued)**

*ReSyf: a French lexicon with ranked synonyms*

Mokhtar Boumedyen BILLAMI, Thomas François and Nuria Gala

*If you've seen some, you've seen them all: Identifying variants of multiword expressions*

Caroline Pasquer, Agata Savary, Carlos Ramisch and Jean-Yves Antoine

*Learning Multilingual Topics from Incomparable Corpora*

Shudong Hao and Michael J. Paul

*Using Word Embeddings for Unsupervised Acronym Disambiguation*

Jean Charbonnier and Christian Wartena

*Indigenous language technologies in Canada: Assessment, challenges, and successes*

Patrick Littell, Anna Kazantseva, Roland Kuhn, Aidan Pine, Antti Arppe, Christopher Cox and Marie-Odile Junker

*Pluralizing Nouns across Agglutinating Bantu Languages*

Joan Byamugisha, C. Maria Keet and Brian DeRenzi

*Automatically Extracting Qualia Relations for the Rich Event Ontology*

Ghazaleh Kazeminejad, Claire Bonial, Susan Windisch Brown and Martha Palmer

*SeVeN: Augmenting Word Embeddings with Unsupervised Relation Vectors*

Luis Espinosa Anke and Steven Schockaert

*Evaluation of Unsupervised Compositional Representations*

Hanan Aldarmaki and Mona Diab

*Using Formulaic Expressions in Writing Assistance Systems*

Kenichi Iwatsuki and Akiko Aizawa

*What's in Your Embedding, And How It Predicts Task Performance*

Anna Rogers, Shashwath Hosur Ananthakrishna and Anna Rumshisky

*Word Sense Disambiguation Based on Word Similarity Calculation Using Word Vector Representation from a Knowledge-based Graph*

Dongsuk O, Sunjae Kwon, Kyungsun Kim and Youngjoong Ko

**Thursday 23rd August (continued)**

*Learning Semantic Sentence Embeddings using Sequential Pair-wise Discriminator*  
Badri Narayana Patro, Vinod Kumar Kurmi, Sandeep Kumar and Vinay Namboodiri

*A Reassessment of Reference-Based Grammatical Error Correction Metrics*  
Shamil Chollampatt and Hwee Tou Ng

*Information Aggregation via Dynamic Routing for Sequence Encoding*  
Jingjing Gong, Xipeng Qiu, Shaojing Wang and Xuanjing Huang

*A Full End-to-End Semantic Role Labeler, Syntactic-agnostic Over Syntactic-aware?*  
Jiaxun Cai, Shexia He, Zuchao Li and Hai Zhao

**15:20–15:50 Refreshment break**

**15:50–17:30 Session 3-3-a: Applications**

*Authorship Attribution By Consensus Among Multiple Features*  
Jagadeesh Patchala and Raj Bhatnagar

*Modeling with Recurrent Neural Networks for Open Vocabulary Slots*  
Jun-Seong Kim, Junghoe Kim, SeungUn Park, Kwangyong Lee and Yoonju Lee

*Challenges and Opportunities of Applying Natural Language Processing in Business Process Management*  
Han Van der Aa, Josep Carmona, Henrik Leopold, Jan Mendling and Lluís Padró

*Novelty Goes Deep. A Deep Neural Solution To Document Level Novelty Detection*  
Tirthankar Ghosal, Vignesh Edithal, Asif Ekbal, Pushpak Bhattacharyya, George Tsatsaronis and Srinivasa Satya Sameer Kumar Chivukula

*What represents "style" in authorship attribution?*  
Kalaivani Sundararajan and Damon Woodard

**Thursday 23rd August (continued)**

**15:50–17:30 Session 3-3-b: Distributional semantics**

*Learning Target-Specific Representations of Financial News Documents For Cumulative Abnormal Return Prediction*

Junwen Duan, Yue Zhang, Xiao Ding, Ching-Yun Chang and Ting Liu

*Model-Free Context-Aware Word Composition*

Bo An, Xianpei Han and Le Sun

*Learning Features from Co-occurrences: A Theoretical Analysis*

Yanpeng Li

*Towards a unified framework for bilingual terminology extraction of single-word and multi-word terms*

Jingshu Liu, Emmanuel Morin and Peña Saldarriaga

*Neural Activation Semantic Models: Computational lexical semantic models of localized neural activations*

Nikos Athanasiou, Elias Iosif and Alexandros Potamianos

**15:50–17:30 Session 3-3-c: Emotion**

*Folksonomication: Predicting Tags for Movies from Plot Synopses using Emotion Flow Encoded Neural Network*

Sudipta Kar, Suraj Maharjan and Thamar Solorio

*Emotion Representation Mapping for Automatic Lexicon Construction (Mostly) Performs on Human Level*

Sven Buechel and Udo Hahn

*Emotion Detection and Classification in a Multigenre Corpus with Joint Multi-Task Deep Learning*

Shabnam Tafreshi and Mona Diab

*How emotional are you? Neural Architectures for Emotion Intensity Prediction in Microblogs*

Devang Kulshreshtha, Pranav Goel and Anil Kumar Singh

*Expressively vulgar: The socio-dynamics of vulgarity and its effects on sentiment analysis in social media*

Isabel Cachola, Eric Holgate, Daniel Preoțiu-Pietro and Junyi Jessy Li

**Thursday 23rd August (continued)**

**15:50–17:30 Session 3-3-posters: ML, parsing, MT**

*Clausal Modifiers in the Grammar Matrix*

Kristen Howell and Olga Zamaraeva

*Sliced Recurrent Neural Networks*

Zeping Yu and Gongshen Liu

*Multi-Task Learning for Sequence Tagging: An Empirical Study*

Soravit Changpinyo, Hexiang Hu and Fei Sha

*Using J-K-fold Cross Validation To Reduce Variance When Tuning NLP Models*

Henry Moss, David Leslie and Paul Rayson

*Incremental Natural Language Processing: Challenges, Strategies, and Evaluation*

Arne Köhn

*Gold Standard Annotations for Preposition and Verb Sense with Semantic Role Labels in Adult-Child Interactions*

Lori Moon, Christos Christodoulopoulos, Fisher Cynthia, Sandra Franco and Dan Roth

*Multi-layer Representation Fusion for Neural Machine Translation*

Qiang Wang, Fuxue Li, Tong Xiao, Yanyang Li, Yinqiao Li and Jingbo Zhu

*Toward Better Loanword Identification in Uyghur Using Cross-lingual Word Embeddings*

Chenggang Mi, Yating Yang, Lei Wang, Xi Zhou and Tonghai Jiang

*Adaptive Weighting for Neural Machine Translation*

Yachao Li, Junhui Li and Min Zhang

*Generic refinement of expressive grammar formalisms with an application to discontinuous constituent parsing*

Kilian Gebhardt

*Double Path Networks for Sequence to Sequence Learning*

Kaitao Song, Xu Tan, Di He, Jianfeng Lu, Tao Qin and Tie-Yan Liu

**Thursday 23rd August (continued)**

*An Empirical Investigation of Error Types in Vietnamese Parsing*

Quy Nguyen, Yusuke Miyao, Hiroshi Noji and Nhung Nguyen

*Learning with Noise-Contrastive Estimation: Easing training by learning to scale*

Matthieu Labeau and Alexandre Allauzen

*Parallel Corpora for bi-lingual English-Ethiopian Languages Statistical Machine Translation*

Solomon Teferra Abate, Michael Melese, Martha Yifiru Tachbelie, Million Meshesha, Solomon Atinafu, Wondwossen Mulugeta, Yaregal Assibie, Hafte Abera, Binyam Ephrem, Tewodros Abebe, Wondimagegnhue Tsegaye, Amanuel Lemma, Tsegaye Andargie and Seifedin Shifaw

*Multilingual Neural Machine Translation with Task-Specific Attention*

Graeme Blackwood, Miguel Ballesteros and Todd Ward

*Combining Information-Weighted Sequence Alignment and Sound Correspondence Models for Improved Cognate Detection*

Johannes Dellert

*Tailoring Neural Architectures for Translating from Morphologically Rich Languages*

Peyman Passban, Andy Way and Qun Liu

*deepQuest: A Framework for Neural-based Quality Estimation*

Julia Ive, Frédéric Blain and Lucia Specia

*Butterfly Effects in Frame Semantic Parsing: impact of data processing on model ranking*

Alexandre Kabbach, Corentin Ribeyre and Aurélie Herbelot

*Sensitivity to Input Order: Evaluation of an Incremental and Memory-Limited Bayesian Cross-Situational Word Learning Model*

Sepideh Sadeghi and Matthias Scheutz

*Sentence Weighting for Neural Machine Translation Domain Adaptation*

Shiqi Zhang and Deyi Xiong

*Quantifying training challenges of dependency parsers*

Lauriane Aufrant, Guillaume Wisniewski and François Yvon

*Seq2seq Dependency Parsing*

Zuchao Li, Jiaxun Cai, Shexia He and Hai Zhao



## Thursday 23rd August (continued)

### *Revisiting the Hierarchical Multiscale LSTM*

Ákos Kádár, Marc-Alexandre Côté, Grzegorz Chrupała and Afra Alishahi

### *Character-Level Feature Extraction with Densely Connected Networks*

Chanhee Lee, Young-Bum Kim, Dongyub Lee and Heuseok Lim

### *Neural Machine Translation Incorporating Named Entity*

Arata Ugawa, Akihiro Tamura, Takashi Ninomiya, Hiroya Takamura and Manabu Okumura

### *Semantic Parsing for Technical Support Questions*

Abhirut Gupta, Anupama Ray, Gargi Dasgupta, Gautam Singh, Pooja Aggarwal and Prateeti Mohapatra

### *Deconvolution-Based Global Decoding for Neural Machine Translation*

Junyang Lin, Xu Sun, Xuancheng Ren, Shuming Ma, Jinsong Su and Qi Su

## Friday 24th August

**09:00–10:00** Invited talk: Min-Yen Kan

**10:00–10:30** Refreshment break

**10:30–12:30** Session 4-1-a: Question answering

### *Pattern-revising Enhanced Simple Question Answering over Knowledge Bases*

Yanchao Hao, Hao Liu, Shizhu He, Kang Liu and Jun Zhao

### *Integrating Question Classification and Deep Learning for improved Answer Selection*

Harish Tayyar Madabushi, Mark Lee and John Barnden

### *Knowledge as A Bridge: Improving Cross-domain Answer Selection with External Knowledge*

Yang Deng, Ying Shen, Min Yang, Yaliang Li, Nan Du, Wei Fan and Kai Lei

### *Modeling Semantics with Gated Graph Neural Networks for Knowledge Base Question Answering*

Daniil Sorokin and Iryna Gurevych

**Friday 24th August (continued)**

*Rethinking the Agreement in Human Evaluation Tasks*

Jacopo Amidei, Paul Piwek and Alistair Willis

*Dependent Gated Reading for Cloze-Style Question Answering*

Reza Ghaeini, Xiaoli Fern, Hamed Shahbazi and Prasad Tadepalli

**10:30–12:30 Session 4-1-b: Rumor**

*Automated Fact Checking: Task Formulations, Methods and Future Directions*

James Thorne and Andreas Vlachos

*Can Rumour Stance Alone Predict Veracity?*

Sebastian Dungs, Ahmet Aker, Norbert Fuhr and Kalina Bontcheva

*Attending Sentences to detect Satirical Fake News*

Sohan De Sarkar, Fan Yang and Arjun Mukherjee

*Predicting Stances from Social Media Posts using Factorization Machines*

Akira Sasaki, Kazuaki Hanawa, Naoaki Okazaki and Kentaro Inui

*Automatic Detection of Fake News*

Verónica Pérez-Rosas, Bennett Kleinberg, Alexandra Lefevre and Rada Mihalcea

*All-in-one: Multi-task Learning for Rumour Verification*

Elena Kochkina, Maria Liakata and Arkaitz Zubiaga

**Friday 24th August (continued)**

**10:30–12:30 Session 4-1-c: Second language, Biomedical**

*Open Information Extraction on Scientific Text: An Evaluation*

Paul Groth, Mike Lauruhn, Antony Scerri and Ron Daniel, Jr.

*Simple Algorithms For Sentiment Analysis On Sentiment Rich, Data Poor Domains.*

Prathusha K Sarma and William Sethares

*Word-Level Loss Extensions for Neural Temporal Relation Classification*

Artuur Leeuwenberg and Marie-Francine Moens

*Personalized Text Retrieval for Learners of Chinese as a Foreign Language*

Chak Yan Yeung and John Lee

*Punctuation as Native Language Interference*

Iliia Markov, Vivi Nastase and Carlo Strapparava

*Investigating Productive and Receptive Knowledge: A Profile for Second Language Learning*

Leonardo Zilio, Rodrigo Wilkens and Cédric Fairon

**10:30–12:30 Session 4-1-posters: Dialog, discourse, argumentation and applications**

*iParaphrasing: Extracting Visually Grounded Paraphrases via an Image*

Chenhui Chu, Mayu Otani and Yuta Nakashima

*MCDTB: A Macro-level Chinese Discourse TreeBank*

Feng Jiang, Sheng Xu, Xiaomin Chu, Peifeng Li, Qiaoming Zhu and Guodong Zhou

*Corpus-based Content Construction*

Balaji Vasani Srinivasan, Pranav Maneriker, Kundan Krishna and Natwar Modani

*Bridging resolution: Task definition, corpus resources and rule-based experiments*

Ina Roesiger, Arndt Riester and Jonas Kuhn

**Friday 24th August (continued)**

*Semi-Supervised Disfluency Detection*

Feng Wang, Wei Chen, Zhen Yang, Qianqian Dong, Shuang Xu and Bo Xu

*ISO-Standard Domain-Independent Dialogue Act Tagging for Conversational Agents*

Stefano Mezza, Alessandra Cervone, Evgeny Stepanov, Giuliano Tortoreto and Giuseppe Riccardi

*Arrows are the Verbs of Diagrams*

Malihe Alikhani and Matthew Stone

*Improving Feature Extraction for Pathology Reports with Precise Negation Scope Detection*

Olga Zamaraeva, Kristen Howell and Adam Rhine

*Bridge Video and Text with Cascade Syntactic Structure*

Guolong Wang, Zheng Qin, Kaiping Xu, Kai Huang and Shuxiong Ye

*Multi-task and Multi-lingual Joint Learning of Neural Lexical Utterance Classification based on Partially-shared Modeling*

Ryo Masumura, Tomohiro Tanaka, Ryuichiro Higashinaka, Hirokazu Masataki and Yushi Aono

*Source Critical Reinforcement Learning for Transferring Spoken Language Understanding to a New Language*

He Bai, Yu Zhou, Jiajun Zhang, Liang Zhao, Mei-Yuh Hwang and Chengqing Zong

*A Prospective-Performance Network to Alleviate Myopia in Beam Search for Response Generation*

Zongsheng Wang, Yunzhi Bai, Bowen Wu, Zhen Xu, Zhuoran Wang and Baoxun Wang

*Adaptive Multi-Task Transfer Learning for Chinese Word Segmentation in Medical Text*

Junjie Xing, Kenny Zhu and Shaodian Zhang

*Addressee and Response Selection for Multilingual Conversation*

Motoki Sato, Hiroki Ouchi and Yuta Tsuboi

*Graph Based Decoding for Event Sequencing and Coreference Resolution*

Zhengzhong Liu, Teruko Mitamura and Eduard Hovy

*DIDEC: The Dutch Image Description and Eye-tracking Corpus*

Emiel van Miltenburg, Ákos Kádár, Ruud Koolen and Emiel Krahmer

**Friday 24th August (continued)**

*Narrative Schema Stability in News Text*

Dan Simonson and Anthony Davis

*NIPS Conversational Intelligence Challenge 2017 Winner System: Skill-based Conversational Agent with Supervised Dialog Manager*

Idris Yusupov and Yurii Kuratov

*AMR Beyond the Sentence: the Multi-sentence AMR corpus*

Tim O’Gorman, Michael Regan, Kira Griffitt, Ulf Hermjakob, Kevin Knight and Martha Palmer

*Incorporating Argument-Level Interactions for Persuasion Comments Evaluation using Co-attention Model*

Lu Ji, Zhongyu Wei, Xiangkun Hu, Yang Liu, Qi Zhang and Xuanjing Huang

*Learning Visually-Grounded Semantics from Contrastive Adversarial Samples*

Haoyue Shi, Jiayuan Mao, Tete Xiao, Yuning Jiang and Jian Sun

*Structured Representation Learning for Online Debate Stance Prediction*

Chang Li, Aldo Porco and Dan Goldwasser

*Modeling Multi-turn Conversation with Deep Utterance Aggregation*

Zhuosheng Zhang, Jiangtong Li, Pengfei Zhu, Hai Zhao and Gongshen Liu

*Argumentation Synthesis following Rhetorical Strategies*

Henning Wachsmuth, Manfred Stede, Roxanne El Baff, Khalid Al Khatib, Maria Skeppstedt and Benno Stein

*A Dataset for Building Code-Mixed Goal Oriented Conversation Systems*

Suman Banerjee, Nikita Moghe, Siddhartha Arora and Mitesh M. Khapra

*Sequence-to-Sequence Learning for Task-oriented Dialogue with Dialogue State Representation*

Haoyang Wen, Yijia Liu, Wanxiang Che, Libo Qin and Ting Liu

*Incorporating Deep Visual Features into Multiobjective based Multi-view Search Results Clustering*

Sayantana Mitra, Mohammed Hasanuzzaman, Sriparna Saha and Andy Way

*Integrating Tree Structures and Graph Structures with Neural Networks to Classify Discussion Discourse Acts*

Yasuhide Miura, Ryuji Kano, Motoki Taniguchi, Tomoki Taniguchi, Shotaro Misawa and Tomoko Ohkuma

**Friday 24th August (continued)**

**12:30–14:00 Lunch**

**14:00–15:20 Session 4-2-bp: Best papers opening**

*AnlamVer: Semantic Model Evaluation Dataset for Turkish - Word Similarity and Relatedness*

Gökhan Ercan and Olcay Taner Yıldız

*Arguments and Adjuncts in Universal Dependencies*

Adam Przepiórkowski and Agnieszka Patejuk

*Distinguishing affixoid formations from compounds*

Josef Ruppenhofer, Michael Wiegand, Rebecca Wilm and Katja Markert

*A Survey on Open Information Extraction*

Christina Niklaus, Matthias Cetto, André Freitas and Siegfried Handschuh

**15:20–15:50 Refreshment break**

**15:50–17:10 Session 4-3-bp: Best papers closing**

*Design Challenges and Misconceptions in Neural Sequence Labeling*

Jie Yang, Shuailong Liang and Yue Zhang

*Neural Network Models for Paraphrase Identification, Semantic Textual Similarity, Natural Language Inference, and Question Answering*

Wuwei Lan and Wei Xu

*Authorless Topic Models: Biasing Models Away from Known Structure*

Laure Thompson and David Mimno

*SGM: Sequence Generation Model for Multi-label Classification*

Pengcheng Yang, Xu Sun, Wei Li, Shuming Ma, Wei Wu and Houfeng Wang

**Friday 24th August (continued)**

**17:10–17:25 Closing ceremony**

