EACL 2017

15th Conference of the European Chapter of the Association for Computational Linguistics

Proceedings of Conference, Volume 1: Long Papers

April 3-7, 2017
Valencia, Spain

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Preface: General Chair

Welcome to the EACL 2017, the 15th Conference of the European Chapter of the Association for Computational Linguistics! This is the largest ever EACL in terms of the number of papers being presented. We have a strong scientific program, including 14 workshops, six tutorials, a demos session, and a student research workshop. EACL received a record number of sumbissions this year, approximately 1,000 long and short papers combined, which reflects how broad and active our field is. We are also fortunate to have three excellent invited speakers: David Blei (University of Columbia), Devi Parikh (Virginia Tech), and Hinrch Schütze (LMU Munich). I hope that you will enjoy both the conference and Valencia.

I am deeply indebted to the Program Committee Chairs, Alexander Koller and Phil Blunsom, for their hard work. They put together a team of 27 area chairs who in turned assembled many reviewers and handled a large number of papers. The Workshop Chairs, Laura Rimmell and Richard Johansson, coordinated with the workshop chairs for ACL 2017 and EMNLP 2017 and succeeded in putting together an exciting and broad programme including 14 workshops. The student research workshop was organised by the student members of the EACL board — John Camilleri, Mariona Coll Ardanuy Uxoa Iñourrieta, and Florian Kunneman. With the help of Barbara Plank (Faculty advisor), they issued the call, organised a team of reviewers, assigned papers, coordinated and mediated among reviewers, and finally constructed a schedule consisting of 12 papers.

The Tutorial Chairs, Lucia Specia and Alexandre Klementiev, put together a very strong programme of six tutorials, which I hope many of us will attend. The publication chairs, Maria Liakata and Chris Biemann, have been short of amazing. They undertook the complex task of producing the conference proceedings and managed to make it seem easy, while being extremely thorough and paying attention to every detail. Chris Biemann deserves a double thank you for being Sponsorship Chair. Our demo chairs, Anselmo Peñas and André Martins, did a fantastic job selecting 30 demos for our demo session which I encourage you all to attend. I would also like to thank David Weir our publicity chair and the ACL business manager Priscilla Rassmussen, who knows more about our conferences than anyone else. Sincere thanks are due to the various sponsors for their generous contribution. I am grateful to all members of the EACL board for their advice and guidance, in particular to Lluís Márques and Walter Daelemans.

Last, but not least, this conference could not have taken place without the local organising committee who have worked tremendously hard to make EACL 2017 a success. The Local Chair, Paolo and Andrea Aldea from Groupo Pacifico, have brought together a fantastic local team and have dealt with many of the day-to-day tasks arising in organizing such a large conference expertly and efficiently.

I am always amazed by the dedication of our colleagues and their willingness to share knowledge and invest precious time in order to make our conferences a success. On that note, I would like to thank the authors who submitted their work to EACL and everyone else involved: area chairs, workshop organizers, tutorial presenters, reviewers, demo presenters, and participants of the conference.

Welcome to EACL 2017!

Mirella Lapata
General Chair

Preface: Programme Chairs

Welcome to the 15^{th} Conference of the European Chapter of the Association for Computational Linguistics! In these proceedings you will find all the papers accepted for presentation at the conference in Valencia from the 3^{rd} to the 7^{th} of April 2017. The main conference program consists of both oral and poster presentations and also includes additional presentations of papers from the Transaction of the Association for Computational Linguistics (TACL), posters from the Student Research Workshop, and two demonstration sessions.

We received considerably more paper submissions than previous meetings of the EACL: 441 Long Papers and 502 Short Papers (excluding papers withdrawn or rejected for incorrect formatting). The Short Paper deadline was set after that for Long Papers and it is notable that we received more submissions of Short than Long papers. After the commendable reviewing efforts of our Program Committee we accepted 119 Long Papers, 78 as oral presentations and 41 posters, and 120 Short Papers, 47 orals and 73 posters. Overall the acceptance rates where 27% and 24% for the Long and Short Paper tracks respectively. The EACL 2017 programme also contained the oral presentations of four papers published in TACL.

It would not have been possible to produce such a high quality programme without the amazing effort and dedication of our Program Committee. We would like to than all of those who served on the committee, which consisted of 27 Area Chairs and 612 Reviewers, drawn from a diverse range of fields and from both Europe and further afield. Each paper received at least three reviews. We selected the final programme based on the recommendations of the Area Chairs and reviewers, while aiming to ensure the representation of a wide variety of research areas. The Area Chairs were each asked to nominate candidate papers for the Outstanding Papers sessions, of which the Programme Chairs and General Chair selected three Long Papers and one Short Paper. These were allocated extra time in the programme for their oral presentations.

Following the precedent set at ACL 2016, we decided to allocate Long Paper and Short Paper oral presentations 20 minute and 15 minute slots respectively, including time for questions and changing speakers. While this shorter scheduling requires presenters to be more concise in their presentation, it allowed us to accommodate a larger program of talks in the space available at the venue.

In addition to the main conference programme, a Student Research Workshop was held which selected 12 papers for presentation as posters, and two demonstration sessions were held during the evening poster sessions. We are particularly grateful to our three distinguished invited speakers, Devi Parikh (Georgia Tech), David Blei (Columbia University), and Hinrich Schütze (LMU Munich). They represent the amazing diversity of contemporary research being conducted across Computational Linguistics, Artificial Intelligence, and Machine Learning.

In total the programme contains 126 talks and 126 posters, making this the largest EACL conference by a considerable margin. Firstly this would not be possible without the authors who chose to submit there research papers for publication at EACL, and we thank them for choosing our conference. Obviously coordinating such a programme requires contributions from many people beyond the Programme Chairs. We would like to thank our Area Chairs who ensured the smooth running of the two reviewing cycles. We are also thankful for the support we received from the rest of the organising committee, including the Publication Chairs, Local Organisers, Workshop Chairs, Tutorial Chairs, Demo Chairs, the Handbook Chair, and the Student Research Workshop Chair, all listed in full later in the proceedings. We are also grateful for the technical support received form the START team. We would like to thank the Programme Chairs for ACL 2016, Katrin Erk and Noah Smith, who generously provided many insights and tips from their own experience to help us avoid pitfalls and ensure the smooth running of the reviewing process. Finally, we are thankful to have been blessed with an exceptionally calm and organised General Chair in Mirella Lapata, who ensured the smooth running of the organising process and the ultimate success of

this conference.

We hope you enjoy EACL 2017 in Valencia!

Phil Blunsom and Alexander Koller
EACL 2017 Programme Chairs

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Invited Speakers:

David Blei, Columbia University
Devi Parikh, Virginia Tech
Hinrich Schütze, LMU Munich

Invited Talk: David Blei

Title: Probabilistic Topic Models and User Behavior

Topic modeling algorithms analyze a document collection to estimate its latent thematic structure. However, many collections contain an additional type of data: how people use the documents. For example, readers click on articles in a newspaper website, scientists place articles in their personal libraries, and lawmakers vote on a collection of bills. Behavior data is essential both for making predictions about users (such as for a recommendation system) and for understanding how a collection and its users are organized.

I will review the basics of topic modeling and describe our recent research on collaborative topic models, models that simultaneously analyze a collection of texts and its corresponding user behavior. We studied collaborative topic models on 80,000 scientists' libraries from Mendeley and 100,000 users' click data from the arXiv. Collaborative topic models enable interpretable recommendation systems, capturing scientists' preferences and pointing them to articles of interest. Further, these models can organize the articles according to the discovered patterns of readership. For example, we can identify articles that are important within a field and articles that transcend disciplinary boundaries.

Biography:
David Blei is a Professor of Statistics and Computer Science at Columbia University, and a member of the Columbia Data Science Institute. His research is in statistical machine learning, involving probabilistic topic models, Bayesian nonparametric methods, and approximate posterior inference algorithms for massive data. He works on a variety of applications, including text, images, music, social networks, user behavior, and scientific data. David has received several awards for his research, including a Sloan Fellowship (2010), Office of Naval Research Young Investigator Award (2011), Presidential Early Career Award for Scientists and Engineers (2011), Blavatnik Faculty Award (2013), and ACM-Infosys Foundation Award (2013). He is a fellow of the ACM.

Invited Talk: Devi Parikh

Title: Words, Pictures, and Common Sense

Wouldn't it be nice if machines could understand content in images and communicate this understanding as effectively as humans? Such technology would be immensely powerful, be it for aiding a visually-impaired user navigate a world built by the sighted, assisting an analyst in extracting relevant information from a surveillance feed, educating a child playing a game on a touch screen, providing information to a spectator at an art gallery, or interacting with a robot. As computer vision and natural language processing techniques are maturing, we are closer to achieving this dream than we have ever been.

Visual Question Answering (VQA) is one step in this direction. Given an image and a natural language question about the image (e.g., "What kind of store is this?", "How many people are waiting in the queue?", "Is it safe to cross the street?"), the machine's task is to automatically produce an accurate natural language answer ("bakery", "5", "Yes"). In this talk, I will present our dataset, some neural models, and open research questions in free-form and open-ended Visual Question Answering (VQA). I will also show a teaser about the next step moving forward: Visual Dialog. Instead of answering individual questions about an image in isolation, can we build machines that can hold a sequential natural language conversation with humans about visual content?

While machines are getting better at superficially connecting words to pictures, interacting with them quickly reveals that they lack a certain common sense about the world we live in. Common sense is a key ingredient in building intelligent machines that make "human-like" decisions when performing tasks – be it automatically answering natural language questions, or understanding images and videos. How can machines learn this common sense? While some of this knowledge is explicitly stated in human-generated text (books, articles, blogs, etc.), much of this knowledge is unwritten. While unwritten, it is not unseen! The visual world around us is full of structure bound by commonsense laws. But machines today cannot learn common sense directly by observing our visual world because they cannot accurately perform detailed visual recognition in images and videos. We argue that one solution is to give up on photorealism. We propose to leverage abstract scenes – cartoon scenes made from clip art by crowd sourced humans – to teach our machines common sense. I will demonstrate how knowledge learnt from this abstract world can be used to solve commonsense textual tasks.

Biography:
Devi Parikh is an Assistant Professor in the School of Interactive Computing at Georgia Tech, and a Visiting Researcher at Facebook AI Research (FAIR). From 2013 to 2016, she was an Assistant Professor in the Bradley Department of Electrical and Computer Engineering at Virginia Tech. From 2009 to 2012, she was a Research Assistant Professor at Toyota Technological Institute at Chicago (TTIC), an academic computer science institute affiliated with University of Chicago. She has held visiting positions at Cornell University, University of Texas at Austin, Microsoft Research, MIT, and Carnegie Mellon University. She received her M.S. and Ph.D. degrees from the Electrical and Computer Engineering department at Carnegie Mellon University in 2007 and 2009 respectively. She received her B.S. in Electrical and Computer Engineering from Rowan University in 2005. Her research interests include computer vision and AI in general and visual recognition problems in particular. Her recent work involves exploring problems at the intersection of vision and language, and leveraging human-machine collaboration for building smarter machines. She has also worked on other topics such as ensemble of classifiers, data fusion, inference in probabilistic models, 3D reassembly, barcode segmentation, computational photography, interactive computer vision, contextual reasoning, hierarchical representations of images, and human-debugging. She is a recipient of an NSF CAREER award, a Sloan Research Fellowship, an Office of Naval Research (ONR) Young Investigator Program (YIP) award, an Army Research Office (ARO) Young Investigator Program (YIP) award, an Allen Distinguished Investigator Award in Artificial Intelligence from the Paul G. Allen Family Foundation, four Google Faculty Research Awards,

an Amazon Academic Research Award, an Outstanding New Assistant Professor award from the College of Engineering at Virginia Tech, a Rowan University Medal of Excellence for Alumni Achievement, Rowan University's 40 under 40 recognition, and a Marr Best Paper Prize awarded at the International Conference on Computer Vision (ICCV).

Invited Talk: Hinrich Schütze

Title: Don't cram two completely different meanings into a single !&??@#^$% vector! Or should you?

It is tempting to interpret a high-dimensional embedding space cartographically, i.e., as a map each point of which represents a distinct identifiable meaning – just as cities and mountains on a real map represent distinct identifiable geographic locations. On this interpretation, ambiguous words pose a problem: how can two completely different meanings be in the same location? Instead of learning a single embedding for an ambiguous word, should we rather learn a different embedding for each of its senses (as has often been proposed)? In this talk, I will take a fresh look at this question, drawing on simulations with pseudowords, sentiment analysis experiments, psycholinguistics and – if time permits – lexicography.

Biography:
Hinrich Schütze is professor of computational linguistics and director of the Center for Information and Language Processing at LMU Munich. He received his PhD from Stanford University's Department of Linguistics in 1995 and worked on natural language processing and information retrieval technology at Xerox PARC, at several Silicon Valley startups and at Google 1995-2004 and 2008/9. He coauthored Foundations of Statistical Natural Language Processing (with Chris Manning) and Introduction to Information Retrieval (with Chris Manning and Prabhakar Raghavan). His research is motivated by a fundamental question that computational linguists face today: Is domain knowledge about language dispensable (as many in deep learning seem to believe) or can linguistics and statistical NLP learn and benefit from each other?

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Wednesday, April 5, 2017

9:30–10:50 ***Invited talk: David Blei***

10:50–11:20 ***Coffee break***

Session 1A: Machine Learning

11:20–11:40 *Gated End-to-End Memory Networks*
Fei Liu and Julien Perez

11:40–12:00 *Neural Tree Indexers for Text Understanding*
Tsendsuren Munkhdalai and Hong Yu

12:00–12:20 *Exploring Different Dimensions of Attention for Uncertainty Detection*
Heike Adel and Hinrich Schütze

12:20–12:40 *Classifying Illegal Activities on Tor Network Based on Web Textual Contents*
Mhd Wesam Al Nabki, Eduardo Fidalgo, Enrique Alegre and Ivan de Paz

12:40–13:00 *When is multitask learning effective? Semantic sequence prediction under varying data conditions*
Héctor Martínez Alonso and Barbara Plank

Session 1B: Lexical Semantics

11:20–11:40 *Learning Compositionality Functions on Word Embeddings for Modelling Attribute Meaning in Adjective-Noun Phrases*
Matthias Hartung, Fabian Kaupmann, Soufian Jebbara and Philipp Cimiano

11:40–12:00 *Hypernyms under Siege: Linguistically-motivated Artillery for Hypernymy Detection*
Vered Shwartz, Enrico Santus and Dominik Schlechtweg

12:00–12:20 *Distinguishing Antonyms and Synonyms in a Pattern-based Neural Network*
Kim Anh Nguyen, Sabine Schulte im Walde and Ngoc Thang Vu

12:20–12:40 *Unsupervised Does Not Mean Uninterpretable: The Case for Word Sense Induction and Disambiguation*
Alexander Panchenko, Eugen Ruppert, Stefano Faralli, Simone Paolo Ponzetto and Chris Biemann

12:40–13:00 *Word Sense Disambiguation: A Unified Evaluation Framework and Empirical Comparison*
Alessandro Raganato, Jose Camacho-Collados and Roberto Navigli

Session 1C: Information Retrieval and Information Extraction

11:20–11:40 *Which is the Effective Way for Gaokao: Information Retrieval or Neural Networks?*
Shangmin Guo, Xiangrong Zeng, Shizhu He, Kang Liu and Jun Zhao

11:40–12:00 *If You Can't Beat Them Join Them: Handcrafted Features Complement Neural Nets for Non-Factoid Answer Reranking*
Dasha Bogdanova, Jennifer Foster, Daria Dzendzik and Qun Liu

12:00–12:20 *Chains of Reasoning over Entities, Relations, and Text using Recurrent Neural Networks*
Rajarshi Das, Arvind Neelakantan, David Belanger and Andrew McCallum

12:20–12:40 *Recognizing Mentions of Adverse Drug Reaction in Social Media Using Knowledge-Infused Recurrent Models*
Gabriel Stanovsky, Daniel Gruhl and Pablo Mendes

12:40–13:00 *Multitask Learning for Mental Health Conditions with Limited Social Media Data*
Adrian Benton, Margaret Mitchell and Dirk Hovy

Wednesday, April 5, 2017 (continued)

Session 1D: Evaluation

11:20–11:40 *Evaluation by Association: A Systematic Study of Quantitative Word Association Evaluation*
Ivan Vulić, Douwe Kiela and Anna Korhonen

11:40–12:00 *Computational Argumentation Quality Assessment in Natural Language*
Henning Wachsmuth, Nona Naderi, Yufang Hou, Yonatan Bilu, Vinodkumar Prabhakaran, Tim Alberdingk Thijm, Graeme Hirst and Benno Stein

12:00–12:20 *A method for in-depth comparative evaluation: How (dis)similar are outputs of pos taggers, dependency parsers and coreference resolvers really?*
Don Tuggener

12:20–12:40 *Re-evaluating Automatic Metrics for Image Captioning*
Mert Kilickaya, Aykut Erdem, Nazli Ikizler-Cinbis and Erkut Erdem

12:40–13:00 *Integrating Meaning into Quality Evaluation of Machine Translation*
Osman Baskaya, Eray Yildiz, Doruk Tunaoglu, Mustafa Tolga Eren and A. Seza Dogruoz

13:00–14:30 ***Lunch***

Session 2A: Parsing 1

14:30–14:50 *Cross-Lingual Dependency Parsing with Late Decoding for Truly Low-Resource Languages*
Michael Schlichtkrull and Anders Søgaard

14:50–15:10 *Parsing Universal Dependencies without training*
Héctor Martínez Alonso, Željko Agić, Barbara Plank and Anders Søgaard

15:10–15:30 *Delexicalized Word Embeddings for Cross-lingual Dependency Parsing*
Mathieu Dehouck and Pascal Denis

Wednesday, April 5, 2017 (continued)

Session 2B: Social Media 1

14:30–14:50 *Stance Classification of Context-Dependent Claims*
Roy Bar-Haim, Indrajit Bhattacharya, Francesco Dinuzzo, Amrita Saha and Noam Slonim

14:50–15:10 *Exploring the Impact of Pragmatic Phenomena on Irony Detection in Tweets: A Multilingual Corpus Study*
Jihen Karoui, Benamara Farah, Véronique Moriceau, Viviana Patti, Cristina Bosco and Nathalie Aussenac-Gilles

15:10–15:30 *A Multi-View Sentiment Corpus*
Debora Nozza, Elisabetta Fersini and Enza Messina

Session 2C: Discourse and Dialogue

14:30–14:50 *A Systematic Study of Neural Discourse Models for Implicit Discourse Relation*
Attapol Rutherford, Vera Demberg and Nianwen Xue

14:50–15:10 *Cross-lingual RST Discourse Parsing*
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15:10–15:30 *Dialog state tracking, a machine reading approach using Memory Network*
Julien Perez and Fei Liu

Session 2D: Segmentation

14:30–14:50 *Sentence Segmentation in Narrative Transcripts from Neuropsychological Tests using Recurrent Convolutional Neural Networks*
Marcos Treviso, Christopher Shulby and Sandra Aluísio

14:50–15:10 *Joint, Incremental Disfluency Detection and Utterance Segmentation from Speech*
Julian Hough and David Schlangen

15:10–15:30 *From Segmentation to Analyses: a Probabilistic Model for Unsupervised Morphology Induction*
Toms Bergmanis and Sharon Goldwater

15:30–16:00 ***Coffee break***

Wednesday, April 5, 2017 (continued)

16:00–17:15 ***Session 3A: Syntax and Machine Learning (See Vol.2, SP)***

16:00–17:30 ***Session 3B: Generation, Summarisation, and QA (See Vol.2, SP)***

16:00–17:30 ***Session 3C: Semantics (See Vol.2, SP)***

16:00–17:15 ***Session 3D: Morphology and Psycholinguistics (See Vol.2, SP)***

17:30–19:30 ***Long Posters 1***

Long Posters 1

Creating POS Tagging and Dependency Parsing Experts via Topic Modeling
Atreyee Mukherjee, Sandra Kübler and Matthias Scheutz

Universal Dependencies and Morphology for Hungarian - and on the Price of Universality
Veronika Vincze, Katalin Simkó, Zsolt Szántó and Richárd Farkas

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Online Automatic Post-editing for MT in a Multi-Domain Translation Environment
Rajen Chatterjee, Gebremedhen Gebremelak, Matteo Negri and Marco Turchi

17:30–19:30 ***Short Posters 1***

17.30–19.30 ***Student Research Workshop (See Vol.4, SRW)***

Wednesday, April 5, 2017 (continued)

17:30–19:30 ***Demos (See Vol.3, Demos)***

Thursday, April 6, 2017

9:30–10:50 ***Invited talk: Devi Parikh***

10:50–11:20 ***Coffee break***

11:20–12:40 ***Session 4A: TACL***

Session 4B: Semantic Analysis

11:20–11:40 *An Incremental Parser for Abstract Meaning Representation*
Marco Damonte, Shay B. Cohen and Giorgio Satta

11:40–12:00 *Integrated Learning of Dialog Strategies and Semantic Parsing*
Aishwarya Padmakumar, Jesse Thomason and Raymond J. Mooney

12:00–12:20 *Unsupervised AMR-Dependency Parse Alignment*
Wei-Te Chen and Martha Palmer

12:20–12:40 *Improving Chinese Semantic Role Labeling using High-quality Surface and Deep Case Frames*
Gongye Jin, Daisuke Kawahara and Sadao Kurohashi

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Session 4C: Knowledge Bases

11:20–11:40 *Multi-level Representations for Fine-Grained Typing of Knowledge Base Entities*
Yadollah Yaghoobzadeh and Hinrich Schütze

11:40–12:00 *The ContrastMedium Algorithm: Taxonomy Induction From Noisy Knowledge Graphs With Just A Few Links*
Stefano Faralli, Alexander Panchenko, Chris Biemann and Simone Paolo Ponzetto

12:00–12:20 *Probabilistic Inference for Cold Start Knowledge Base Population with Prior World Knowledge*
Bonan Min, Marjorie Freedman and Talya Meltzer

12:20–12:40 *Generalizing to Unseen Entities and Entity Pairs with Row-less Universal Schema*
Patrick Verga, Arvind Neelakantan and Andrew McCallum

Session 4D: Generation

11:20–11:40 *Learning to Generate Product Reviews from Attributes*
Li Dong, Shaohan Huang, Furu Wei, Mirella Lapata, Ming Zhou and Ke Xu

11:40–12:00 *Learning to generate one-sentence biographies from Wikidata*
Andrew Chisholm, Will Radford and Ben Hachey

12:00–12:20 *Transition-Based Deep Input Linearization*
Ratish Puduppully, Yue Zhang and Manish Shrivastava

12:20–12:40 *Generating flexible proper name references in text: Data, models and evaluation*
Thiago Castro Ferreira, Emiel Krahmer and Sander Wubben

13:00–14:30 ***Lunch***

Session 5A: Parsing 2 and Pyscholinguistics

14:30–14:50 *Dependency Parsing as Head Selection*
Xingxing Zhang, Jianpeng Cheng and Mirella Lapata

14:50–15:10 *Tackling Error Propagation through Reinforcement Learning: A Case of Greedy Dependency Parsing*
Minh Le and Antske Fokkens

15:10–15:30 *Noisy-context surprisal as a human sentence processing cost model*
Richard Futrell and Roger Levy

Session 5B: Entailment

14:30–14:50 *Task-Specific Attentive Pooling of Phrase Alignments Contributes to Sentence Matching*
Wenpeng Yin and Hinrich Schütze

14:50–15:10 *On-demand Injection of Lexical Knowledge for Recognising Textual Entailment*
Pascual Martínez-Gómez, Koji Mineshima, Yusuke Miyao and Daisuke Bekki

15:10–15:30 *Learning to Predict Denotational Probabilities For Modeling Entailment*
Alice Lai and Julia Hockenmaier

Session 5C: Social Media 2

14:30–14:50 *A Societal Sentiment Analysis: Predicting the Values and Ethics of Individuals by Analysing Social Media Content*
Tushar Maheshwari, Aishwarya N. Reganti, Samiksha Gupta, Anupam Jamatia, Upendra Kumar, Björn Gambäck and Amitava Das

14:50–15:10 *Argument Strength is in the Eye of the Beholder: Audience Effects in Persuasion*
Stephanie Lukin, Pranav Anand, Marilyn Walker and Steve Whittaker

15:10–15:30 *A Language-independent and Compositional Model for Personality Trait Recognition from Short Texts*
Fei Liu, Julien Perez and Scott Nowson

Thursday, April 6, 2017 (continued)

Session 5D: Word Representations

14:30–14:50 *A Strong Baseline for Learning Cross-Lingual Word Embeddings from Sentence Alignments*
Omer Levy, Anders Søgaard and Yoav Goldberg

14:50–15:10 *Online Learning of Task-specific Word Representations with a Joint Biconvex Passive-Aggressive Algorithm*
Pascal Denis and Liva Ralaivola

15:10–15:30 *Nonsymbolic Text Representation*
Hinrich Schütze

16:00–17:30 ***Session 6A: Machine Translation (See Vol.2, SP)***

16:00–17:30 ***Session 6B: Word Embeddings (See Vol.2, SP)***

16:00–17:30 ***Session 6C: Document Analysis (See Vol.2, SP)***

16:00–17:15 ***Session 6D: Dialogue (See Vol.2, SP)***

17:30–19:30 ***Long Posters 2***

Long Posters 2

Fine-Grained Entity Type Classification by Jointly Learning Representations and Label Embeddings
Abhishek Abhishek, Ashish Anand and Amit Awekar

Event extraction from Twitter using Non-Parametric Bayesian Mixture Model with Word Embeddings
Deyu Zhou, Xuan Zhang and Yulan He

End-to-end Relation Extraction using Neural Networks and Markov Logic Networks
Sachin Pawar, Pushpak Bhattacharyya and Girish Palshikar

Trust, but Verify! Better Entity Linking through Automatic Verification
Benjamin Heinzerling, Michael Strube and Chin-Yew Lin

Named Entity Recognition in the Medical Domain with Constrained CRF Models
Charles Jochim and Lea Deleris

Learning and Knowledge Transfer with Memory Networks for Machine Comprehension
Mohit Yadav, Lovekesh Vig and Gautam Shroff

If No Media Were Allowed inside the Venue, Was Anybody Allowed?
Zahra Sarabi and Eduardo Blanco

Metaheuristic Approaches to Lexical Substitution and Simplification
Sallam Abualhaija, Tristan Miller, Judith Eckle-Kohler, Iryna Gurevych and Karl-Heinz Zimmermann

Paraphrasing Revisited with Neural Machine Translation
Jonathan Mallinson, Rico Sennrich and Mirella Lapata

Multilingual Training of Crosslingual Word Embeddings
Long Duong, Hiroshi Kanayama, Tengfei Ma, Steven Bird and Trevor Cohn

Building Lexical Vector Representations from Concept Definitions
Danilo Silva de Carvalho and Minh Le Nguyen

ShotgunWSD: An unsupervised algorithm for global word sense disambiguation inspired by DNA sequencing
Andrei Butnaru, Radu Tudor Ionescu and Florentina Hristea

LanideNN: Multilingual Language Identification on Text Stream
Tom Kocmi and Ondřej Bojar

Cross-Lingual Word Embeddings for Low-Resource Language Modeling
Oliver Adams, Adam Makarucha, Graham Neubig, Steven Bird and Trevor Cohn

Consistent Translation of Repeated Nouns using Syntactic and Semantic Cues
Xiao Pu, Laura Mascarell and Andrei Popescu-Belis

Psycholinguistic Models of Sentence Processing Improve Sentence Readability Ranking
David M. Howcroft and Vera Demberg

Web-Scale Language-Independent Cataloging of Noisy Product Listings for E-Commerce
Pradipto Das, Yandi Xia, Aaron Levine, Giuseppe Di Fabbrizio and Ankur Datta

Recognizing Insufficiently Supported Arguments in Argumentative Essays
Christian Stab and Iryna Gurevych

Distributed Document and Phrase Co-embeddings for Descriptive Clustering
Motoki Sato, Austin J. Brockmeier, Georgios Kontonatsios, Tingting Mu, John Y. Goulermas, Jun'ichi Tsujii and Sophia Ananiadou

SMARTies: Sentiment Models for Arabic Target entities
Noura Farra and Kathy McKeown

Exploring Convolutional Neural Networks for Sentiment Analysis of Spanish tweets
Isabel Segura-Bedmar, Antonio Quiros and Paloma Martínez

Contextual Bidirectional Long Short-Term Memory Recurrent Neural Network Language Models: A Generative Approach to Sentiment Analysis
Amr Mousa and Björn Schuller

Large-scale Opinion Relation Extraction with Distantly Supervised Neural Network
Changzhi Sun, Yuanbin Wu, Man Lan, Shiliang Sun and Qi Zhang

17:30–19:30 ***Short Posters 2 (See Vol.2, SP)***

17:30–19:30 ***Demos (See Vol.3, Demos)***

Friday, April 7, 2017

9:30–10:50 ***Invited talk: Hinrich Schütze***

10:50–11:20 ***Coffee break***

Session 7A: Machine Translation and Multilinguality

11:20–11:40 *Decoding with Finite-State Transducers on GPUs*
Arturo Argueta and David Chiang

11:40–12:00 *Learning to Translate in Real-time with Neural Machine Translation*
Jiatao Gu, Graham Neubig, Kyunghyun Cho and Victor O.K. Li

12:00–12:20 *A Multifaceted Evaluation of Neural versus Phrase-Based Machine Translation for 9 Language Directions*
Antonio Toral and Víctor M. Sánchez-Cartagena

12:20–12:40 *Personalized Machine Translation: Preserving Original Author Traits*
Ella Rabinovich, Raj Nath Patel, Shachar Mirkin, Lucia Specia and Shuly Wintner

12:40–13:00 *Bilingual Lexicon Induction by Learning to Combine Word-Level and Character-Level Representations*
Geert Heyman, Ivan Vulić and Marie-Francine Moens

Session 7B: Document Analysis

11:20–11:40 *Grouping business news stories based on salience of named entities*
Llorenc Escoter, Lidia Pivovarova, Mian Du, Anisia Katinskaia and Roman Yangarber

11:40–12:00 *Very Deep Convolutional Networks for Text Classification*
Alexis Conneau, Holger Schwenk, Loïc Barrault and Yann Lecun

12:00–12:20 *"PageRank" for Argument Relevance*
Henning Wachsmuth, Benno Stein and Yamen Ajjour

12:20–12:40 *Predicting Counselor Behaviors in Motivational Interviewing Encounters*
Verónica Pérez-Rosas, Rada Mihalcea, Kenneth Resnicow, Satinder Singh, Lawrence Ann, Kathy J. Goggin and Delwyn Catley

12:40–13:00 *Authorship Attribution Using Text Distortion*
Efstathios Stamatatos

Session 7C: Entity and Relation Extraction

11:20–11:40 *Structured Learning for Temporal Relation Extraction from Clinical Records*
Artuur Leeuwenberg and Marie-Francine Moens

11:40–12:00 *Entity Extraction in Biomedical Corpora: An Approach to Evaluate Word Embedding Features with PSO based Feature Selection*
Shweta Yadav, Asif Ekbal, Sriparna Saha and Pushpak Bhattacharyya

12:00–12:20 *Distant Supervision for Relation Extraction beyond the Sentence Boundary*
Chris Quirk and Hoifung Poon

12:20–12:40 *Noise Mitigation for Neural Entity Typing and Relation Extraction*
Yadollah Yaghoobzadeh, Heike Adel and Hinrich Schütze

Friday, April 7, 2017 (continued)

Session 7D: Historical and Literary Language

11:20–11:40 *Analyzing Semantic Change in Japanese Loanwords*
Hiroya Takamura, Ryo Nagata and Yoshifumi Kawasaki

11:40–12:00 *Using support vector machines and state-of-the-art algorithms for phonetic alignment to identify cognates in multi-lingual wordlists*
Gerhard Jäger, Johann-Mattis List and Pavel Sofroniev

12:00–12:20 *A Multi-task Approach to Predict Likability of Books*
Suraj Maharjan, John Arevalo, Manuel Montes, Fabio A. González and Thamar Solorio

12:20–12:40 *A Data-Oriented Model of Literary Language*
Andreas van Cranenburgh and Rens Bod

12:40–13:00 *Aye or naw, whit dae ye hink? Scottish independence and linguistic identity on social media*
Philippa Shoemark, Debnil Sur, Luke Shrimpton, Iain Murray and Sharon Goldwater

13:00–14:30 ***Lunch***

14:30–15:30 ***Business Meeting***

15:30–16:00 ***Coffee break***

Session 8A: Outstanding Papers 1

16:00–16:25 *What Do Recurrent Neural Network Grammars Learn About Syntax?*
Adhiguna Kuncoro, Miguel Ballesteros, Lingpeng Kong, Chris Dyer, Graham Neubig and Noah A. Smith

16:25–16:50 ***Best Short Paper (See Vol.2, SP)***

Session 8B: Outstanding Papers 2

16:00–16:25 *Incremental Discontinuous Phrase Structure Parsing with the GAP Transition*
Maximin Coavoux and Benoit Crabbé

16:25–16:50 *Neural Architectures for Fine-grained Entity Type Classification*
Sonse Shimaoka, Pontus Stenetorp, Kentaro Inui and Sebastian Riedel

16:55–17:10 ***Closing Session***