



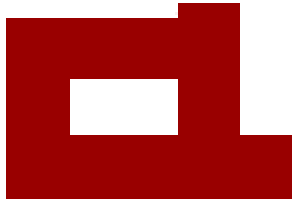
***SEM 2017: The Sixth Joint Conference on
Lexical and Computational Semantics**

Proceedings of the Conference

August 3-4, 2017
Vancouver, Canada

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The Association for Computational Linguistics



Lexical  Computing



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Introduction

Preface by the General Chair

The 2017 edition of *SEM, the 6th in the annual series, took on as its theme “representations of meaning”, an area of acute interest in the field for the past several years. The conference program shows that this year’s *SEM has been especially successful in covering its theme from a broad range of perspectives, including various flavors of distributional, lexical, and formal/linguistic semantics. Thus, the 2017 conference meets the overall goal of the *SEM series, by bridging across relatively independent communities approaching the computational modeling of semantics from different angles. Hopefully, the diversity of the program will provide not only something of interest to a broad audience of NLP researchers, but also serve to stimulate new ideas and synergies that can significantly impact the field.

As always, *SEM would not have been possible without the active involvement of our community. Aside from our dedicated program committee, to whom we give an extended acknowledgement further in this introduction, we are very thankful to Eduardo Blanco (Publicity Chair) and Sandro Pezzelle (Publication Chair) for their efficiency and hard work in making the conference a visible event, from website to proceedings. We are particularly grateful to ACL SIGLEX, who made it possible to offer two exciting keynotes, and to SIGLEX and Lexical Computing for supporting the annual Adam Kilgarriff Award for the best paper at *SEM 2017. Our keynote speakers, Yejin Choi and Katrin Erk, are owed special thanks for taking part in the selection of the best paper.

On behalf of the Program Committee Chairs, to whom we owe the greatest debt for the excellence of the program, and myself as General Chair, I invite you to explore, exploit, and enjoy the diversity of perspectives on the computational modeling of semantics that *SEM 2017 strives to provide.

Nancy Ide,
General Chair of *SEM 2017

Preface by the Program Chairs

We are pleased to present this volume containing the papers accepted at the Sixth Joint Conference on Lexical and Computational Semantics (*SEM 2017, co-located with ACL in Vancouver, Canada, on August 3-4, 2017).

*SEM received a record number of submissions this year, which allowed us to compile a diverse and high-quality program. The number of submissions was over one hundred (107). After we had discarded some papers due to formal issues, 101 papers were reviewed for the conference, (52 long and 49 short). Out of these, 36 papers were accepted (22 long, 14 short). Thus, the acceptance rate was 35.6% overall, 42.3% for the long papers and 28.6% for the short submissions. Some of the papers were withdrawn after acceptance, due to multiple submissions to other conferences (the 2017 schedule was particularly complicated, with significant intersection of *SEM with EMNLP, CoNLL, IWCS and other venues). The final number of papers in the program is 30.

Submissions were reviewed in 9 different areas: Representations of Meaning (special topic of interest), Distributional Semantics, Semantics for Applications, Lexical Semantics, Lexical Resources and Ontologies, Discourse and Dialogue, Semantic Parsing and Semantic Role Labeling, Multimodal Semantics, Formal and Linguistic Semantics. The most prolific areas were Distributional Semantics (19 submitted papers), Representations of Meaning (15), and Semantics for Applications (15).

The papers were evaluated by a program committee of 14 area chairs from Asia, Europe and North America, assisted by a panel of 167 reviewers. Each submission was reviewed by three reviewers, who were furthermore encouraged to discuss any divergence in evaluation. The papers in each area were subsequently ranked by the area chairs. The final selection was made by the program co-chairs after an independent check of all reviews and discussion with the area chairs. Reviewers' recommendations were also used to shortlist a set of papers nominated for the Adam Kilgarriff Award. These papers were judged by a committee chaired by Nancy Ide.

The final *SEM 2017 program consists of 17 oral presentations and 13 posters, as well as two keynote talks by Yejin Choi ("From Naive Physics to Connotation: Modeling Commonsense in Frame Semantics", joint keynote with SemEval 2017) and Katrin Erk ("What do you know about an alligator when you know the company it keeps?").

We are deeply thankful to all area chairs and reviewers for their help in the selection of the program, for their readiness in engaging in thoughtful discussions about individual papers, and for providing valuable feedback to the authors. We are also grateful to Eduardo Blanco for his precious help in publicizing the conference, and to Sandro Pezzelle for his dedication and thoroughness in turning the program into the proceedings you now have under your eyes. Last but not least, we are indebted to our General Chair, Nancy Ide, for her continuous guidance and support throughout the process of organizing this installment of *SEM.

We hope you enjoy the conference!

Aurélie Herbelot & Lluís Màrquez,
Program Co-Chairs of *SEM 2017

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Invited Talk: From Naive Physics to Connotation: Modeling Commonsense in Frame Semantics

Yejin Choi

(Joint Invited Speaker with SemEval 2017)

University of Washington, USA

Abstract

Intelligent communication requires reading between the lines, which in turn, requires rich background knowledge about how the world works. However, learning unspoken commonsense knowledge from language is nontrivial, as people rarely state the obvious, e.g., “my house is bigger than me.” In this talk, I will discuss how we can recover the trivial everyday knowledge just from language without an embodied agent. A key insight is this: The implicit knowledge people share and assume systematically influences the way people use language, which provides indirect clues to reason about the world. For example, if “Jen entered her house”, it must be that her house is bigger than her. I will discuss how we can model a variety of aspects of knowledge – ranging from naive physics to connotation – adapting the representations of frame semantics.

Invited Talk: What Do You Know About an Alligator When You Know the Company It Keeps?

Katrin Erk

University of Texas at Austin, USA

Abstract

How can people learn about the meaning of a word from textual context? If we assume that lexical knowledge has to do with truth conditions, then what can textual (distributional) information contribute? I will argue that at the least, an agent can observe how textual contexts co-occur with concepts that have particular properties, and that the agent can use this information to make inferences about unknown words: “I don’t know what an alligator is, but it must be something like a crocodile”. I will further argue that this inference can only be noisy and partial, and is best described in probabilistic terms.

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Conference Program

August 3rd, 2017

- 9:00–10:30** **Session S1: Invited Talk (Jointly with SemEval) and Best Paper Award**
- 9:00–9:15** *Opening Remarks*
- 9:15–10:15 *Invited Talk: From Naive Physics to Connotation: Modeling Commonsense in Frame Semantics*
Yejin Choi
- 10:15–10:30** *Announcement of the Adam Kilgarriff Best Paper Award*
- 10:30–11:00** *Coffee Break*
- 11:00–12:30** **Session S2: Distributional Semantics**
- 11:00–11:30 *What Analogies Reveal about Word Vectors and their Compositionality*
Gregory Finley, Stephanie Farmer and Serguei Pakhomov
- 11:30–12:00 *Learning Antonyms with Paraphrases and a Morphology-Aware Neural Network*
Sneha Rajana, Chris Callison-Burch, Marianna Apidianaki and Vered Shwartz
- 12:00–12:30 *Decoding Sentiment from Distributed Representations of Sentences*
Edoardo Maria Ponti, Ivan Vulić and Anna Korhonen
- 12:30–14:00** *Lunch Break*

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14:00–14:30 *Detecting Asymmetric Semantic Relations in Context: A Case-Study on Hypernymy Detection*
Yogarshi Vyas and Marine Carpuat

14:30–15:00 *Domain-Specific New Words Detection in Chinese*
Ao Chen and Maosong Sun

15:00–15:30 *Deep Learning Models For Multiword Expression Identification*
Waseem Gharbieh, Virendrakumar Bhavsar and Paul Cook

15:30–16:00 Coffee Break

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Saif Mohammad and Felipe Bravo-Marquez

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Mapping the Paraphrase Database to WordNet
Anne Cocos, Marianna Apidianaki and Chris Callison-Burch

Semantic Frame Labeling with Target-based Neural Model
Yukun Feng, Dong Yu, Jian Xu and Chunhua Liu

Frame-Based Continuous Lexical Semantics through Exponential Family Tensor Factorization and Semantic Proto-Roles
Francis Ferraro, Adam Poliak, Ryan Cotterell and Benjamin Van Durme

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Distributed Prediction of Relations for Entities: The Easy, The Difficult, and The Impossible

Abhijeet Gupta, Gemma Boleda and Sebastian Padó

Comparing Approaches for Automatic Question Identification

Angel Maredia, Kara Schechtman, Sarah Ita Levitan and Julia Hirschberg

Does Free Word Order Hurt? Assessing the Practical Lexical Function Model for Croatian

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Evaluating Semantic Parsing against a Simple Web-based Question Answering Model

Alon Talmor, Mor Geva and Jonathan Berant

August 4th, 2017

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Katrin Erk

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Emmanuele Chersoni, Alessandro Lenci and Philippe Blache

10:30–11:00 *Coffee Break*

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11:00–11:30 *Double Trouble: The Problem of Construal in Semantic Annotation of Adpositions*
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11:30–12:00 *Issues of Mass and Count: Dealing with ‘Dual-Life’ Nouns*
Tibor Kiss, Francis Jeffry Pelletier, Halima Husic and Johanna Poppek

12:00–12:30 *Parsing Graphs with Regular Graph Grammars*
Sorcha Gilroy, Adam Lopez and Sebastian Maneth

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14:30–15:00 *Generating Pattern-Based Entailment Graphs for Relation Extraction*

Kathrin Eichler, Feiyu Xu, Hans Uszkoreit and Sebastian Krause

15:00–15:30 *Classifying Semantic Clause Types: Modeling Context and Genre Characteristics with Recurrent Neural Networks and Attention*

Maria Becker, Michael Staniek, Vivi Nastase, Alexis Palmer and Anette Frank

15:30–16:00 Coffee Break

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16:00–16:30 *Predictive Linguistic Features of Schizophrenia*

Efsun Sarioglu Kayi, Mona Diab, Luca Pauselli, Michael Compton and Glen Copersmith

16:30–17:00 *Learning to Solve Geometry Problems from Natural Language Demonstrations in Textbooks*

Mrinmaya Sachan and Eric Xing

17:00–17:30 *Ways of Asking and Replying in Duplicate Question Detection*

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17:30–17:40 Closing Remarks

