ACL 2014

ACL 2014 Workshop on Semantic Parsing (SP14)

Proceedings of the Workshop

June 26, 2014 Baltimore, Maryland, USA ©2014 The Association for Computational Linguistics

Order copies of this and other ACL proceedings from:

Association for Computational Linguistics (ACL) 209 N. Eighth Street Stroudsburg, PA 18360 USA Tel: +1-570-476-8006 Fax: +1-570-476-0860 acl@aclweb.org

ISBN 978-1-941643-09-9

Introduction

Semantic parsers map sentences to formal representations of their underlying meaning. Recently, algorithms have been developed to learn to recover increasingly expressive representations with ever weaker forms of supervision. These advances have enabled many applications, including question answering, relation extraction, robot control, interpreting instructions, and generating programs.

This workshop, collocated with ACL 2014, aims to achieve two goals. First, to bring together researchers in the field to discuss the state of the art and opportunities for future research. Second, to create a stage for presenting the variety of current approaches, thereby providing a unique opportunity for new entrants to the field.

Organizers:

Yoav Artzi, University of Washington Tom Kwiatkowski, Allen Institute for AI Jonathan Berant, Stanford University

Steering Committee:

Percy Liang, Stanford University Jakob Uszkoreit, Google Luke Zettlemoyer, University of Washington

Program Committee:

Gabor Angeli, Stanford University John Blitzer, Google Johan Bos, University of Groningen Qingqing Cai, Temple University Stephen Clark, Cambridge University Dipanjan Das, Google Anthony Fader, University of Washington Nicholas FitzGerald, University of Washington Dan Goldwasser, The University of Maryland Karl Moritz Hermann, University of Oxford Chloe Kiddon, University of Washington Jayant Krishnamurthy, Carnegie Mellon University Nate Kushman, Massachusetts Institute of Technology Mike Lewis, The University of Edinburgh Smaranda Muresan, Columbia University Hoifung Poon, Microsoft Research Siva Reddy, The University of Edinburgh Matthew Richardson, Microsoft Research Dan Roth, University of Illinois at Urbana-Champaign Andreas Vlachos, University of Cambridge Alexander Yates, Temple University Mark Yatskar, University of Washington

Invited Speakers:

Kevin Knight, University of Southern California / Information Sciences Institute Percy Liang, Stanford University Raymond Mooney, The University of Texas at Austin Hoifung Poon, Microsoft Research Mark Steedman, The University of Edinburgh Stefanie Tellex, Brown University Luke Zettlemoyer, University of Washington



Table of Contents

Learning a Lexicon for Broad-coverage Semantic Parsing James Allen
Semantic Parsing using Distributional Semantics and Probabilistic Logic Islam Beltagy, Katrin Erk and Raymond Mooney
Large-scale CCG Induction from the Groningen Meaning Bank Sebastian Beschke, Yang Liu and Wolfgang Menzel
Semantic Parsing for Text to 3D Scene Generation Angel Chang, Manolis Savva and Christopher Manning
A Deep Architecture for Semantic Parsing Edward Grefenstette, Phil Blunsom, Nando de Freitas and Karl Moritz Hermann
Combining Formal and Distributional Models of Temporal and Intensional Semantics Mike Lewis and Mark Steedman
Cooking with Semantics Jonathan Malmaud, Earl Wagner, Nancy Chang and Kevin Murphy
Representing Caused Motion in Embodied Construction Grammar Ellen K Dodge and Miriam R L Petruck 39
<i>Low-Dimensional Embeddings of Logic</i> Tim Rocktäschel, Matko Bošnjak, Sameer Singh and Sebastian Riedel
Software Requirements: A new Domain for Semantic Parsers Michael Roth, Themistoklis Diamantopoulos, Ewan Klein and Andreas Symeonidis50
From Treebank Parses to Episodic Logic and Commonsense Inference Lenhart Schubert
<i>On maximum spanning DAG algorithms for semantic DAG parsing</i> Natalie Schluter
Intermediary Semantic Representation through Proposition Structures Gabriel Stanovsky, Jessica Ficler, Ido Dagan and Yoav Goldberg
<i>Efficient Logical Inference for Semantic Processing</i> Ran Tian, Yusuke Miyao and Takuya Matsuzaki
Towards README-EVAL : Interpreting README File Instructions James White
Freebase QA: Information Extraction or Semantic Parsing? Xuchen Yao, Jonathan Berant and Benjamin Van Durme 82

Workshop Program

Thursday, June 26, 2014

9:00–9:05 Opening Remarks

Invited Talks

- 9:05–9:50 Semantic Parsing: Past, Present, and Future Raymond Mooney
- 9:50–10:20 Can a Machine Translate Without Knowing What Translation Is? Kevin Knight

Exceptional Submission Talks

- 10:20–10:30 *Low-Dimensional Embeddings of Logic* Tim Rocktäschel, Matko Bošnjak, Sameer Singh and Sebastian Riedel
- 10:30–11:00 Coffee Break
- 11:00–11:10 Combining Formal and Distributional Models of Temporal and Intensional Semantics
 Mike Lewis and Mark Steedman
- 11:10–11:20 *Cooking with Semantics* Jonathan Malmaud, Earl Wagner, Nancy Chang and Kevin Murphy

11:20–12:30 Poster Session

Learning a Lexicon for Broad-coverage Semantic Parsing James Allen

Semantic Parsing using Distributional Semantics and Probabilistic Logic Islam Beltagy, Katrin Erk and Raymond Mooney

Large-scale CCG Induction from the Groningen Meaning Bank Sebastian Beschke, Yang Liu and Wolfgang Menzel

Semantic Parsing for Text to 3D Scene Generation Angel Chang, Manolis Savva and Christopher Manning

Thursday, June 26, 2014 (continued)

Leveraging Frame Semantics and Distributional Semantics for Unsupervised Semantic Slot Induction in Spoken Dialogue Systems Yun-nung Chen, William Yang Wang and Alexander Rudnicky

Semantic Parsing for Information Extraction Eunsol Choi, Tom Kwiatkowski and Luke Zettlemoyer

Parsing and Grounding Referring Expressions in Automatically Constructed 3D Models Nicholas Fitzgerald and Luke Zettlemoyer

Graph-Based Algorithms for Semantic Parsing Jeffrey Flanigan, Samuel Thomson, David Bamman, Jesse Dodge, Manaal Faruqui, Brendan O'Connor, Nathan Schneider, Swabha Swayamdipta, Chris Dyer and Noah A. Smith

A Deep Architecture for Semantic Parsing Edward Grefenstette, Phil Blunsom, Nando de Freitas and Karl Moritz Hermann

Symmetry-Based Semantic Parsing Chloé Kiddon and Pedro Domingos

Leveraging Heterogeneous Data Sources for Relational Semantic Parsing Meghana Kshirsagar, Nathan Schneider and Chris Dyer

Context-dependent Semantic Parsing for Time Expressions Kenton Lee, Yoav Artzi, Jesse Dodge and Luke Zettlemoyer

Combining Formal and Distributional Models of Temporal and Intensional Semantics Mike Lewis and Mark Steedman

Cooking with Semantics

Jonathan Malmaud, Earl Wagner, Nancy Chang and Kevin Murphy

Representing Caused Motion in Embodied Construction Grammar Ellen K Dodge and Miriam R L Petruck

Constructing Semantic Parsing Datasets from Technical Documentation Kyle Richardson and Jonas Kuhn

Notes on the MCTest Dataset for the Open-Domain Machine Comprehension of Text Matthew Richardson, Christopher J.C. Burges and Erin Renshaw

Thursday, June 26, 2014 (continued)

Low-Dimensional Embeddings of Logic Tim Rocktäschel, Matko Bošnjak, Sameer Singh and Sebastian Riedel

Software Requirements: A new Domain for Semantic Parsers Michael Roth, Themistoklis Diamantopoulos, Ewan Klein and Andreas Symeonidis

From Treebank Parses to Episodic Logic and Commonsense Inference Lenhart Schubert

On maximum spanning DAG algorithms for semantic DAG parsing Natalie Schluter

Intermediary Semantic Representation through Proposition Structures Gabriel Stanovsky, Jessica Ficler, Ido Dagan and Yoav Goldberg

Efficient Logical Inference for Semantic Processing Ran Tian, Yusuke Miyao and Takuya Matsuzaki

A New Corpus for Context-Dependent Semantic Parsing Andreas Vlachos and Stephen Clark

Towards README-EVAL : Interpreting README File Instructions James White

Freebase QA: Information Extraction or Semantic Parsing? Xuchen Yao, Jonathan Berant and Benjamin Van Durme

12:30–14:10 Lunch Break

Thursday, June 26, 2014 (continued)

Invited Talks

14:10-14:50	Semantic Parsing for Cancer Panomics Hoifung Poon
14:50-15:30	Semantics for Semantic Parsers Mark Steedman
15:30-16:00	Coffee Break
16:00–16:40	Asking for Help Using Inverse Semantics Stefanie Tellex
16:40–17:20	Computing with Natural Language Percy Liang
17:20–18:00	Grounded Semantic Parsing Luke Zettlemoyer
18:00-18:00	Closing