

EMNLP 2020

**Interactive and Executable Semantic Parsing**

**Proceedings of the First Workshop**

November 19, 2020

Online

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209 N. Eighth Street  
Stroudsburg, PA 18360  
USA  
Tel: +1-570-476-8006  
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[acl@aclweb.org](mailto:acl@aclweb.org)

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# Introduction

Welcome to the First Workshop on Interactive and Executable Semantic Parsing (IntEx-SemPar 2020)!

Executable semantic parsers map natural language utterances to meaning representations that can be executed in a particular context such as databases, knowledge graphs, robotic environment, and software applications. It has become increasingly important as it allows users to seek information and control computer systems naturally and flexibly via interactive exchanges in natural language. We envision that practical semantic parsing systems need to be equipped with three core capabilities: (1) Understanding user utterances in context and mapping them to executable forms. (2) Clarifying ambiguous utterances and providing guidance for user to form valid input. (3) Providing a faithful explanation of its interpreted actions for user verification and feedback. To this end, the problem of mapping well-formed, individual natural language utterances to formal representations has been studied extensively. In comparison, semantic parsing in an interactive setup has received less attention until very recently. Furthermore, most of existing semantic parsers assume valid input only hence cannot detect ambiguous/invalid utterances and clarify them effectively. There is also less focus on explainability and trustworthiness, where the system can explain its interpreted actions to the user for verification and feedback.

The goal of this workshop is to bring together researchers and promote exciting work towards powerful, robust, and reliable interactive executable semantic parsing systems. Through a rigorous review process, out of 14 submissions, we accept 9 papers (3 non-archival and 6 archival). These papers explore different aspects of semantic parsing in different application scenarios including robustness in Text-to-SQL systems, explainability and interpretability in Knowledge Graphs, uncertainty and active learning in Task-Oriented Dialog, adaptive language interfaces through decomposition, pretraining models for table semantic parsing, analysis in open-domain semantic parsing.

Furthermore, this workshop is featured with a strong and diverse lineup of invited speakers from areas spanning semantic parsing, dialogue systems, grounded language learning, robotics, and program synthesis. Yoav Artzi from Cornell has contributed significantly to natural language learning in situated interactions. Jonathan Berant from Tel-Aviv University has made pioneer work in semantic parsing and question answering under weak supervision. Richard Socher is a world-renowned researcher in Natural Language Processing, computer vision, Deep Learning, and Artificial Intelligence. Dilek Hakkani-Tür has made fundamental contributions to spoken dialog and conversation modeling and she is currently leading the Amazon Alexa AI team. Alex Polozov from Microsoft Research is a leading researcher in neural program synthesis from input-output examples and natural language. Jacob Andreas is a leading researcher from MIT working on building intelligent systems that can communicate effectively using language and learn from human guidance.

We hope you enjoy this rich program and contribute to the future success of this field!

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Ruiqi Zhong, UC-Berkeley  
Peng Shi, University of Waterloo  
Yusen Zhang, Emory University

## Table of Contents

|   |    |
|---|----|
| <i>QA2Explanation: Generating and Evaluating Explanations for Question Answering Systems over Knowledge Graph</i> |    |
| Saeedeh Shekarpour, Abhishek Nadgeri and Kuldeep Singh .....  | 1  |
| <i>Uncertainty and Traffic-Aware Active Learning for Semantic Parsing</i>   |    |
| Priyanka Sen and Emine Yilmaz .....   | 12 |
| <i>Improving Sequence-to-Sequence Semantic Parser for Task Oriented Dialog</i>                                    |    |
| Chaoting Xuan .....   | 18 |
| <i>Learning Adaptive Language Interfaces through Decomposition</i>  |    |
| Siddharth Karamcheti, Dorsa Sadigh and Percy Liang .....  | 23 |
| <i>ColloQL: Robust Text-to-SQL Over Search Queries</i>  |    |
| Karthik Radhakrishnan, Arvind Srikantan and Xi Victoria Lin .....   | 34 |
| <i>Natural Language Response Generation from SQL with Generalization and Back-translation</i>                     |    |
| Saptarashmi Bandyopadhyay and Tianyang Zhao .....   | 46 |





# Conference Program

For final program, check <https://intex-semmpar.github.io/>

Thursday, November 19, 2020

- 08:15–08:30 Opening remarks
- 08:30–09:30 Invited Talk: Jacob Andreas
- 09:30–10:30 Invited Talk: Jonathan Berant
- 10:30–10:50 Break
- 10:50–11:00 *Learning Adaptive Language Interfaces through Decomposition*  
Siddharth Karamcheti, Dorsa Sadigh, and Percy Liang
- 11:00–11:10 *Improving Sequence-to-Sequence Semantic Parser for Task Oriented Dialog*  
Chaoting Xuan
- 11:10–11:20 *Uncertainty and Traffic-Aware Active Learning for Semantic Parsing*  
Priyanka Sen and Emine Yilmaz
- 11:20–11:30 *Did You Ask a Good Question? A Cross-Domain Question Intention Classification Benchmark for Text-to-SQL*  
Yusen Zhang, Xiangyu Dong, Shuaichen Chang, Tao Yu, Peng Shi, and Rui Zhang
- 11:30–12:30 Invited Talk: Yoav Artzi
- 12:30–13:30 Poster Presentation
- 13:30–14:30 Invited Talk: Dilek Hakkani-Tür
- 14:30–14:40 *QA2Explanation: Generating and Evaluating Explanations for Question Answering Systems over Knowledge Graph*  
Saeedeh Shekarpour, Abhishek Nadgeri, and Kuldeep Singh
- 14:40–14:50 *ColloQL: Robust Text-to-SQL Over Search Queries*  
Karthik Radhakrishnan, Arvind Srikantan, and Xi Victoria Lin
- 14:50–15:00 *GraPPa: Grammar-Augmented Pre-Training for Table Semantic Parsing*  
Tao Yu, Chien-Sheng Wu, Xi Victoria Lin, Bailin Wang, Yi Chern Tan, Xinyi Yang, Dragomir Radev, Richard Socher, and Caiming Xiong

(Continue)

Thursday, November 19, 2020

- 15:00–15:10 *Re-thinking Open-domain Semantic Parsing*  
Yu Gu, Sue Kase, Michelle Vanni, Brian Sadler, Percy Liang, Xifeng Yan, and Yu Su
- 15:10–15:20 *Natural Language Response Generation from SQL with Generalization and Back-translation*  
Saptarashmi Bandyopadhyay and Tianyang Zhao
- 15:20–15:30 Break
- 15:30–16:30 Invited Talk: Alex Polozov
- 16:30–17:30 Invited Talk: Richard Socher
- 17:30–17:35 Closing remarks