SPNLP 2022

Sixth Workshop on Structured Prediction for NLP

Proceedings of the Workshop

May 27, 2022

©2022 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 978-1-955917-51-3

Introduction

Welcome to the Sixth Workshop on Structured Prediction for NLP!

Structured prediction has a strong tradition within the natural language processing (NLP) community, owing to the discrete, compositional nature of words and sentences, which leads to natural combinatorial representations such as trees, sequences, segments, or alignments, among others. It is no surprise that structured output models have been successful and popular in NLP applications since their inception. Many other NLP tasks, including, but not limited to: semantic parsing, slot filling, machine translation, or information extraction, are commonly modeled as structured problems, and accounting for said structure has often lead to performance gain.

This year we received 19 submissions, 7 of which were reviewed by the ACL Rolling Review initiative and subsequently commited to our workshop and 12 of which were directly submitted to our workshop and double-blind peer reviewed by our program committee members. Of these 19, 13 were accepted (6 of which are non-archival papers) for presentation in this edition of the workshop, all exploring this interplay between structure and neural data representations, from different, important points of view. The program includes work on structure-informed representation learning, leveraging structure in problems like temporal knowledge graph completion, multilingual syntax-aware language modeling, mention detection models, etc. Our program also includes five invited presentations from influential researchers.

Our warmest thanks go to the program committee – for their time and effort providing valuable feedback, to all submitting authors – for their thought-provoking work, and to the invited speakers – for doing us the honor of joining our program.

Andreas Vlachos Priyanka Agrawal André Martins Gerasimos Lampouras Chunchuan Lyu

Organizing Committee

Organizers

Andreas Vlachos, University of Cambridge, UK Priyanka Agrawal, Google Research, UK André Martins, Unbabel and Instituto de Telecomunicações, Portugal Gerasimos Lampouras, Huawei Noah's Ark Lab, UK Chunchuan Lyu, University of Lisbon, Portugal

Program Committee

Program Committee

Manling Li, University of Illinois, Urbana-Champaign, USA Sha Li, University of Illinois, Urbana-Champaign, USA Julius Cheng, University of Cambridge, UK Pietro Lesci, University of Cambridge, UK Moy Yuan, University of Cambridge UK Zhijiang Guo, University of Cambridge, UK Ignacio Iacobacci, Huawei Noah's Ark Lab, UK Philip John Gorinski, Huawei Noah's Ark Lab, UK Parag Jain, University of Edinburgh, UK Vivek Srikumar, University of Utah, USA Michail Korakakis, University of Cambridge, UK Parisa Kordjamshidi, Michigan State University, USA Tatsuya Hiraoka, Tokyo Institute of Technology, Japan Naoaki Okazaki, Tokyo Institute of Technology, Japan Youmi Ma, Tokyo Institute of Technology, Japan Pedro Henrique Martins, Instituto Superior Técnico, Portugal Yangfeng Ji, University of Virginia, USA Zhen Han, Institut für Informatik, Germany Guirong Fu, Bytedance Patrick Fernandes, Carnegie Mellon University, USA Yusuke Miyao, University of Tokyo, Japan Daniel Daza, Vrije Universiteit Amsterdam, Netherlands Marcos Vinicius Treviso, Instituto Superior Técnico, Portugal

Table of Contents

Multilingual Syntax-aware Language Modeling through Dependency Tree ConversionShunsuke Kando, Hiroshi Noji and Yusuke Miyao1
Joint Entity and Relation Extraction Based on Table Labeling Using Convolutional Neural Networks Youmi Ma, Tatsuya Hiraoka and Naoaki Okazaki
TempCaps: A Capsule Network-based Embedding Model for Temporal Knowledge Graph Completion Guirong Fu, Zhao Meng, Zhen Han, Zifeng Ding, Yunpu Ma, Matthias Schubert, Volker Tresp and Roger Wattenhofer 22
SlotGAN: Detecting Mentions in Text via Adversarial Distant Learning Daniel Daza, Michael Cochez and Paul Groth
A Joint Learning Approach for Semi-supervised Neural Topic Modeling Jeffrey Chiu, Rajat Mittal, Neehal Tumma, Abhishek Sharma and Finale Doshi-Velez40
Neural String Edit Distance Jindřich Libovický and Alexander Fraser 52
Predicting Attention Sparsity in Transformers Marcos Vinicius Treviso, António Góis, Patrick Fernandes, Erick Rocha Fonseca and Andre Martins