



THE WEIZMANN INSTITUTE OF SCIENCE
FACULTY OF MATHEMATICS AND COMPUTER SCIENCE

Vision and Robotics Seminar

Room 1 ,Ziskind Building
on Thursday, Jan 02, 2020
at 12:15

JOINT Machine Learning and Computer Vision seminar

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Meaning Representation in Natural Language Tasks

Abstract:

Recent developments in Natural Language Processing (NLP) allow models to leverage large, unprecedented amounts of raw text, culminating in impressive performance gains in many of the field's long-standing challenges, such as machine translation, question answering, or information retrieval.

In this talk, I will show that despite these advances, state-of-the-art NLP models often fail to capture crucial aspects of text understanding. Instead, they excel by finding spurious patterns in the data, which lead to biased and brittle performance. For example, machine translation models are prone to translate doctors as men and nurses as women, regardless of context. Following, I will discuss an approach that could help overcome these challenges by explicitly representing the underlying meaning of texts in formal data structures. Finally, I will present robust models that use such explicit representations to effectively identify meaningful patterns in real-world texts, even when training data is scarce.