

Conversational Machine Learning

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4/1/2019 at 10:30 am
CoRE A 301

Abstract

Humans can efficiently learn and communicate new knowledge about the world through natural language (e.g, the concept of important emails may be described through explanations like late night emails from my boss are usually important). Can machines be similarly taught new tasks and behavior through natural language interactions with their users? In this talk, we'll explore two approaches towards language-based learning for classifications tasks. First, we'll consider how language can be leveraged for interactive feature space construction for learning tasks. I'll present a method that jointly learns to understand language and learn classification models, by using explanations in conjunction with a small number of labeled examples of the concept. Secondly, we'll examine an approach for using language as a substitute for labeled supervision for training machine learning models, which leverages the semantics of quantifier expressions in everyday language ('definitely', 'sometimes', etc.) to enable learning in scenarios with limited or no labeled data.

Bio

Shashank Srivastava recently received his PhD from the Machine Learning department at CMU in 2018, and currently works at Microsoft Research. Shashank's research interests lie in conversational learning, interactive AI and grounded language understanding, and his dissertation focuses on helping machines learn from human interactions. Shashank has an undergraduate degree in Computer Science from IIT Kanpur, and a Masters degree in Language Technologies from CMU. He received the Yahoo InMind Fellowship for 2016-17. His research has been covered by popular media outlets including GeekWire and New Scientist.

Faculty Host: Abdeslam Boularias