

## Conversational AI

Session co-chairs: Suma Bhat, University of Illinois at Urbana-Champaign, and Angeliki Metallinou and Jing Huang, Amazon Alexa AI

Building machines that can interact with humans in a natural, engaging, and helpful manner is the holy grail of conversational AI. This includes building conversational systems that can understand users' spoken, textual and affective signals as well as the environment where users are located, continuously learn from user and environment signals, and assist the users in completing their goals. Developing this technology would bring significant benefits to diverse societal areas including education, entertainment, automation of everyday tasks, assisted living and healthcare, among others. While there are many promising recent advances in the conversational AI and deep learning communities, building natural, accurate and effective conversational systems and deploying them in real world settings present considerable challenges. This session will cover a comprehensive state of the art of conversational AI systems from domain experts, including multimodal and affect aware systems, interactive systems that learn from experience and techniques for more accurate and less data reliant systems, as well as discuss challenges and opportunities for further innovation in the area of conversational AI.

This session will feature speakers that cover diverse areas of conversational AI across academia and industry. Maryam Fazel-Zarandi (Facebook AI Research) will cover the status, challenges, and future directions of conversational AI systems. Zhou Yu (Columbia University) will discuss research efforts towards making communication between humans and machines seamless through realistic dialogs and improved coherence. Alexandros Papangelis (Amazon Alexa AI) will review research for building conversational agents that can create the data they need for learning, reducing reliance on costly and manual data collections. Going beyond agents that learn from conversational data alone, Karthik Narasimhan (Princeton University) will present research on building agents that learn through both interaction and language data.

### Speaker bios

Maryam Fazel-Zarandi, Research Engineering Manager, Facebook AI Research

<https://www.linkedin.com/in/maryam-fazel-zarandi/>

Zhou Yu, Assistant Professor, Computer Science Department, Columbia University

<https://www.engineering.columbia.edu/faculty/zhou-yu>

Alexandros Papangelis, Senior Applied Scientist, Amazon Alexa AI

<https://sites.google.com/view/alex-papangelis/home>

<https://www.linkedin.com/in/alexpapangelis/>

Karthik Narasimhan, Assistant Professor, Department of Computer Science, Princeton University

<https://www.cs.princeton.edu/~karthikn/>