

Computer Science Colloquium
(Joint Seminar with Big Data Group)

12pm - 1pm, Friday, November 8, 2019
UWM EMS E237
(food/drink provided)

Goal-Oriented End-to-End Conversational Models
with Profile Features in a Real-World Setting

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Abstract:

End-to-end neural models for goal-oriented conversational systems have become an increasingly active area of research, though results in real-world settings are few. We present real-world results for two issue types in the customer service domain. We train models on historical chat transcripts and test on live contacts using a human-in-the-loop research platform. Additionally, we incorporate customer profile features to assess their impact on model performance. We experiment with two approaches for response generation: (1) sequence-to-sequence generation and (2) template ranking. To test our models, a customer service agent handles live contacts and at each turn we present the top four model responses and allow the agent to select (and optionally edit) one of the suggestions or to type their own. We present results for turn acceptance rate, response coverage, and edit rate based on approximately 600 contacts, as well as qualitative analysis on patterns of turn rejection and edit behavior. Top-4 turn acceptance rate across all models ranges from 63%-80%. Our results suggest that these models are promising for an agent-support application.

Short Bio: Vikas Bhardwaj is a Sr. Manager in Applied Science at Amazon in Seattle. Vikas has been in Amazon since 2012 and his current area of focus is Automating Customer Service Conversations. He leads the science and engineering teams building chatbots which directly talk to customers and also human-in-the-loop conversational systems which assist customer service associates. Vikas obtained his Masters in Computer Science from Columbia University, Bachelors in Computer Science from University of Wisconsin-Milwaukee. Prior to working at Amazon, Vikas worked at Thomson Reuters building financial information extraction systems.