

Title: Common Sense Knowledge for Natural Language Understanding

Abstract: Humans have always envisioned creating machines that could assist in daily chores. With this vision in mind, the field of Artificial Intelligence (AI) was introduced in 1956 by John McCarthy and colleagues. Given the fact that natural mode of communication for humans is the language they speak/write (a.k.a. natural language), it is desirable to have machines which can communicate using the same. However, developing computer models of natural language is far from trivial. Language comes with its own complexities and inherent ambiguities. In this talk, I would show how one could leverage common sense knowledge about the world to make the task of natural language understanding (NLU) easier.

I would present research on modeling common sense knowledge and its integration in NLU systems. I would present empirical results showing the contribution of common sense knowledge to language comprehension in humans. Later part of the talk would show how social common sense in the form of affects (e.g. emotions) can be useful for NLU. I would further show affective information could be integrated into a conversational system in order to make it more engaging for humans.

Bio: Dr. Ashutosh Modi is a postdoctoral researcher at Disney Research Los Angeles. He mainly researches on developing models of human languages in order to bridge the communication between humans and machines. In particular, he focuses on affective computing, conversational systems and Natural Language Understanding (NLU). He received his doctorate degree from Saarland University, Germany for a thesis on "Modeling Common Sense Knowledge via Scripts". His doctoral research focused on modeling common sense knowledge about prototypical activities like "making a coffee", "going to a restaurant", etc. In the past, he has worked at Siemens Research where he worked on bio-medical question answering system. Prior to that, he worked at Symantec Corporation in the area of email security with the focus on the application of machine learning techniques. Ashutosh has obtained a Masters Degree from IIT, Delhi (Indian Institute of Technology, Delhi) with specialization in digital communication and signal processing.