13 NATURAL LANGUAGE AND AI

PJD's opening remarks

One of the earliest interests in Artificial Intelligence was getting machines to work with human language. Could we get a machine to transcribe spoken language into text? Can we go the other way and get a machine to read a text out loud? Could we get a machine translate a text in one language into a text in another? Could we get a machine to translate from one spoken language to another in real time?

All these problems have been solved in part, although more work lies ahead. We now have transcription programs that listen to our speech and output text … the accuracy is now well into the 90 percentiles. We have machines that read text out loud … the biggest obstacle has been to have the machine sound like a human pronouncing the words, but they are now pretty good at this. We have machines that translate texts between language … Google Translate is quite good at this. We now have speech interfaces that allow us to interact with our computers by speaking with them … Siri and Alexa are prominent examples. There are machines that give acceptable translations from one spoken language to another in real time.

A lot of effort has gone into building machines that understand what texts and speech mean. We have machines that will make good summaries of texts. Machines that find documents containing text related to a sentence or phrase we give them. Machines that will read chat or twitter and make inferences about the speaker. Machines that build so-called semantic networks that connect the concepts appearing in text and speech.

Today Professor Neil Rowe will talk about natural language processing in AI. He is a pioneer in the AI field and has been teaching at NPS for over 30 years. In 1988 her authored a book on PROLOG, perhaps the most famous language for building expert systems. He knows more about AI than anyone on campus and probably in the universe.