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Adapting computers to humans: How linguistics can help!

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Questions?

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Abstract: Computers have become an essential part of our daily lives. They are very efficient at performing complex computations, identifying patterns in data and extracting information from it. But when it comes to using and understanding natural language, there is room for significant improvements. Virtual assistants like Siri, Alexa, Cortana are able to do many tasks for us but we can't be too conversational with them. They are limited in their ability to hold an open-ended conversation, so humans have to adapt to them while making requests for information or perform a task. Our desired goal is to enable machines to communicate with human users in a manner that does not require users to constantly have to simplify and adapt to machines. In this talk, I will discuss two specific problems, one related to natural language understanding and the other related to speech processing, and show how linguistic knowledge is being used in order to enable machines to tackle these problems more efficiently. This talk concludes with a vision for multi-disciplinary research that includes instructional and mentoring components relevant to advanced education in human language technologies.