



## Colloquium Series

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### Methods and Algorithms of Automatic Speech Recognition

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**Abstract:** Automatic speech recognition is ubiquitous among consumers and professionals who utilize it in virtual assistants, speech transcription, live translation, and many other tasks. There are two approaches to speech recognition: the traditional statistical approach using multiple models powered by Hidden Markov Models and the modern end-to-end approach using a single deep learning model. The key to both strategies is in the decoding process where extracted features are mapped to the most optimal sequence of words. We introduce the structure and mathematics of the two main forms of speech recognition. We also discuss the role of decoding and the engineering problems involved in its implementation.

**Keywords:** statistical speech recognition, deep learning, graph search

Wed. Sep. 8, 1:05 – 1:50 pm on Zoom

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