

APPLICATION OF STOCHASTIC METHODS TO LANGUAGE LEARNING

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ABSTRACT

Stochastic models are used in a wide variety of language applications from spell checkers to automatic speech recognizers.

In this talk bayesian clasification will be introduced first, followed by some examples showing how this method is used to model language processing.

Then we will focus on the use of Hidden Markov Models for acoustic modeling in speech recognition.

Finally, some applications of stochastic methods to the language learning problem will be demonstrated. Specifically, we'll look at how Maximum Likelihood Linear Regression and Maximum A Posteriori methods are used to adapt speech recognizers to nonnative speech.

John Morgan holds a masters degree in mathematics and has been working on the application of speech recognizers to language learning in the Center For Enhanced Language Learning (CTELL) at USMA since 1996.