

# Discriminative Learning between the States of the Hidden Markov Model for Speech Recognition

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## Abstract

The Baum-Welch algorithm estimates the parameters of HMM by maximizing the joint probability of the training data, i.e. we adjust the model parameters to maximize the probability that the model generates the observations [4]. This does not lead to the best discrimination between patterns, which means a high performance. We present a method for enhancing the separation between the states of HMM, method based on elements of information theory [3].

**Key Words:** Pattern recognition, HMM, Gaussian Mixtures, Mutual Information

**AMS Classification:** 68T10, 62H30.