



The University of Chicago
Department of Statistics

MASTER'S THESIS PRESENTATION

NATALIE HUANG

Department of Statistics
The University of Chicago

**MML Estimation for Univariate Normal Mixture
Models**

TUESDAY, November 8, 2011, at 11:00 AM
110 Eckhart Hall, 5734 S. University Avenue

ABSTRACT

Univariate normal mixture models are useful statistic tools for density estimation and clustering. Maximum likelihood estimator(MLE) has singularities. In this talk, we introduce Minimum Message Length(MML) criterion. The Minimum Message Length(MML) criterion is an invariant Bayesian estimation and model selection technique based on information theory. We derive MML estimator which has no singularities. We propose the MML algorithm to finish both univariate normal mixture model parameter estimation and model selection simultaneously. We apply our MML algorithm to Galaxy data example.