



**The University of Chicago**  
**Department of Statistics**  
**Master's Seminar**

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**Local Features Based Deformable Models for Image Classification**

**THURSDAY, July 16, 2009, at 10:00 AM**  
**110 Eckhart Hall, 5734 S. University Avenue**

**ABSTRACT**

We propose an approach to incorporate rotation, scaling and shearing deformations into the feature maps. We also show examples of using rotation, scaling and shearing to account for corresponding deformations. Our approach may serve as an extension of Bernstein and Amit (2005), as well as a potential approach to explore the symmetries and deformability for other local feature extractors and classifiers. The simplicity and explicitness of our generative models bring about some advantages, such as demanding small training sets and having natural interpretations.