1116-68-1207 **Chinmay Hegde*** (chinmay@iastate.edu), ECpE Department, 2205 Coover Hall, Ames, IA 50010. *Learning Structured Data Representations using Approximation.*

Structured data representations (such as sparse, or manifold, representations) have been proven beneficial in a number of applications in machine learning and signal processing. However, these benefits do not come for free! Enforcing complex structures in data typically involves cumbersome and computationally intensive algorithms, limiting their practical usage.

In this talk, I will outline a framework for learning structures in data that attempts to surpass these computational barriers. The framework is inherently combinatorial, and integrates ideas from discrete optimization and approximation algorithms. For several types of structures, the algorithms developed within this framework enjoy a nearly-linear running time, thereby enabling their application to massive datasets. (Received September 17, 2015)