Statistics Seminar

Wednesday, October 8, 2014
4:15 pm
G01 Biotechnology

Adam Rothman
University of Minnesota

Properties of Optimizations used in Penalized Gaussian Likelihood Inverse Covariance Matrix Estimation

We establish necessary and sufficient conditions for the existence of inverse covariance matrix estimates obtained by minimizing the negative Normal log-likelihood plus a weighted ridge or weighted L1 penalty. A new algorithm to solve this optimization with the weighted ridge penalty is developed and its convergence is established. This algorithm combines the majorize minimize principle with minorize minimize acceleration attempts. We also present an alternating direction method of multipliers algorithm to solve this optimization with the weighted ridge penalty.

Refreshments will be served after the seminar in 1181 Comstock Hall.