

Colloquium

UNIVERSITY OF GEORGIA
DEPARTMENT OF STATISTICS

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“HDLSS Discrimination with Adaptive Data Piling”

We propose linear discrimination methods which regularize piling of the low dimensional projections for high dimensional, low sample size data. The maximal data piling achieves the extreme regularization by yielding zero scatter within the class while maximizing the separation between the classes. Two different piling regularization methods are studied in this article. Our first attempt to regularize data piling is done by employing linear paths connecting the maximal data piling direction and least data piling direction. An alternative approach is to use optimal classification rules under milder piling constraints. We show that this is equivalent to the ridge LDA in HDLSS setting. This piling regularization idea is extended to multi category classification problems, which leads us to build sequential discriminating direction vectors. The simulation and data analysis shows competitive performance of the piling regularized classification methods.

Thursday October 7th, 2010

ROOM 306

Statistics Building

University of Georgia

Athens, GA 30602

3:30 P.M. – Room 306, Statistics Building

Refreshments following talk at 4:30 P.M. in room 230 (The Cohen Room)