Decoupled Shrinkage and Selection: A New Tool for Posterior Summaries in Linear Regression

THURSDAY, April 11, 2013, at 4:30 PM
Eckhart 133, 5734 S. University Avenue

ABSTRACT

In this talk I consider the old chestnut of subset selection in linear models. The approach will be purely Bayesian and the key tool will be a novel loss function which imposes an explicit parsimony penalty subject to a probabilistic prediction constraint: we seek a linear prediction rule which is as small as possible subject to predicting well on future data with high probability. The resulting summary is computationally efficient and straight-forward to describe to non-methodologists. The method can be applied to any GLM and is able to cleverly utilize existing optimization routines.