ACMS Statistics Seminar

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Tues, February 21
154 Hurley Hall
4:00 – 5:00 PM

Default Bayes and Prediction Problems With Global-local Shrinkage Priors

Global-local shrinkage priors, such as the horseshoe prior, have recently emerged as computationally attractive alternatives to spike-and-slab priors in high-dimensional Bayesian problems. In recent years, global-local priors have been studied extensively in the simple normal means model and many attractive theoretical properties have been discovered. The purpose of this talk, however, is to go beyond the normal means model. We will focus on two problems: (a) we will show that global-local priors result in non-informative answers where the parameter of interest is not the vector of normal means per se, but its low-dimensional function, e.g. the sum of squares or maximum, and (b) we will quantify the prediction risk of global-local priors in regression problems and demonstrate that they can remedy some serious shortcomings of purely global methods of shrinkage, e.g. ridge regression or principal components regression.