Marginal screening for high-dimensional and functional predictors

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This talk discusses marginal screening for detecting the presence of significant predictors in high-dimensional and functional regression settings with possibly right-censored survival time outcomes. Screening large numbers of predictors is a challenging problem due to the non-standard limiting behavior of post-model-selected estimators. To address this difficulty, we propose an adaptive resampling test that provides an alternative to the popular (yet conservative) Bonferroni method of controlling familywise error rates. The test is developed in the following marginal regression settings: accelerated failure time models, quantile regression models, and functional linear models.

Keywords: adaptive resampling test, post-selection inference, quantile and functional linear regression.