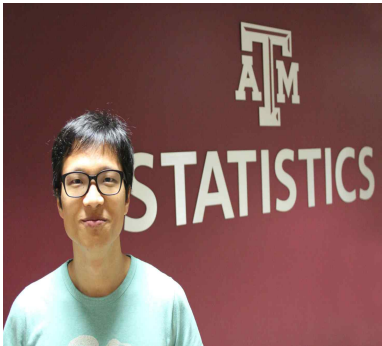


연세대학교 통계연구소 세미나



Minsuk Shin, Ph.D.

Harvard Data Science Initiative &
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“Functional Horseshoe Priors for Subspace Shrinkage”

Abstract: We introduce a new shrinkage prior on function spaces, the functional horseshoe prior, that encourages shrinkage towards parametric classes of functions. Unlike existing shrinkage priors for parametric models, the shrinkage acts on the shape of the function rather than sparsity of model parameters. We theoretically exhibit the efficacy of the proposed approach by showing an adaptive posterior concentration property on the function. We show the consistency of the model selection procedure that thresholds the shrinkage parameter of the functional horseshoe prior. We apply the proposed prior to nonparametric additive models. We compare its performance with the procedure based on the standard horseshoe prior and a number of penalized likelihood approaches, and the proposed procedure achieves smaller estimation error and more accurate model selection, compared to the other procedures in the considered simulated and real examples. The proposed prior also provides a natural penalization interpretation, and casts light on a new class of penalized likelihood methods.

약력

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연구 분야

Bayesian Model Selection in High-dimensional Settings
Scalable Computing for High-dimensional Bayesian Statistics
High-Dimensional Nonparametric Regression Models
Nonparametric Model Selection

Tuesday, Mar, 13, 2018 · 11 am
607 Daewoo Hall, Yonsei University
2018년 3월 13일 (화요일) 오전 11시
상경대학 대우관 607호