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On High-Dimensional Gaussian Comparisons For Cross-Validation

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11:50 AM

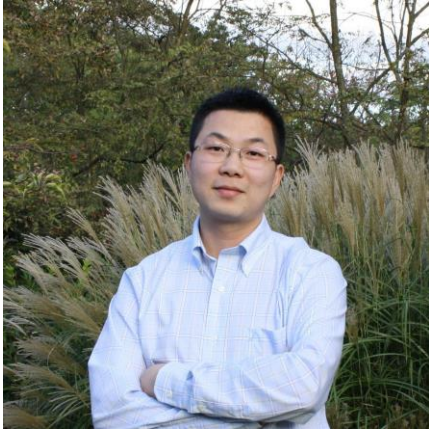
110 Frelinghuysen Road, Hill Center, Room 552

Zoom Meeting: Meeting ID: 99075124232

Password: 952486

<https://rutgers.zoom.us/j/99075124232?pwd=UDdPVjRncXZFcXpvcFE0OWJyMVdSUT09>

Light refreshments will be served



Abstract: We derive high-dimensional Gaussian comparison results for the standard V-fold cross-validated risk estimates.

Our result combines a recent stability-based argument for the low-dimensional central limit theorem of cross-validation with the high-dimensional Gaussian comparison framework for sums of independent random variables. These results give new insights into the joint sampling distribution of cross-validated risks in the context of model comparison and tuning parameter selection, where the number of candidate models and tuning parameters can be larger than the fitting sample size. As a consequence, our results provide theoretical support for a recent methodological development that constructs model confidence sets using cross-validation.

Bio:

Jing Lei obtained PhD from UC Berkeley in 2010 and joined CMU Statistics in 2011. His research interests include mathematical statistics, high dimensional statistics, predictive inference, data privacy, applications in genomics and single cell data. He received 2016 Gottfried E. Noether Young Researcher Award, 2016 NSF CAREER Award, 2021 IMS Fellowship, 2022 Leo Breiman Junior Award.

