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Seminar

Scalable Bayesian optimal experimental design for efficient data acquisition

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Abstract: Bayesian optimal experimental design (OED) is a principled framework for maximizing information gained from limited data in Bayesian inverse problems. Unfortunately, conventional methods for OED are prohibitive when applied to expensive models with high-dimensional parameters. In this talk, I will present fast and scalable computational methods for large-scale Bayesian OED with infinite-dimensional parameters, including data-informed low-rank approximation, efficient offline-online decomposition, projected neural network approximation, and a new swapping greedy algorithm for combinatorial optimization.

Thursday, November 10, 2022, 10:00 am
Mathematics and Science Center: MSC W301

Mathematics
Emory University