Colloquium

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Thursday, February 6
Room 608, 2925 Campus Green Drive
2:00-3:00 pm

Sequential Model-Based Optimization for Continuous Inputs with Finite Decision Space

Optimization using stochastic computer experiments is commonplace in engineering and industry. This article addresses the problem of optimization, in which the input space of stochastic computer model is continuous, whereas the decision space in the real problem is restricted to be finite. We propose a sequential model-based optimization method to tackle this problem. The knowledge gradient based on this restricted decision space is used as the criterion to choose new design points, and the fixed rank kriging or Gaussian process is used as the surrogate. This combination takes advantage of the continuous search space to decrease the uncertainty over the finite decision space. We demonstrate the benefit of our proposed methodology compared with existing sequential model-based optimization methods. Also discussed are some statistical challenges in industry.

Refreshments will be served 3:00-3:30 pm in the same location
Room 608, 2925 Campus Green Drive

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