

Stochastic Optimization for Multi-echelon Inventory Systems Under Uncertainty by Using Stochastic Kriging

Gang Mu
Tongji University
mug@tongji.edu.cn

Abstract

Stochastic Optimization in Logistics is a raising topic in industry. It highly linked with effectiveness of supply chain satisfying external customer and efficiency of capital aligning with internal finance controlling management. This is a high dimensional Monte Carlo Simulation with optimization , which is facing a high compute intensive challenge. In this case, GPU computing is a must to give a practice answer to Logistics department in the industry. With growing complexity of supply chain network. The computation cost can't be beared. We are introducing Stochastic Kriging into this challenge to provide flexible, interpolation-based metamodels of simulations output performance measures, which accelerates the calculation. This makes the stochastic optimization framework more practical in industry.

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