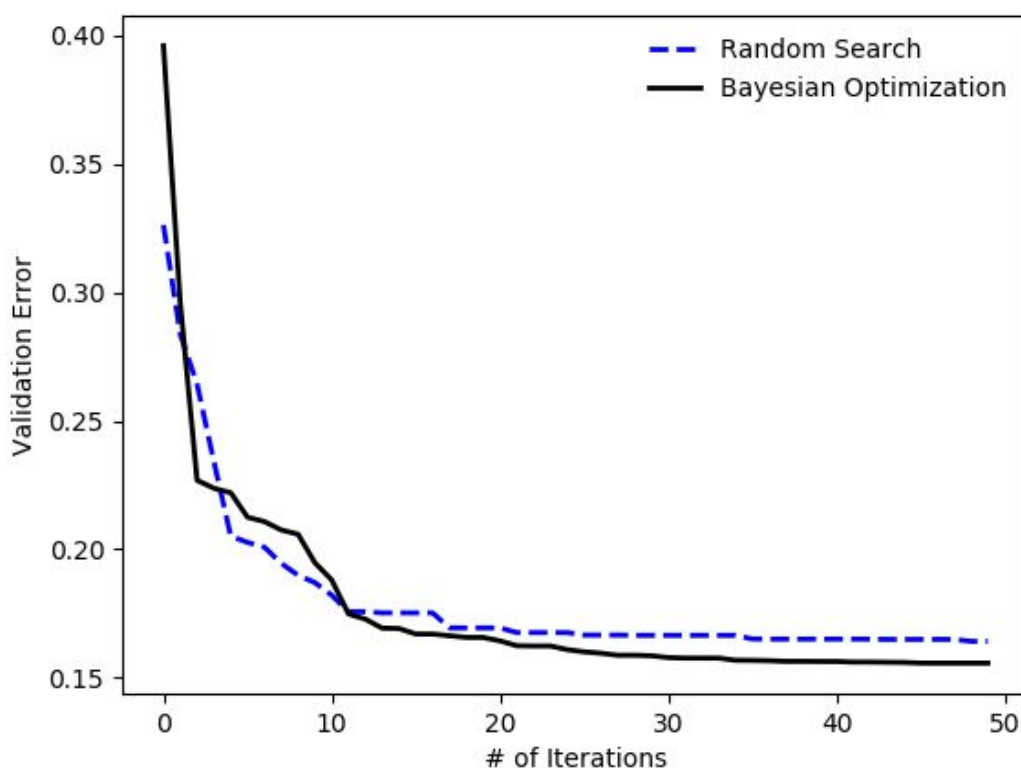


Salih Hasan Siddiqi

Hyperparameter Optimization Lab Report

The exercise was about hyperparameter optimization. The exercise involved first downloading the surrogate and then implementing Random Search and Bayesian optimization. Following plot compares the performance of both techniques:



As it is evident from plot, random search performs better in the start but as number of iteration increases, bayesian optimization starts to perform better as it is maintaining model of objective function which guides the search for next set of hyperparameters. On average, around 12 function evaluations are needed by Bayesian optimization to start performing better than Random Search. Following is the runtime vs no. of iterations plot. As evident, the runtime for Random Search is far more than runtime for Bayesian Optimization. The runtime would have

been much more if we evaluated the true objective function.

