

Vortragstitel: Features for Exploiting Black-Box Optimization Problem Structure

Abstract: Black-box optimization (BBO) problems arise in numerous scientific and engineering applications and are characterized by computationally intensive objective functions, which severely limit the number of evaluations that can be performed. We present a robust set of features that analyze the fitness landscape of BBO problems and show how an algorithm portfolio approach can exploit these general, problem independent features and outperform the utilization of any single minimization search strategy. We test our methodology on data from the GECCO Workshop on BBO Benchmarking 2012, which contains 21 state-of-the-art solvers run on 24 well-established functions.