

ABSTRACT

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SHOT - The Supporting Hyperplane Optimization Toolkit solver

The Supporting Hyperplane Optimization Toolkit (SHOT) is an open-source solver (<https://shotsolver.dev/shot/>) that was initially tailored for convex MINLP. For convex MINLP instances the solver has performed well in benchmarks compared to other state-of-the-art solvers, and recently the solver's capability of solving non-convex MINLP instances has been greatly improved. In the talk, we will go through some of the techniques utilized by the solver and we show how they impact the overall performance. For convex instances the solver builds upon a primal-dual search, and we will talk about the primal and dual algorithms used by the solver. We will also mention some of the techniques that the solver uses dealing with non-convex problems