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*Approximation Algorithms for Stochastic Minimum Norm Combinatorial Optimization*

In this work, we introduce and study stochastic minimum-norm optimization. We have an underlying combinatorial optimization problem where the costs involved are random variables with given distributions; each feasible solution induces a random multidimensional cost vector. We seek a solution that minimizes the expected norm of the induced cost vector, for a given monotone, symmetric norm. We give a general framework for devising approximation algorithms for stochastic minimum-norm optimization, using which we obtain approximation algorithms for the stochastic minimum-norm versions of the load balancing and spanning tree problems.

Based on joint work with Chaitanya Swamy.