

Combinatorial algorithms for submodular function minimization

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Abstract:

Submodular functions arise in a wide variety of applications, such as linear algebra, matroids, network flows, machine learning, natural language processing, etc. A key subroutine in many of these applications is to minimize a given submodular function. This course will introduce submodular functions, along with enough algorithmic tools to describe a variant of Schrijver's Algorithm, one of the breakthrough combinatorial algorithms for minimizing submodular functions.