

First order optimization methods

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Abstract

This talk will have an algorithmic focus describing recent advances in the theory, design and analysis of First Order Methods (FOM) for specific classes of convex and nonconvex optimization problems. The talk is intended to equip the students with a preliminary knowledge on FOM and some of the modern trends.

The talk will discuss the theory necessary to describe and understand fundamental properties of numerous algorithms for high dimensional problems arising in a broad diversity of applied areas, highlighting the ways in which problem structures and data information can be exploited to devise simple and efficient numerical methods.