

BILEVEL OPTIMIZATION FOR MACHINE LEARNING

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Bilevel optimization, the problem of minimizing a value function that involves the arg-minimum of another function, appears in many areas of machine learning of practical importance, like hyperparameter search or implicit deep learning.

This talk aims to describe machine learning problems in which bilevel optimization naturally appears, explain the differences with classical single-level optimization, and give an overview of recent algorithmic advances to solve the problem at scale.

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