



Einladung zum Oberseminar Mathematik des Maschinellen Lernens und Angewandte Analysis

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STRUCTURES Project

Multilevel Bregman Proximal Gradient Descent

We present the Multilevel Bregman Proximal Gradient Descent (ML BPGD) method, a novel multilevel optimization framework tailored to constrained convex problems with relative Lipschitz smoothness. Our approach extends the classical multilevel optimization framework (MGOPT) to handle Bregman-based geometries and constrained domains. We provide a rigorous analysis of ML BPGD for multiple coarse levels and establish a global linear convergence rate. We demonstrate the effectiveness of ML BPGD in the context of image reconstruction, providing theoretical guarantees for the well-posedness of the multilevel framework and validating its performance through numerical experiments.

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Zu diesem Vortrag laden wir Sie herzlich ein.

gez. Leon Bungert