

Optimization and Equilibrium Seminar

Speaker: Felipe Atenas

Affiliation: University of Melbourne. Australia.

Title: A distributed proximal splitting method with linesearch for problems with locally Lipschitz gradients.

Abstract: We consider finitely many agents over a connected network working cooperatively to solve a consensus optimization problem. Each agent owns a private convex cost function with a decomposable structure given by the sum of two terms, one smooth and one nonsmooth. In our distributed setting, no agent has direct access to the information of the overall network, but instead they can only communicate with their immediate neighbors. We propose a distributed primal-dual splitting method of proximal-gradient type that defines appropriate stepsizes by means of backtracking linesearch procedures. Our approach allows gradients to be only locally Lipschitz continuous, relaxing the common assumption of existing methods that require global Lipschitz continuity and predefined stepsizes, making it suitable for problems where global constants are unavailable or difficult to compute.

Miércoles 14 de mayo de 2025, a las 16:15 hrs.

Sala de Seminarios John Von Neumann del Centro de Modelamiento Matemático (Beauchef 851, Edificio Norte, Piso 7).



