

3341.454: Mathematical and Numerical Optimization

Assignment 3

Review of a research paper related to optimization

You choose a research paper that is related to optimization and other topics, **published** in a journal or a conference proceeding. Possible topics include, but are not limited to, optimization algorithms, computational methods and software, optimization methods for machine learning, and applications of optimization.

Your task is to explain the motivations and background of the paper, summarize the main contributions, discuss the key ideas and methods developed or used in the paper, and suggest some possible future directions. It is crucial to explain in great detail the mathematical formulation considered or developed in the paper as well as solution methods.

Timeline

- Report Deadline: June 17th 11:59 pm.

Requirements

You must provide and describe the following information at the beginning of your report.

- The information details of the research paper you choose. The title, the author list, the journal of the conference proceeding where the paper was published, page numbers, and the year of publication. For example,

Title: Data-driven distributionally robust optimization using the Wasserstein metric: performance guarantees and tractable reformulations.

Authors: Peyman Mohajerin Esfahani, Daniel Kuhn.

Journal: Mathematical Programming.

Volume: 171.

Pages: 115-166.

Year: 2018.

- Indicate whether the paper is about theory of optimization, optimization methodologies, or specific applications.

- The problem description with a specific formulation considered in the paper.
- A brief summary of the contributions of the problem.

There is no other specific requirement for your report format. However, a report has to properly motivate the problem setting, contain the main body describing the proposed methods, and discuss the main theoretical or numerical results. There is no page limit, but the report must be concise while being comprehensive at the same time.