Final Project

Si152 TA

December 1, 2024

In this project you need to implement your own QP algorithm and try to evaluate it by your self. Concretely, you need to do the following things.

literaure review: Before implementing our own algorithm, it is crucial to survey existing methodologies in the field. Conducting a thorough review of relevant academic papers is essential to identify the most effective approaches currently in use. This includes examining the details of their quadratic programming (QP) solvers, the benchmarks they utilize, and any other pertinent information. Such comprehensive research will provide valuable insights and inform the development of our own solution.

Implementation: You may implement the provided algorithm, with or without modifications. We encourage you to contemplate further: The paper primarily addresses feasible convex problems. Consider the scenario where the problem is infeasible, or if it is non-convex—will the algorithm still be effective? Are there alternative approaches you can propose for these cases? Including your thoughts on these matters can potentially earn additional credit. Please ensure that your submission includes your code, which can be written in either MATLAB or Python.

Test: It is now necessary to evaluate the model's performance. This can be accomplished through various methodologies, such as analyzing the impact of parameter variations within the model and plotting the resulting outcomes, or by deploying the model across different datasets to compare its performance. Regardless of the chosen approach, it is essential to include a comprehensive textual introduction, accompanied by relevant figures and charts, as this will constitute a crucial component of the evaluation process.
Submission: You need to submit your final report and the code.

We hope you can enjoy this project and gain something from it