

EE236C Project Instructions

EE236C requires a final project. The project should involve independent research, algorithm implementation and testing, documentation, and a project report. You can propose any topic related to the optimization courses EE236C and EE236B. Typical projects fall in one of the following two categories, but can also be a combination of the two.

- *Algorithms.* A project that focuses on EE236C material emphasizes numerical algorithms. This type of project includes:
 - An implementation (in MATLAB or another programming language) of an algorithm for a specific class of large-scale optimization problems, for example, based on first-order algorithms.
 - Numerical results and a comparison with alternative methods.
 - Software documentation.
- *Modeling.* A project that focuses on EE236B material emphasizes modeling, *i.e.*, the formulation of a tractable optimization model for a practical application. The final report of this type of project includes:
 - An introduction, with background on the area where the problem arises, its application, and the motivation for the project.
 - An optimization model, with a description of the optimization variables, constraints, and properties of the optimization problem, and the assumptions or simplifications that were made. The model can be convex or not. If it is not convex, you need to explain how it can be approached via techniques from convex optimization (for example, by making a convex relaxation or using a convex heuristic).
 - Numerical results, using CVX or other software, to validate the model.

You are asked to submit an initial proposal of your project topic (maximum two pages) by the end of week 5 (April 29). The final report is due on Wednesday, June 8.