

EE236C Course Project

EE236C requires a substantial course project, that should involve independent research, algorithm implementation and testing, and documentation.

Project topic

You can propose any topic related to the courses EE236A/B/C. A typical project will fall in one of the following two categories (or a combination of the two).

Modeling A project that focuses on EE236B material will emphasize modeling, *i.e.*, the formulation of a tractable optimization model for a practical problem. The final report of this type of project will include:

- An introduction, with background on the area where the problem arises, its application, and the motivation for the project.
- An optimization model, with a careful 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.

Algorithms A project that focuses on EE236C material will emphasize numerical algorithms. This type of project will include:

- An implementation in Matlab, Python, or C/C++, of an algorithm for a specific class of large-scale optimization problems, for example, based on first-order algorithms.
- Extensive numerical results, and a comparison with alternative methods.
- Software documentation.

Requirements

Initial proposal Submit a summary (max. two pages) of the project topic by May 8.

Final report. The final report, with supporting software, is due on June 5.