Labs
Optimization for Machine Learning
Spring 2019

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github.com/epfml/OptML_course

Problem Set 1, due March 1, 2019 (Convexity, Python Setup)

Convexity

Solve Exercises 1, 2, 3, 4, 7, 8 from the lecture notes.

Getting Started with Python

Follow the Python setup tutorial `python_setup_tutorial.md` provided on our `github` repository here:

github.com/epfml/OptML_course/tree/master/labs/ex01/

After you are set up, clone or download the repository, and start by filling in the template notebook in the folder `/labs/ex01`.

To get more familiar with vector and matrix operations using NumPy arrays, it is also recommended to go through the `npprimer.ipynb` notebook in the same folder. For computational efficiency of typical operations in machine learning applications, it is very beneficial to use NumPy arrays together with vectorized commands, instead of explicit `for` loops. The vectorized commands are better optimized, and bring the performance of Python code (and similarly e.g. for Matlab) closer to lower level languages like C.