Labs
Optimization for Machine Learning
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github.com/epfml/OptML_course

Problem Set 1, due Feb 29, 2020 (Convexity, Python Setup)

Convexity

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

Getting Started with Python

Many exercises in this course use Python notebooks. We recommend to run these notebooks in the cloud using Google Colab. This way, you do not have to install anything and you can even get a free GPU. If you prefer to work locally, follow the `python_setup_tutorial.md` provided on our `github` repository.

The first practical exercise is a primer on Numpy, a scientific computing library for Python. You can open the corresponding notebook in Colab using this link:

colab.research.google.com/github/epfml/OptML_course/blob/master/labs/ex01/template/numpy_primer.ipynb

For computational efficiency, explicit `for`-loops should be avoided in favor of NumPy's built-in commands. These commands are vectorized and thoroughly optimized, and bring the performance of numerical Python code (like for e.g. Matlab) closer to lower-level languages like C.