Labs Optimization for Machine Learning Spring 2024

EPFL School of Computer and Communication Sciences Martin Jaggi & Nicolas Flammarion github.com/epfml/OptML_course

Problem Set 0, Feb 23, 2024 (Python Setup)

Getting Started with Python

Many exercises in this course use Python notebooks. We recommend running 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 with this link:

 $colab.research.google.com/github/epfml/OptML_course/blob/master/labs/ex00/npprimer.ipynb$

For computational efficiency, avoid for-loops 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 Matlab) closer to lower-level languages like C.