

## **Problem Set 11, Nov 27, 2024**

### **(Matrix Factorizations and Recommender Systems & Q&A Session)**

**Goal** The goal of this exercise is to

- Build a recommender system.
- Learn to evaluate its performance.
- Implement and understand matrix factorization using SGD.
- Implement and understand the alternating least-squares (ALS) algorithm.

**Setup, data and sample code** Obtain the folder `labs/ex11` of the course github repository:

[github.com/epfml/ML\\_course/tree/main/labs/ex11](https://github.com/epfml/ML_course/tree/main/labs/ex11)

You can also use the notebook in Google Colab:

[colab.research.google.com/github/epfml/ML\\_course/blob/main/labs/ex11/template/ex11.ipynb](https://colab.research.google.com/github/epfml/ML_course/blob/main/labs/ex11/template/ex11.ipynb)

Note that if you use Colab, you need to manually add the other files in the `template` folder to Colab.

The notebook guides you through data preparation, the design of baselines, and the implementation and training of a Matrix Factorization algorithm for recommendation.