

Assignment 3: Practice of recommender system

In this assignment, we aim to apply the methods proposed in the NCF paper [1] to recommender task of MovieLens. Please read the paper carefully and implement the three methods: GMF (3.2), MLP (3.3), and NeuMF (3.4). The specific requirements are listed below:

1. Use the latest version of PyTorch (10 points).
2. Implement the three methods without redundant code (It means that three methods only differ from the neural network and share the same training and testing, 10 points).
3. Follow the training and test setting introduced in the Subsection 4.1.
4. Compare the three methods using the metrics of HR@10 and NDCG@10.
5. Reproduce the ablation study in Table 3: comparing the results of MLP with different layers.

You will need to submit the code by creating a pull request in the GitHub repo and report the results in one page (blackboard).

[1] He, Xiangnan, et al. "Neural collaborative filtering." *Proceedings of the 26th international conference on world wide web*. 2017.