Submission #3: Learning-To-Rank

Total Points: 40 (28 mandatory, 12 additional)
Submission Structure:

- link to the repository
- branch and commit hash for evaluation
- pdf report [optional in case of repository is self-explanatory with clear readme files]

Mandatory Tasks (28 points)

Matrix Factorization Algorithm (14 points)

Objective

Implement two Learning-To-Rank models and compare their performance using ranking-specific metrics. Additionally, integrate them into the evaluation framework used for previously developed models.

Deliverables

- Implementation of two Learning-To-Rank models
- Jupyter notebook/notebooks with experiments

Two-Stage Recommendation Pipeline (14 points)

Design and implement a two-stage recommender system pipeline consisting of a candidate generation step followed by a ranking step. Include this pipeline in your evaluation framework, and describe the potential drawbacks and benefits of such an approach.

Objective

- Pipeline implementation
- Jupyter notebook/notebooks with experiments, evaluation, and analysis

Deliverables

Additional Task (12 points)

Sequential-Based Recommender System(12 points)

Objective

Implement a sequential-based recommender system and benchmark its performance against the other models.

Deliverables

- Implementation of a sequential recommender system (RNN, MarkovChain, Bert4Rec, or any other)
- Jupyter notebook/notebooks with experiments