

CMPE 211 - Data Structures and Algorithms

Project - Recommender Systems From Scratch

Necessary steps for building a recommender system is explained in the course. You can find the material at <https://github.com/uzay00/CMPE211>. Based on our discussions, implement a recommender system from scratch with Java. Use what you have learned in our CMPE 211 - Data Structures and Algorithms course.

Part 0 Data

- 1P Choose an appropriate data structure.
- 1P Load MovieLens Data to a nested symbol table.

Part 1 User-based recommendation

- 1P write a *dist()* function
- 1P write a *intersection()* function
- 1P write a *sim.distance()* function
- 2P write a *topMatches()* function
- 2P write a *getRecommendations()* function

Part 2 Item-based recommendation

- 1P write a *transformPrefs()* function
- 1P apply Part 1 function to transformed data.
- 2P write a *calculateSimilarItems()* function
- 2P write a *getRecommendedItems()* function and apply to movielens data

Bonus Discuss possible research directions based on this recommender system. You may get extra points for your creative thinking for the discussion part of our course.