

Task

I need you to build a **recommendation system** for this [dataset](#)

3 types of **recommendations**

[**Recommended for you + Similar items + Frequently bought together**]

Recommendation Generation:

- a. I should be able to send a user ID to the flask endpoint and retrieve a **set** of items that are **tailored** for this user
- b. I should be able to send an Item ID to the flask endpoint and retrieve a **set** of items that are **similar** to this item (properties wise).
- c. I should be able to send an Item ID to the flask endpoint and retrieve a set of items that are **frequently bought** with this item.

Evaluation:

- a. Split the dataset into training and testing sets.
- b. Measure the performance of the recommendation engine using appropriate metrics.
- c. Provide insights into the strengths and weaknesses of the recommendation engine based on the evaluation results.

Model Improvement (Bonus):

- a. Experiment with different similarity metrics or techniques (e.g., matrix factorization, hybrid approaches) to improve the recommendation engine's performance.
- b. Re-evaluate the improved model's performance on the testing set and compare it with the initial model.

Documentation and Presentation:

- a. Write clear and well-organised code with appropriate comments.
- b. Present the results, analysis, and interpretation of the recommendation engine in a report or presentation format, highlighting its performance and any improvements made.