

Final Exam

Recommender Systems

This exam uses the following datasets:

- **beauty_amazon_items.csv** that includes the details of the beauty products on the amazon website. Some info about the features:
 - Description - The product description
 - Title - The product title
 - Brand - The brand of the product
 - Price - The price of the product
 - ItemId - The ID of the product
- **beauty_amazon_reviews.csv** that represents the interactions between the customers and the beauty products on the amazon website.
 - Rating - The rating associated with the review
 - Time - The time associated with the review
 - UserId - The ID of the user
 - ItemId - The ID of the product
 - Review - The review given to the product
 - Summary - The title of the review

Using the aforementioned datasets, you will:

- **(4pt) Explore the data and create the test sets** - *Explore both the interactions (reviews, time, ratings ...) and the item descriptions.
!! don't forget to separate the sets according to the time and to not shuffle !!*
- **(12pt) Build a recommendation models**
 - (Mandatory) Build a **popularity** model
 - (Mandatory) Build a **content-based** model
 - (Mandatory) Build a **collaborative filtering** model
 - (Bonus points) Build a **model-based collaborative filtering** model
- **(4pt) Comment & analyze your results** - *This task includes both the analysis of the recommendations and the analysis of the metrics on the test set*