

Film Wizard

A Movie Recommender System

By Daniel M. Smith

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Business Problem

The PTBs requested a POC. Interested in a targeted system in order to improve stickiness on the gaming site.



Data

MovieLens 100K -GroupLens research
lab at the University of Minnesota

4 files

-100K user ratings of movies (.5 - 5)

-Tags for descriptions

-Movies

-Links to tmdb, imdb

movielens

Non-commercial, personalized movie recommendations.

[sign up now](#)

or [sign in](#)

recommendations

MovieLens helps you find movies you will like. Rate movies to build a custom taste profile, then MovieLens recommends other movies for you to watch.

top picks

[see more](#)

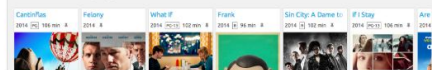
based on your ratings, MovieLens recommends these movies



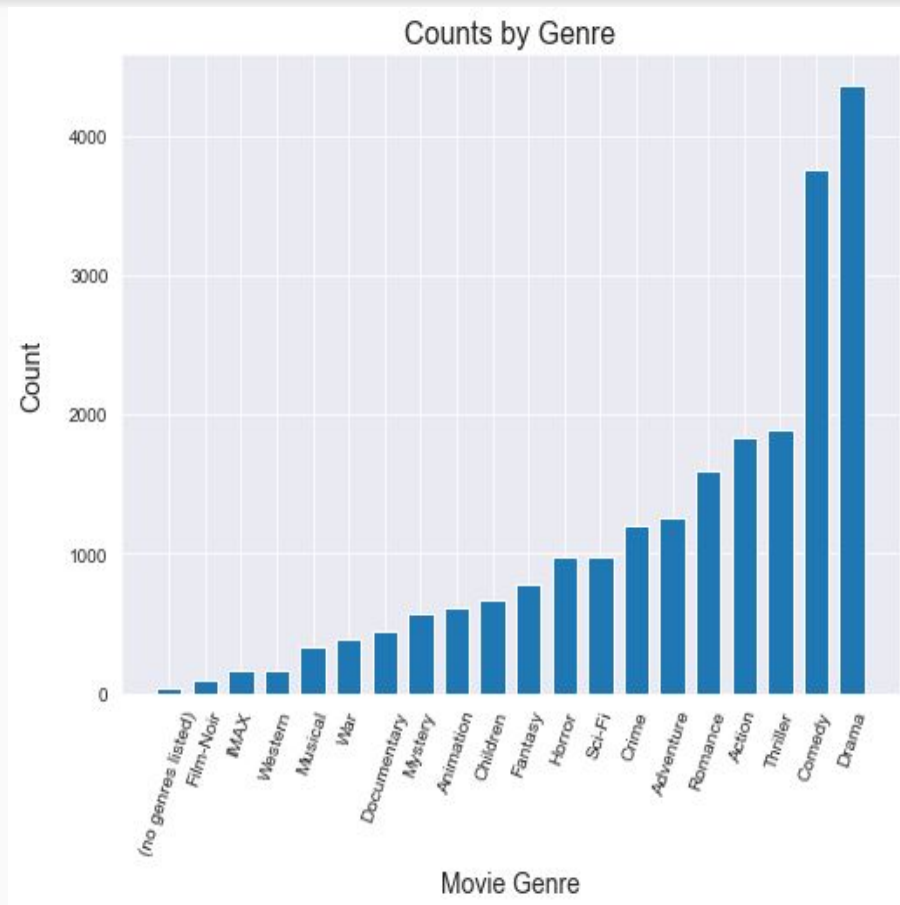
recent releases

[see more](#)

movies released in last 90 days that you haven't rated

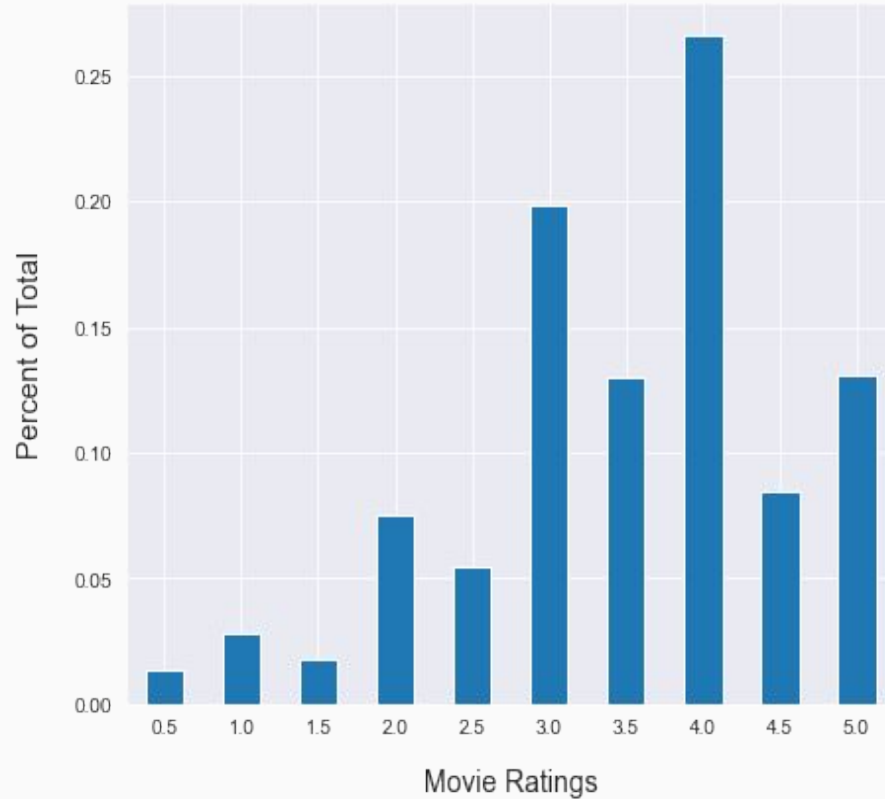


Data-Genre Counts

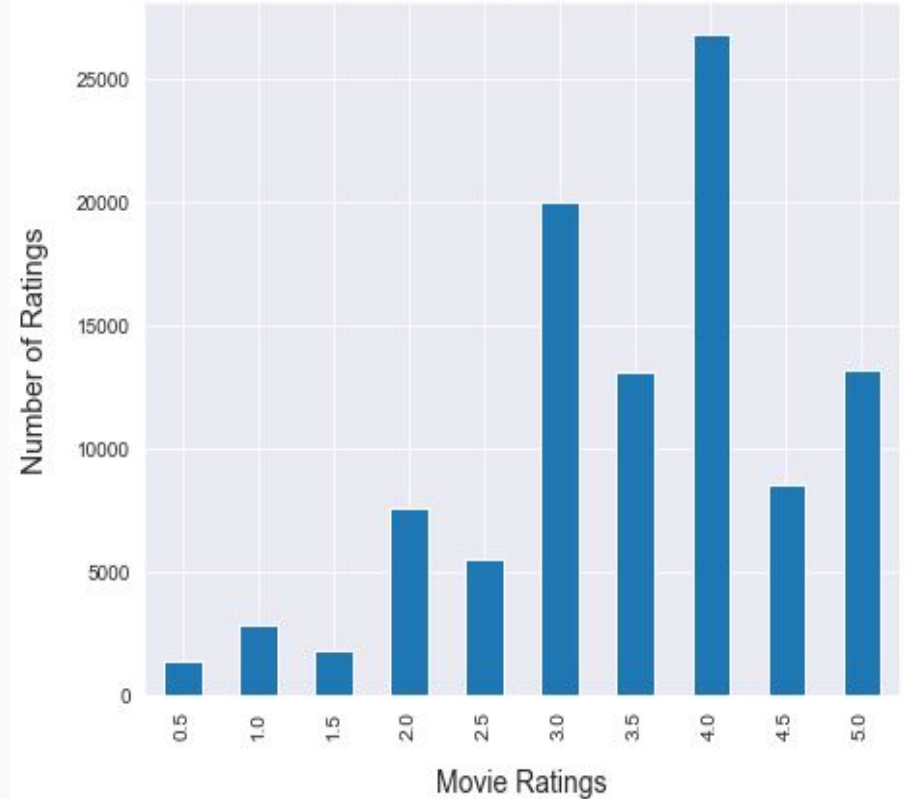


Data-Ratings, Genre

Movie Ratings by Percent of Total

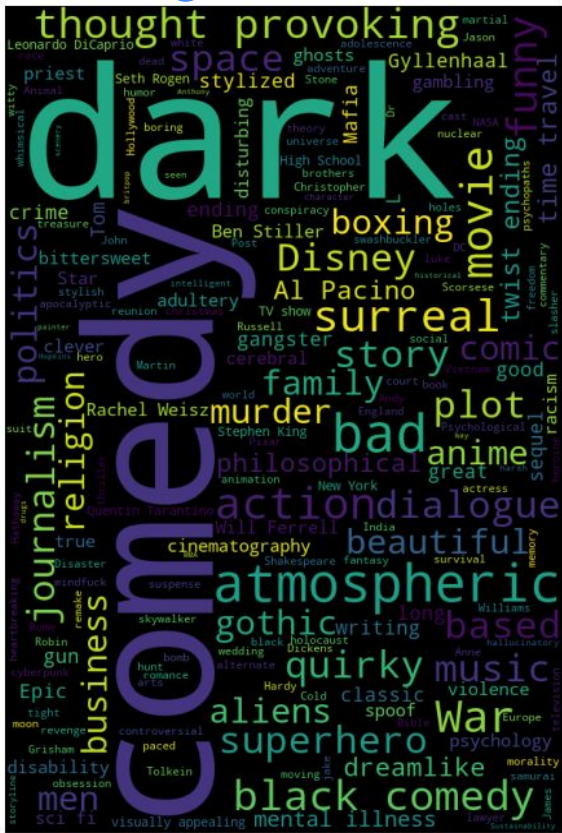


Movie Ratings by Count



Data-Tags

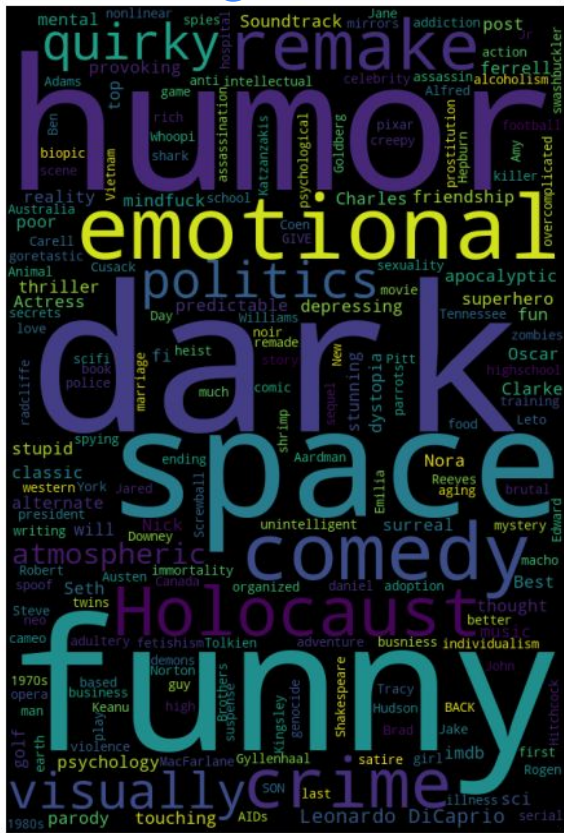
Rating ≥ 4.5



All Tags



Rating ≤ 1.5



Methods

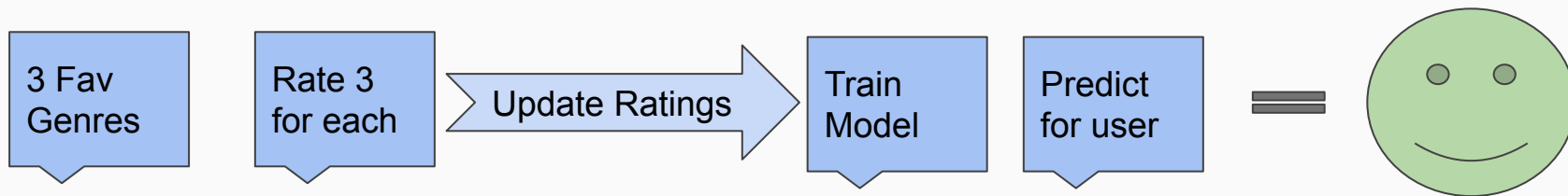
Recommender System

Collaborative Filtering

Model Based Filtering

K Fold Cross Validation

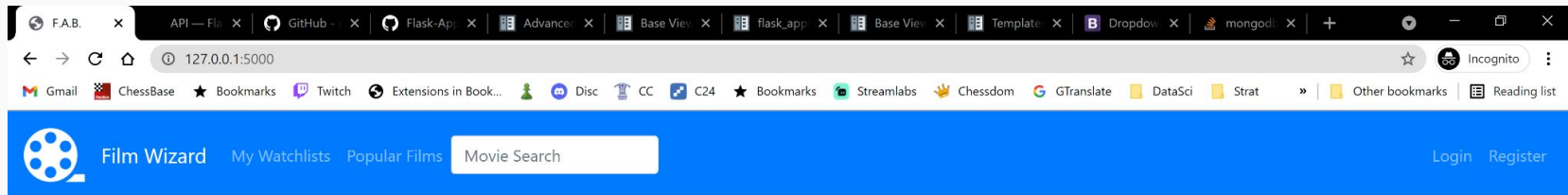
GridSearch



Results

Model	RMSE	MSE	Fit Time(sec)
SVD	<u>0.8696</u>	<u>0.6670</u>	4.99
BaselineOnlyALS	0.8725	0.6727	0.25
KNNwMeans	0.8924	0.6815	0.24
CoClustering	0.9420	0.7295	2.89
KNNBasic	0.9458	0.7254	<u>0.18</u>

Front End Preview



Create a wizard...

New Wizard

Now Trending



Information provided by [The Movie Database](#). All source code can be seen at my [Github](#).

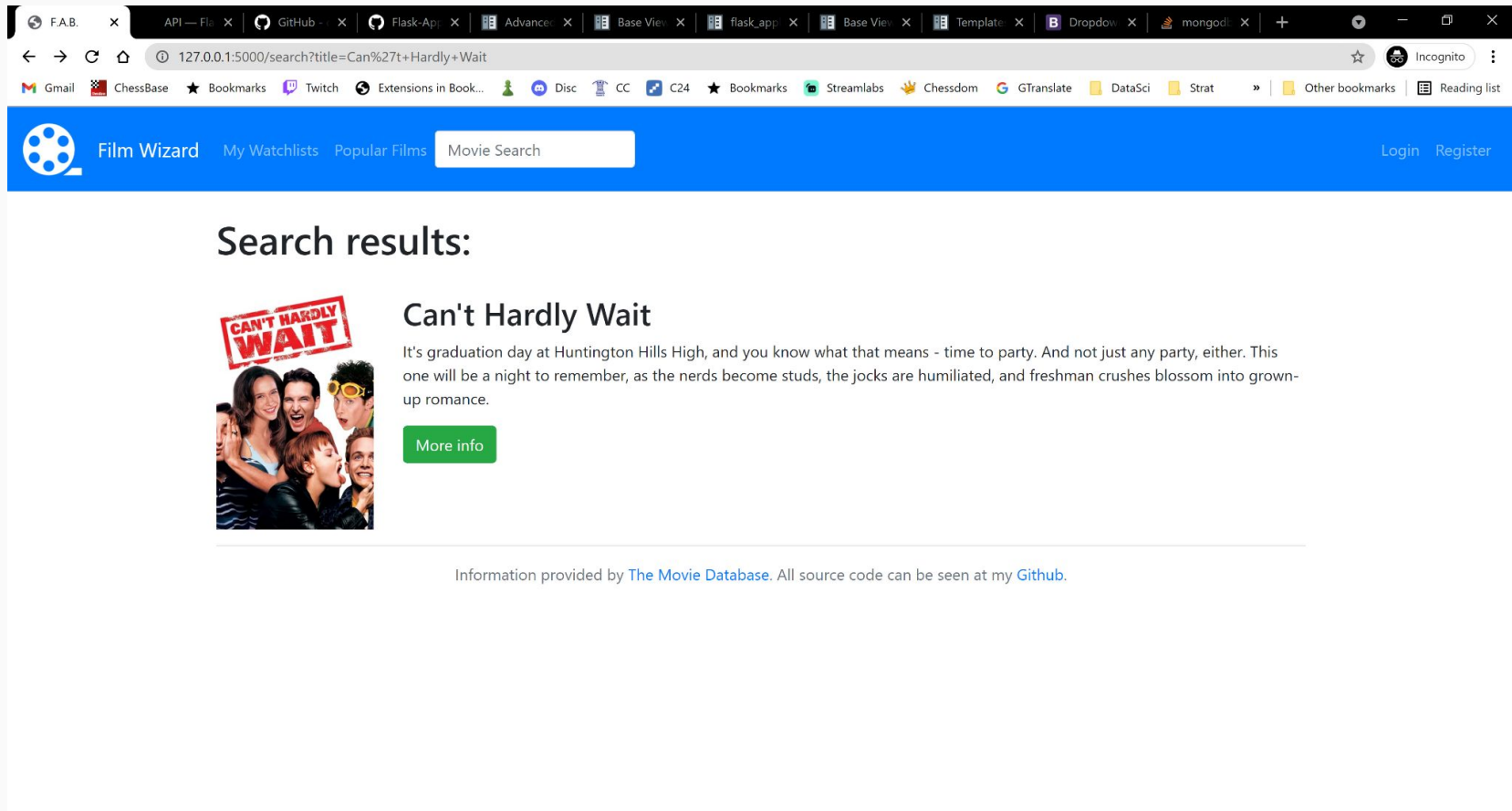
Themoviedb.com API

← → ↻ 🏠 api.themoviedb.org/3/movie/550?api_key= ☆

📱 Apps 📧 Gmail 🏁 ChessBase ★ Bookmarks 🗨️ Twitch 🔄 Extensions in Book... 👤 Disc 📄 CC 📺 C24 ★ Bookmarks 📺 Streamlabs 🏆 Chessdom 🌐 GTranslate 📄 DataSci

```
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Front End Preview



Development Stack

1. Designed with **layitout.com**
2. **Flask** (python based) and Bootstrap4 w Blueprints tying together components of views(login and routes) and the templates(html)
3. **SQLite** database and **SQLAlchemy** (ORM)
4. Tested deployment on Heroku (possibly streamlit.io)

Future Work





- Finalize web app to be fully Operational
- Implement Hybrid Collaborative Model

Sentence of interest, mood, type NLP

Flexible between recommender models

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