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Batch code: LISUM18

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Submitted to: Data Glacier

Api and cloud deployment on heroku

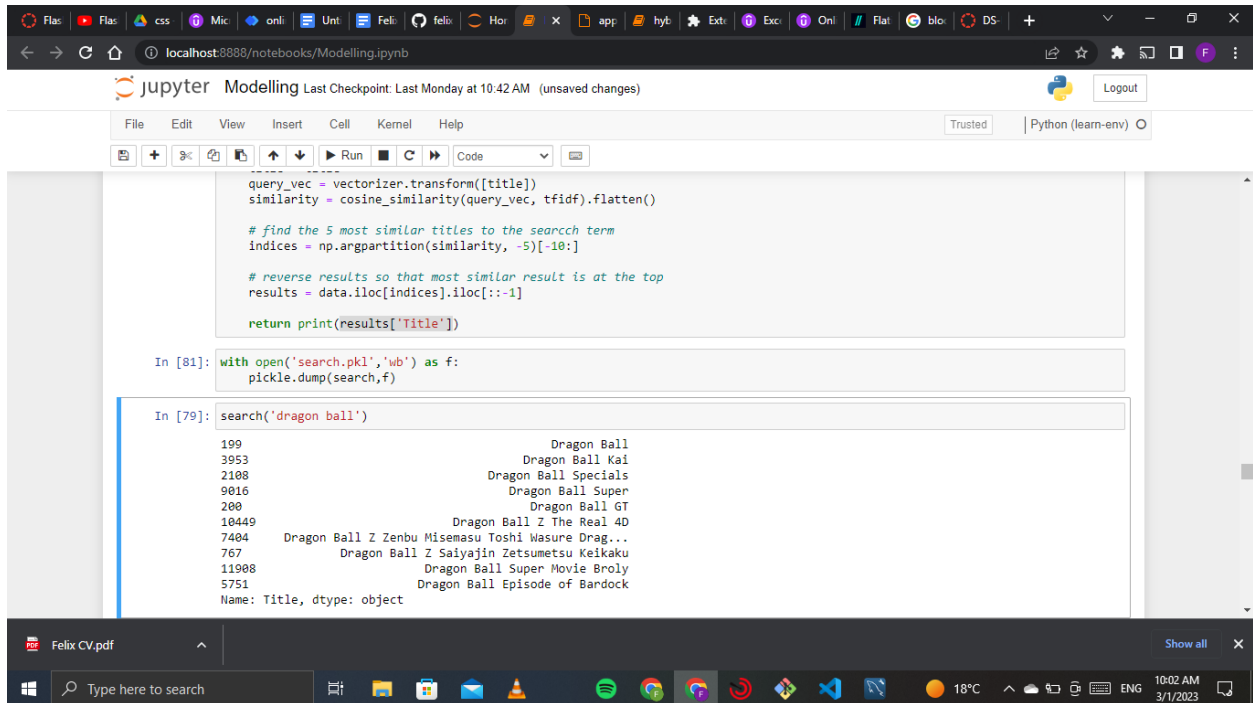
Deployed my anime-recommendation system on heroku through Flask

Used anime data from [kaggle](https://www.kaggle.com/datasets/anime/multiple-anime-data)

The screenshot displays a Jupyter Notebook titled 'hybrid recommender system' running on a local host. The notebook contains a Python code cell that reads a CSV file named 'Anime_data.csv' and displays the first few rows of the data. The data table includes columns for Anime_id, Title, Genre, Synopsis, Type, Producer, Studio, Rating, ScoredBy, Popularity, Members, Episodes, Source, and Aired.

	Anime_id	Title	Genre	Synopsis	Type	Producer	Studio	Rating	ScoredBy	Popularity	Members	Episodes	Source	Aired
0	1	Cowboy Bebop	['Action', 'Adventure', 'Comedy', 'Drama', 'Sci-Fi']	In the year 2071, humanity has colonized several planets.	TV	['Bandai Visual']	['Sunrise']	8.81	363889.0	39.0	704490.0	26.0	Original	Apr 3, 1998 to Apr 24, 1999
1	5	Cowboy Bebop: Tengoku no Tobira	['Action', 'Space', 'Drama', 'Mystery', 'Sci-Fi']	Another day, another bounty—such is the life of the	Movie	['Sunrise', 'Bandai Visual']	['Bones']	8.41	111187.0	475.0	179899.0	1.0	Original	Sep 1, 2001
2	6	Trigun	['Action', 'Sci-Fi', 'Adventure', 'Comedy', 'Drama']	Vash the Stampede is the man with a \$560,000,000 bounty on his	TV	['Victor Entertainment']	['Madhouse']	8.31	197451.0	158.0	372709.0	26.0	Manga	Apr 1, 1998 to Sep 30, 1998
3	7	Witch Hunter Robin	['Action', 'Magic', 'Police', 'Supernatural', 'Drama']	Witches are individuals with special powers like	TV	['Bandai Visual']	['Sunrise']	7.34	31875.0	1278.0	74889.0	26.0	Original	Jul 2, 2002 to Dec 24, 2002

Saved my model



The screenshot shows a Jupyter Notebook interface with the title 'Modelling'. The code in the notebook defines a function to find similar titles based on a search term. It uses TF-IDF vectorization and cosine similarity. The output of the function for the search term 'dragon ball' is displayed as a list of titles with their corresponding similarity scores.

```
query_vec = vectorizer.transform([title])
similarity = cosine_similarity(query_vec, tfidf).flatten()

# find the 5 most similar titles to the search term
indices = np.argsort(similarity, -5)[-10:]

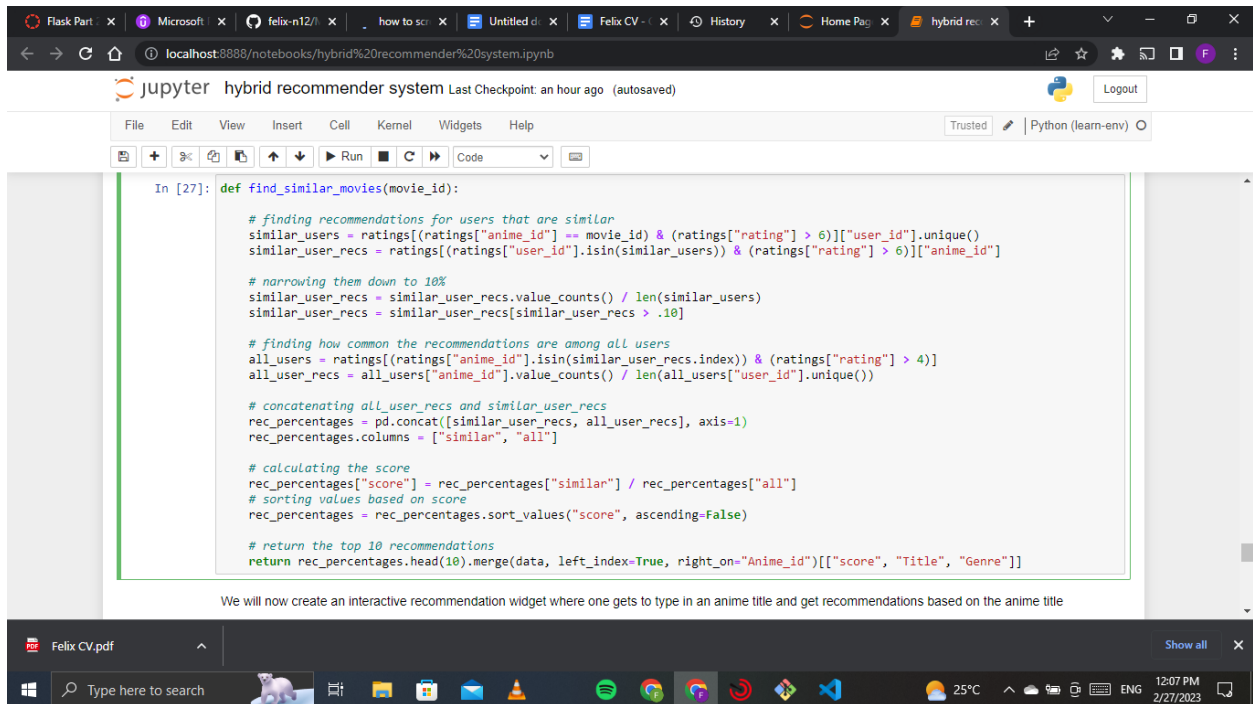
# reverse results so that most similar result is at the top
results = data.iloc[indices].iloc[::-1]

return print(results['Title'])
```

In [81]: `with open('search.pkl', 'wb') as f:`
`pickle.dump(search, f)`

In [79]: `search('dragon ball')`

```
199          Dragon Ball
3953        Dragon Ball Kai
2108        Dragon Ball Specials
9016        Dragon Ball Super
200         Dragon Ball GT
10449       Dragon Ball Z The Real 4D
7404   Dragon Ball Z Zenbu Misemasu Toshi Wasure Drag...
767    Dragon Ball Z Saiyajin Zetsumetsu Keikaku
11908   Dragon Ball Super Movie Broly
5751   Dragon Ball Episode of Bardock
Name: Title, dtype: object
```



The screenshot shows a Jupyter Notebook interface with the title 'hybrid recommender system'. The code defines a function `find_similar_movies` that takes a movie ID and returns the top 10 recommendations based on a score calculated from user ratings. The output of the function is a list of recommendations with their scores, titles, and genres.

```
def find_similar_movies(movie_id):

    # finding recommendations for users that are similar
    similar_users = ratings[(ratings["anime_id"] == movie_id) & (ratings["rating"] > 6)]["user_id"].unique()
    similar_user_recs = ratings[(ratings["user_id"].isin(similar_users)) & (ratings["rating"] > 6)]["anime_id"]

    # narrowing them down to 10%
    similar_user_recs = similar_user_recs.value_counts() / len(similar_users)
    similar_user_recs = similar_user_recs[similar_user_recs > .10]

    # finding how common the recommendations are among all users
    all_users = ratings[(ratings["anime_id"].isin(similar_user_recs.index)) & (ratings["rating"] > 4)]
    all_user_recs = all_users["anime_id"].value_counts() / len(all_users["user_id"].unique())

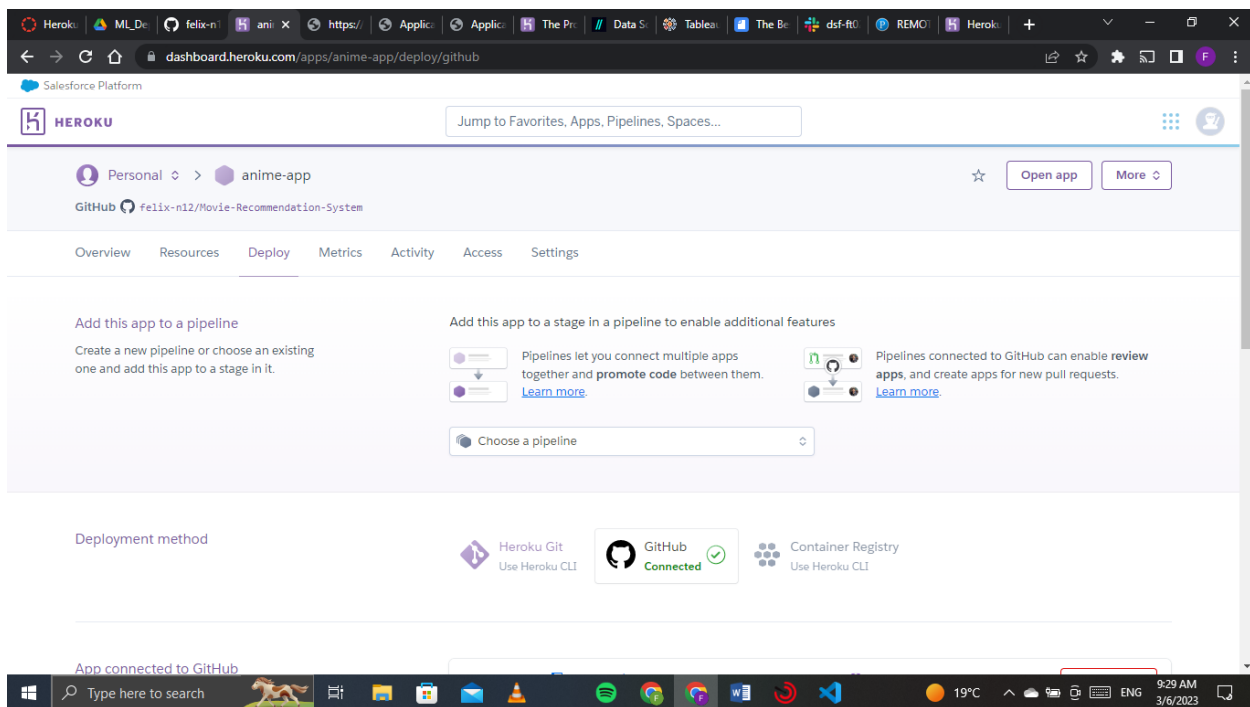
    # concatenating all user_recs and similar_user_recs
    rec_percentages = pd.concat([similar_user_recs, all_user_recs], axis=1)
    rec_percentages.columns = ["similar", "all"]

    # calculating the score
    rec_percentages["score"] = rec_percentages["similar"] / rec_percentages["all"]
    # sorting values based on score
    rec_percentages = rec_percentages.sort_values("score", ascending=False)

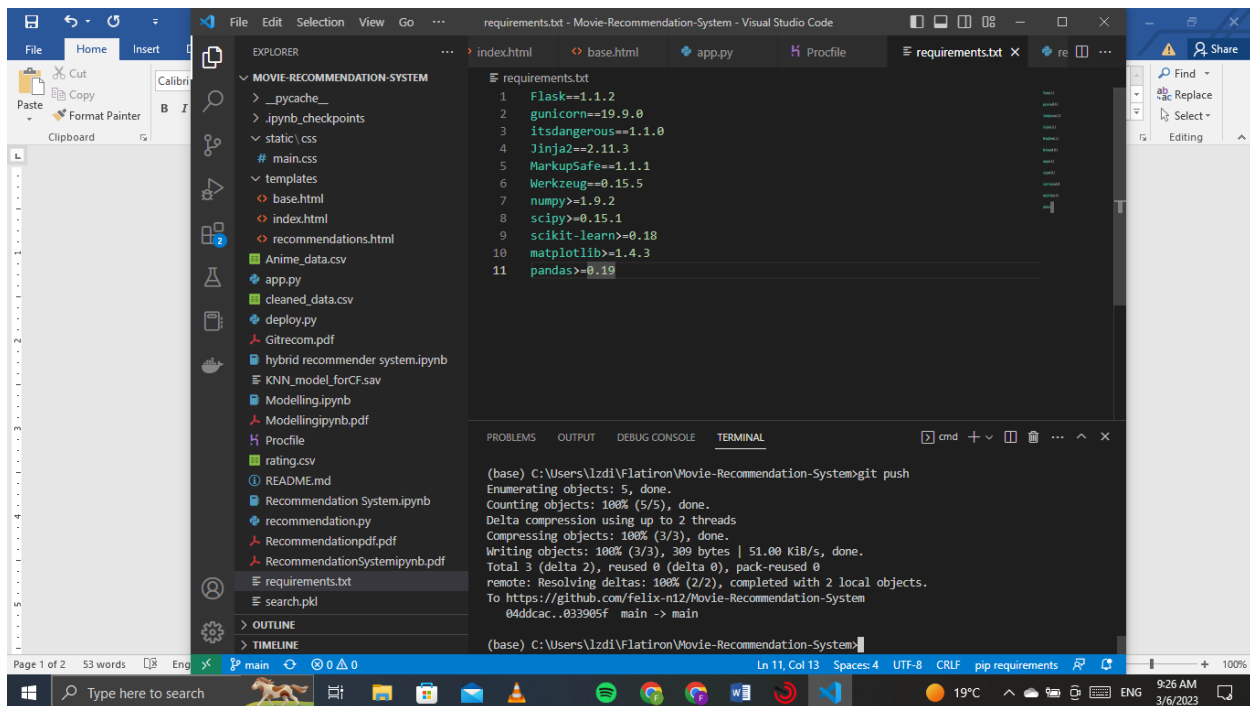
    # return the top 10 recommendations
    return rec_percentages.head(10).merge(data, left_index=True, right_on="Anime_id")[["score", "Title", "Genre"]]
```

We will now create an interactive recommendation widget where one gets to type in an anime title and get recommendations based on the anime title

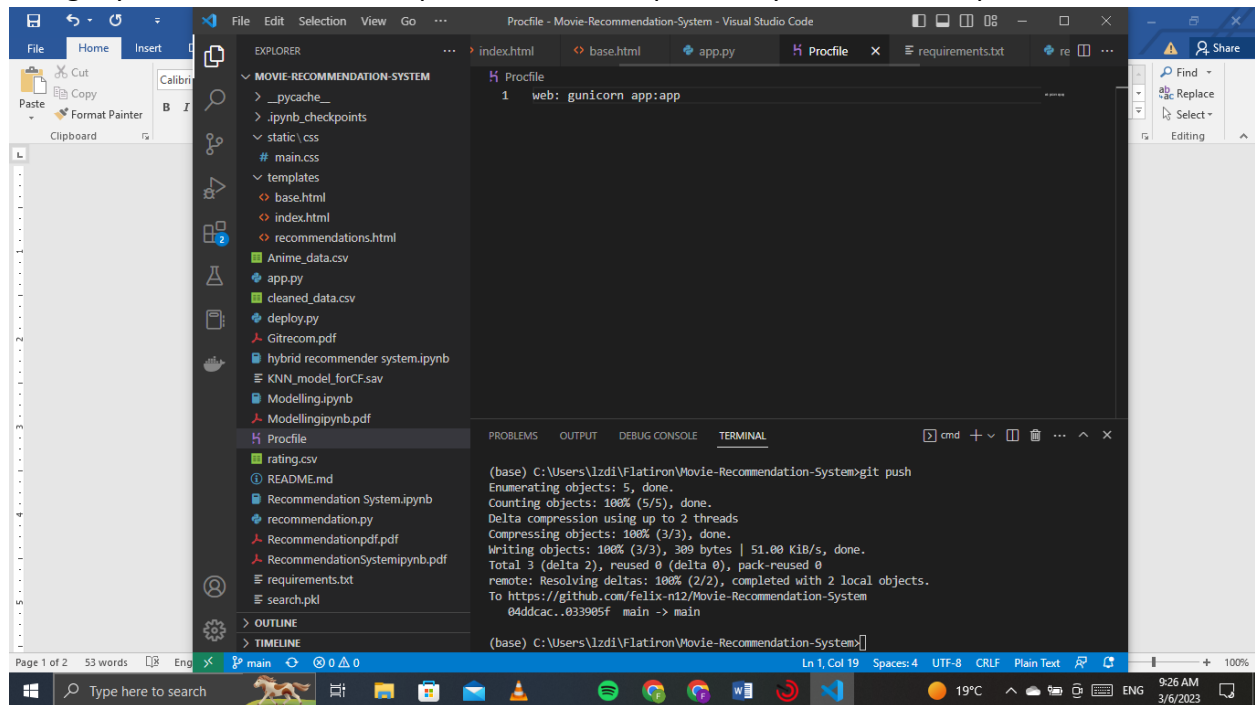
Opened my Heroku account and linked it to github



Using my requirements file to install all the dependencies on the heroku environment



Using my Procfile to define the processes to take place only used the web process



Deployment is now ready

Heroku ML_Dc felix-n1 ani x https:// Applic Applic The Pr // Data S Tablea The Bc dsf-ft0 REMO Heroku +

dashboard.heroku.com/apps/anime-app/deploy/github

Salesforce Platform

HEROKU Jump to Favorites, Apps, Pipelines, Spaces...

Manual deploy

Deploy the current state of a branch to this app.

Deploy a GitHub branch

This will deploy the current state of the branch you specify below. [Learn more.](#)

Choose a branch to deploy

main Deploy Branch

Receive code from GitHub ✓

Build main 033905f5 ✓

Release phase ✓

Deploy to Heroku ✓

Your app was successfully deployed.

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The homepage of the web been deployed through heroku

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anime-app.herokuapp.com

All day Anime All day




Dragon ball Submit

The output page after running the search for Dragonball.

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anime-app.herokuapp.com/recommend

All day Anime All day



Here are your search results:

- Dragon Ball
- Dragon Ball Kai
- Dragon Ball Specials
- Dragon Ball Super
- Dragon Ball GT
- Dragon Ball Z The Real 4D
- Dragon Ball Z Zenbu Misemasu Toshi Wasure Dragon Ball Z

Type here to search

18°C 9:02 AM 3/6/2023