



HAPPYFLIX

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* Camera captured emotional analysis coming soon. No privacy policy.



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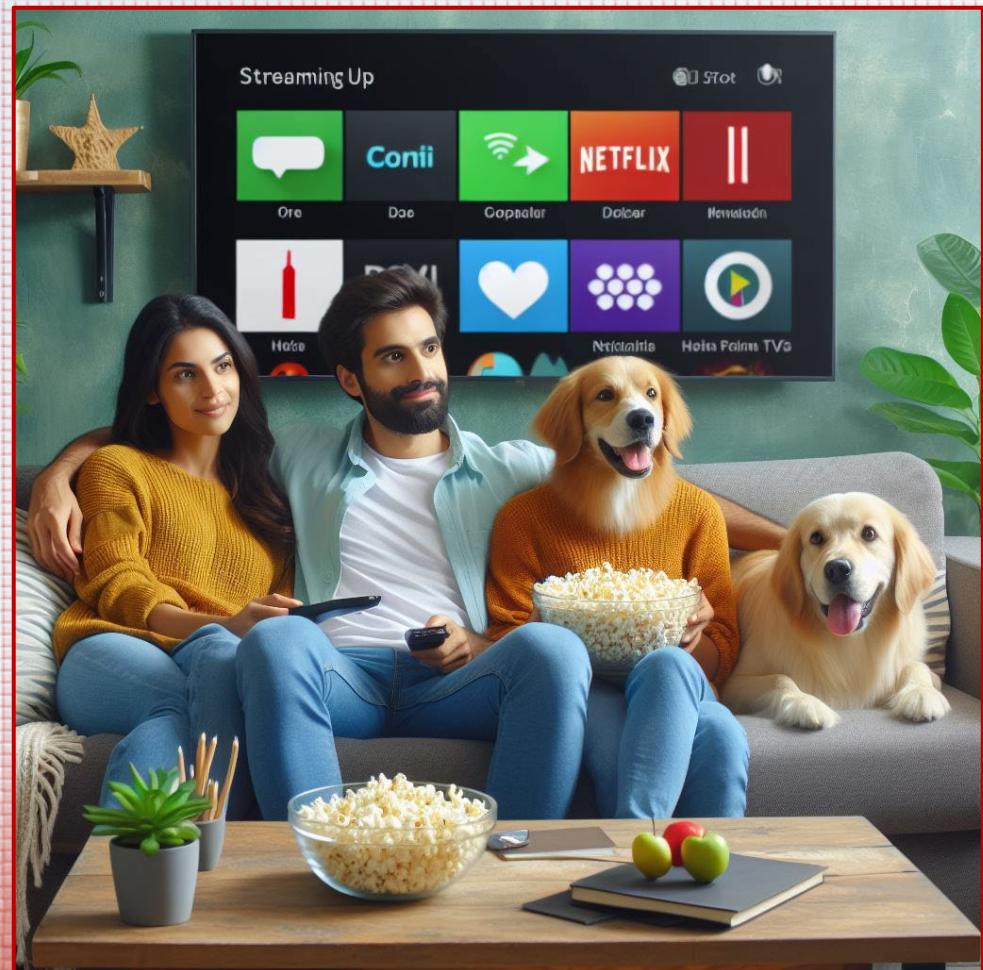
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Chief
Executive
Development
Team

Michael Ford
Cristian Goian
Sean Kavanagh
Chris Martella
Taylor Peterson

Project Overview

- Movie suggestions based on emotions
- Using voice input, users describe their day, mood, and desired movie type
- Users can specify genres, vibes, themes, or specific subjects
 - aliens
 - brooms
 - bananas
 - capybaras
 - robots
 - vampires
 - anything else!



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Dependencies

- Python 3.10
- Jupyter Notebook
- OpenAI API
- Pandas
- NumPy
- Transformers
- Matplotlib
- Wordcloud
- Stopwords
- Scikit-learn
- Seaborn
- Natural Language Toolkit
 - WordNetLemmatizer
 - WordTokenize
 - Stopwords
 - VaderLexicon
 - SentimentIntensityAnalyzer
- VADER
- Gradio (Hugging Face)

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Emotions

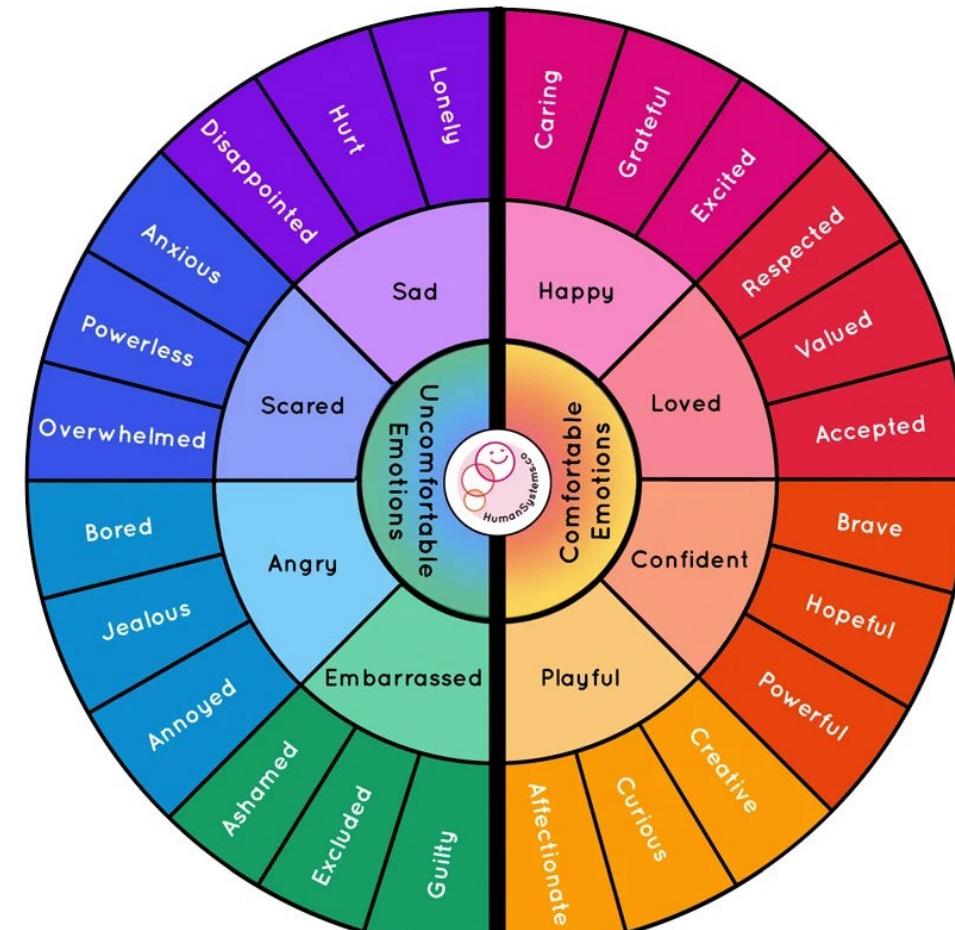
- Used the Stanford Emotion Wheel
- OpenAI analyzed the imputed text for keywords and emotional correlations
- Outputted emotions were coded into a .txt file and then put through our model



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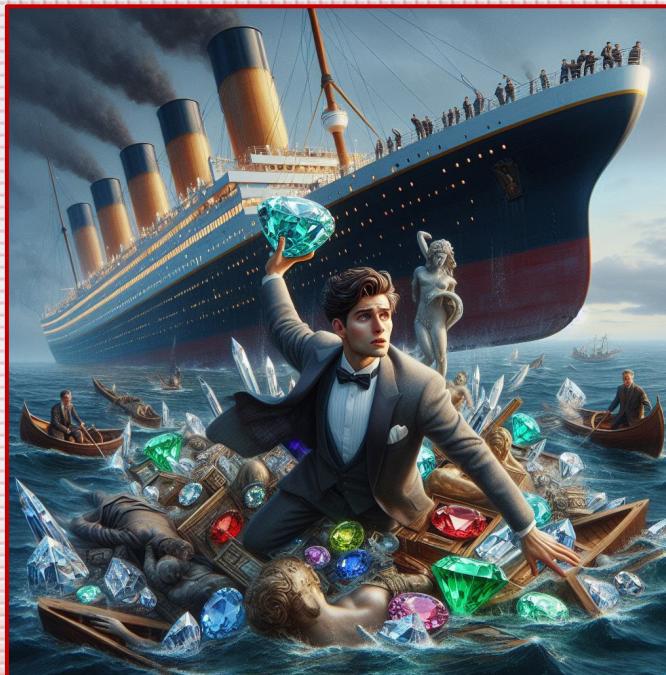
Emotion Wheel I



Goals

Create an audio capture interface that selects three movies based on an individual's emotions using AI

- Use AI to extract the speaker's sentiment and genre preference
- Display 3 recommended movies from TMDB containing:
 - * Release year
 - * A brief overview
 - * User analyzed sentiment
 - * Movie poster image

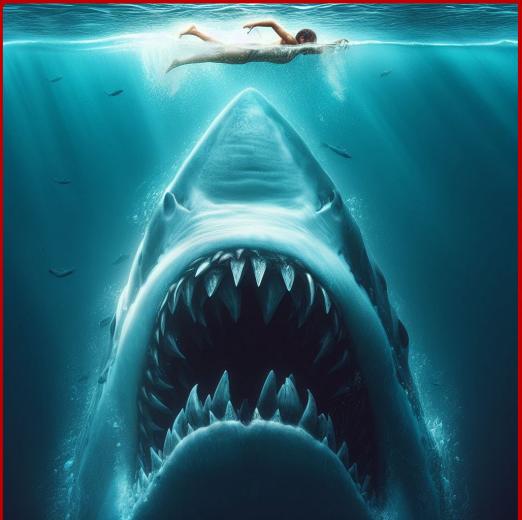


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Dataset Details

- The Movie Database (TMDB) API
- Over 6,000 popular movies
- January 1970 – April 2024
- Release dates
- Overview summaries
- Review summaries



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Dataset Explanations

- Movie Title
- Release Dates
- Total Votes
- Release Date
- Movie Overview
- Lemmatized Overviews
- Lemmatized Movie Reviews
- Adjective Counts
- Noun Counts
- Movie Review Sentiment



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Movie Types / Genres

- Action
- Adventure
- Animation
- Comedy
- Crime
- Documentary
- Drama
- Family
- Fantasy
- History
- Horror
- Music
- Mystery
- Romance
- Science Fiction
- TV Movie
- Thriller
- War
- Western



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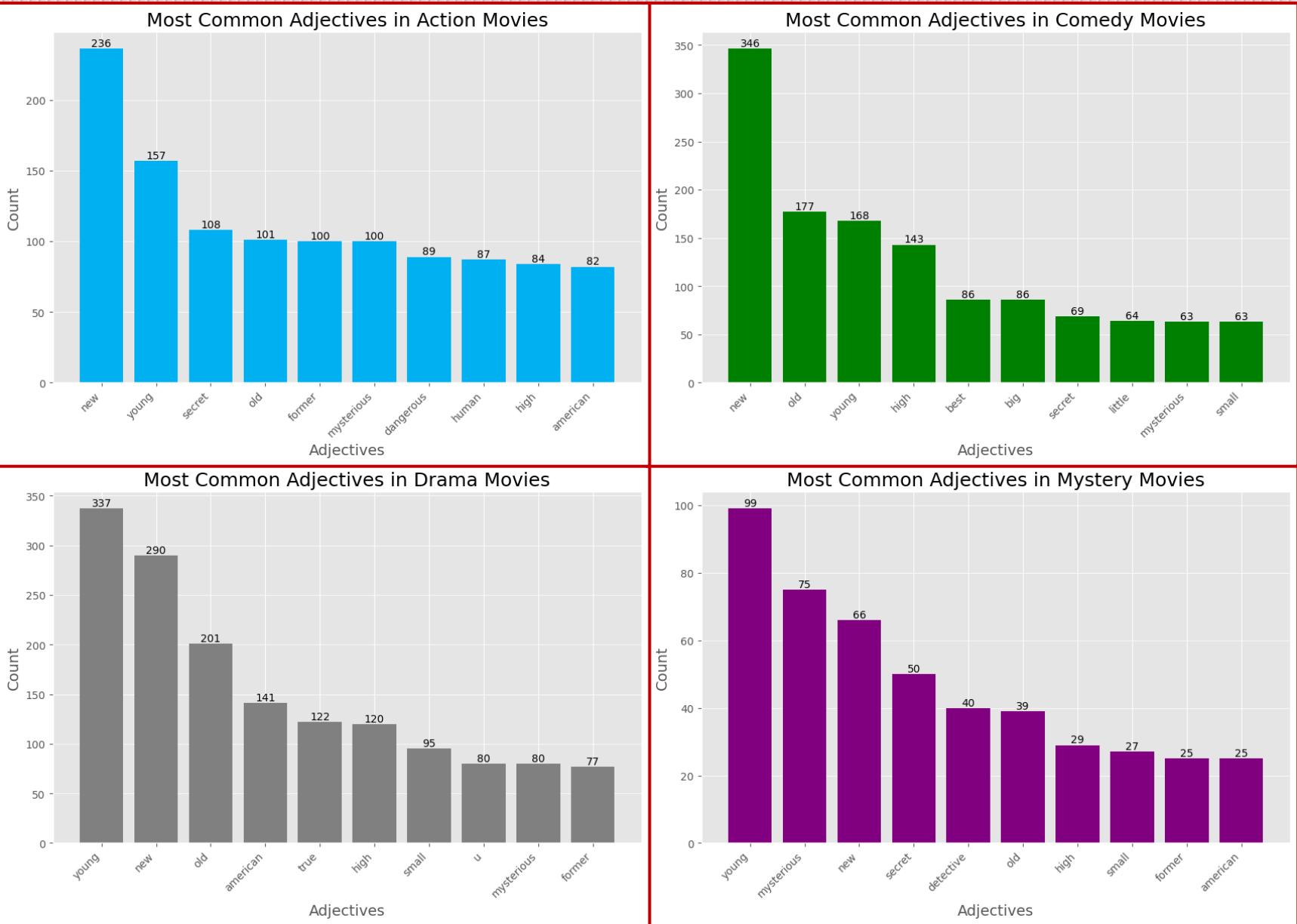
Purged Data

- Movie ID number
- Popularity Score
- Release month and day from release date
- Total recommended votes

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Adjectives in Reviews



Wordclouds

- We adjusted the stopwords to get different wordcloud results and looked at subsets of the data (such as genres)



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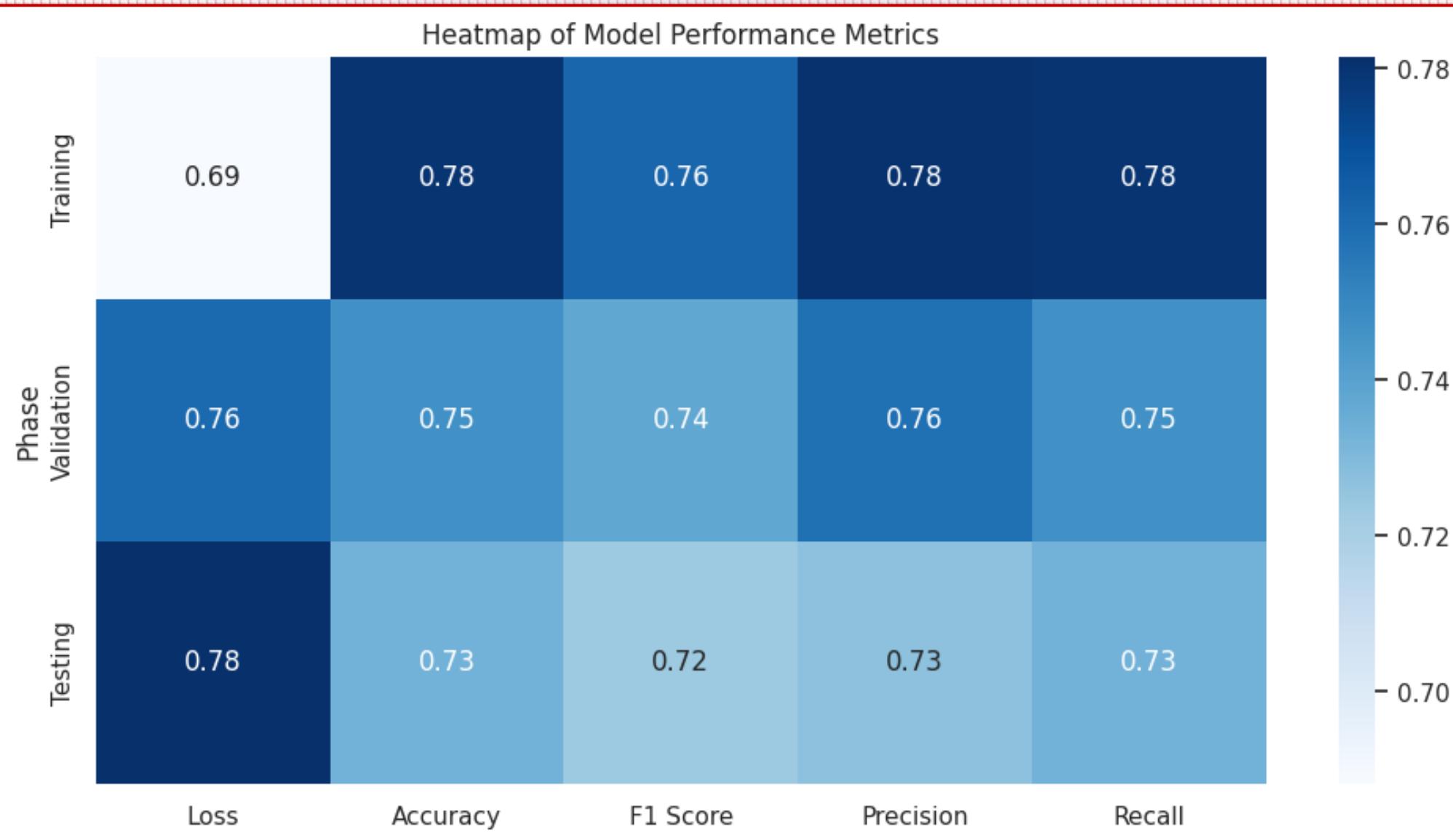
VADER

- Utilized to sort the movies, by reviews, into the three VADER categories
- Based on the review classification, movies were grouped to enhance the viewer's requested emotional state
- Default preference was to positive reviews to "make people happier"

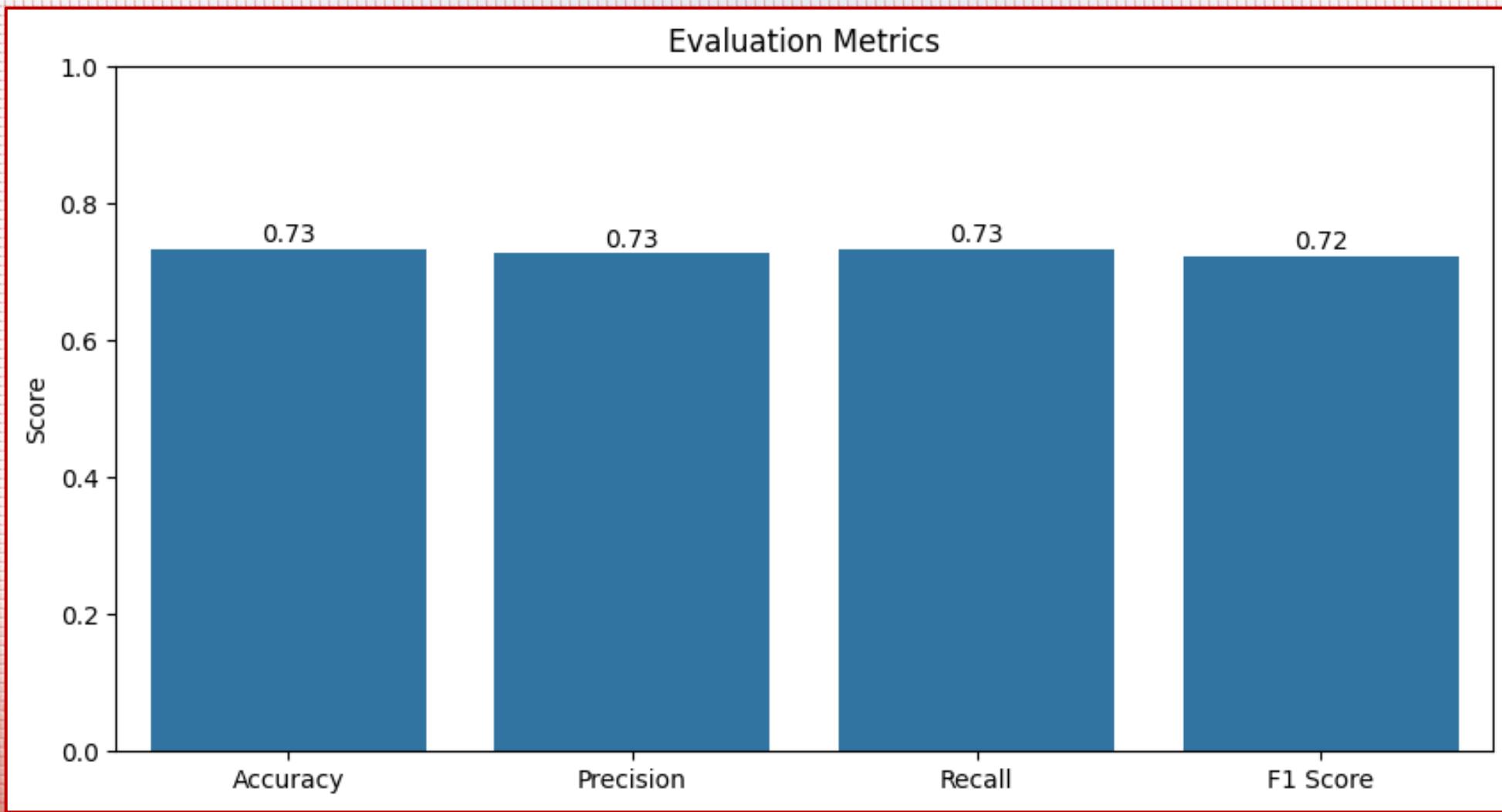
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Model Evaluation



Model Evaluation



Hugging Face

Hugging Face Search models, datasets, users...

j-hartmann/ emotion-english-distilroberta-base like 285

Text Classification Transformers PyTorch TensorFlow English roberta distilroberta sentiment emotion twitter reddit Inference Endpoints

Model card Files and versions Community 3006 Edit model card

Downloads last month 678,424

Line chart showing download trends over time.

Description

With this model, you can classify emotions in English text data. The model was trained on 6 diverse datasets (see Appendix below) and predicts Ekman's 6 basic emotions, plus a neutral class:

- anger 😠
- disgust 🤢
- fear 😱
- joy 😃
- neutral 😐
- sadness 😢
- surprise 😲

The model is a fine-tuned checkpoint of [DistilRoBERTa-base](#). For a 'non-distilled' emotion model, please refer to the model card of the [RoBERTa-large](#) version.

Application

a) Run emotion model with 3 lines of code on single text example using Hugging Face's pipeline command on Google Colab:

Inference API Examples

This movie always makes me cry..

Compute

Computation time on cpu: 0.020 s

Emotion	Probability
sadness	0.866
neutral	0.047
surprise	0.042
disgust	0.015
joy	0.014
fear	0.009
anger	0.007

JSON Output Maximize

Spaces using j-hartmann/ emotion-english-distilroberta-base 56

Gradio Input

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The image shows a Gradio interface for audio processing. On the left, there is a player window titled "Tell me how your day was and what things you enjoy in movies!" showing a waveform from 0:00 to 0:13. Below the player are buttons for volume (1x), playback controls (rewind, play, forward), and a clear button. At the bottom are "Clear" and "Submit" buttons. On the right, there is a "output" section displaying the text: "I've had a really great day, but I'd really like to watch a movie that has Dogs Aliens Marshmallows and Cars". Below this is a "Flag" button. In the bottom right corner of the main area, there is a file reference: "movie_output.txt" with a red arrow pointing to the text "joy action, adventure, comedy".

Tell me how your day was and what things you enjoy in movies!

0:00 0:13

Clear

Submit

output

I've had a really great day, but I'd really like to watch a movie that has Dogs Aliens Marshmallows and Cars

Flag

movie_output.txt

joy
action, adventure, comedy

Python Output

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Movie Recommendations:

Please note that it's hard to find a movie that contains all these elements (Dogs, Aliens, Marshmallows, and Cars) together. However, these picks could give you a joyful cinematic experience.

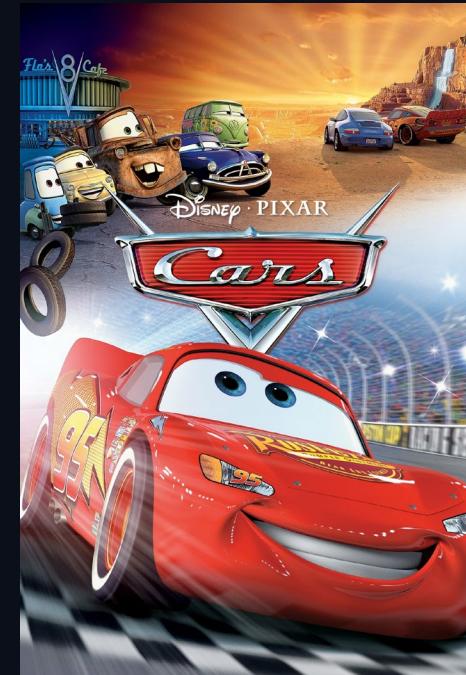
"The Secret Life of Pets 2" - Even though this movie doesn't contain aliens and marshmallows, it involves adorable dogs and exciting car actions that could bring a smile to your face.



"Lilo & Stitch" - Aliens and Dogs together make this film fun. There are no cars and marshmallows, but it is a feel-good movie that will surely light up your day.

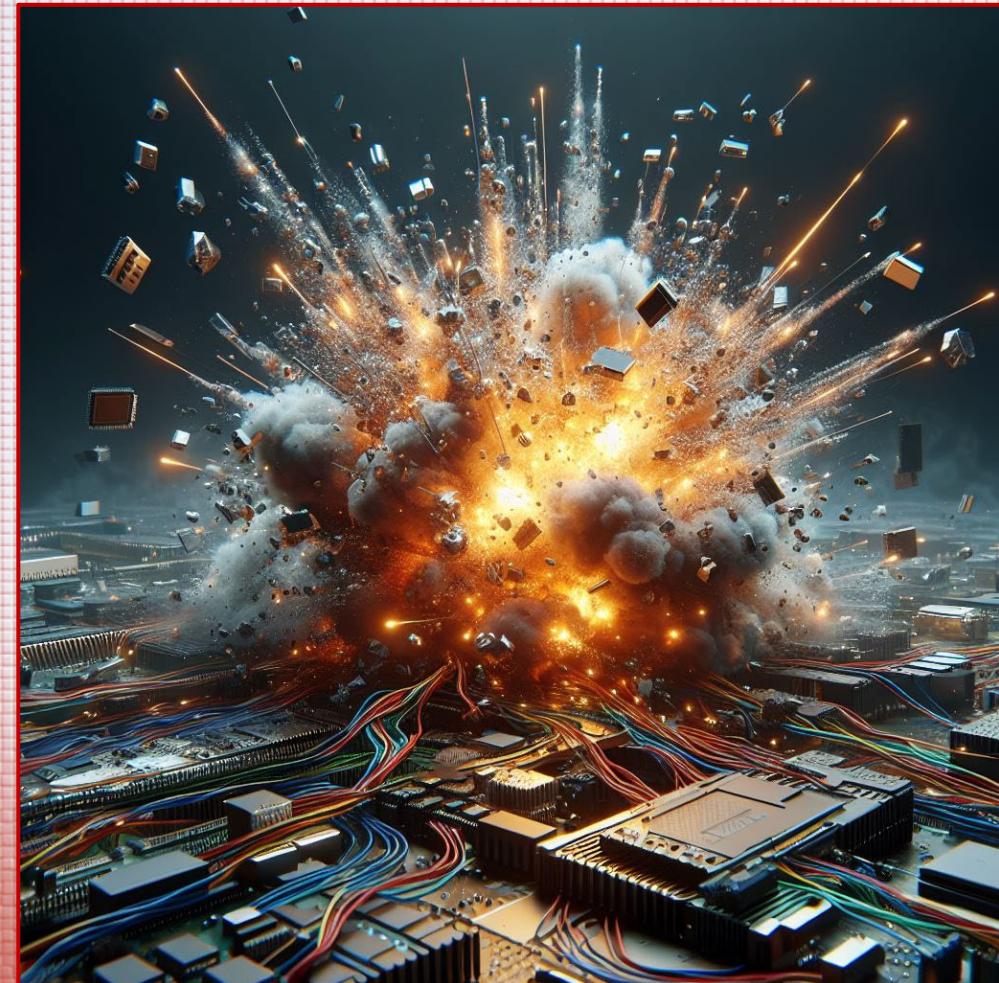


"Cars" - This movie is all about fast and fun Cars. It doesn't have dogs, aliens, or marshmallows, but is definitely an exciting watch.



Problems Encountered

- Processing many of the jupyter notebook cells strained our relatively fast CPUs and took many hours to process, even after changing parameters
- Gradio is a bit more challenging when it comes to layout customization when compared to HTML
- Audio file processing from large voice recordings



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Future Considerations

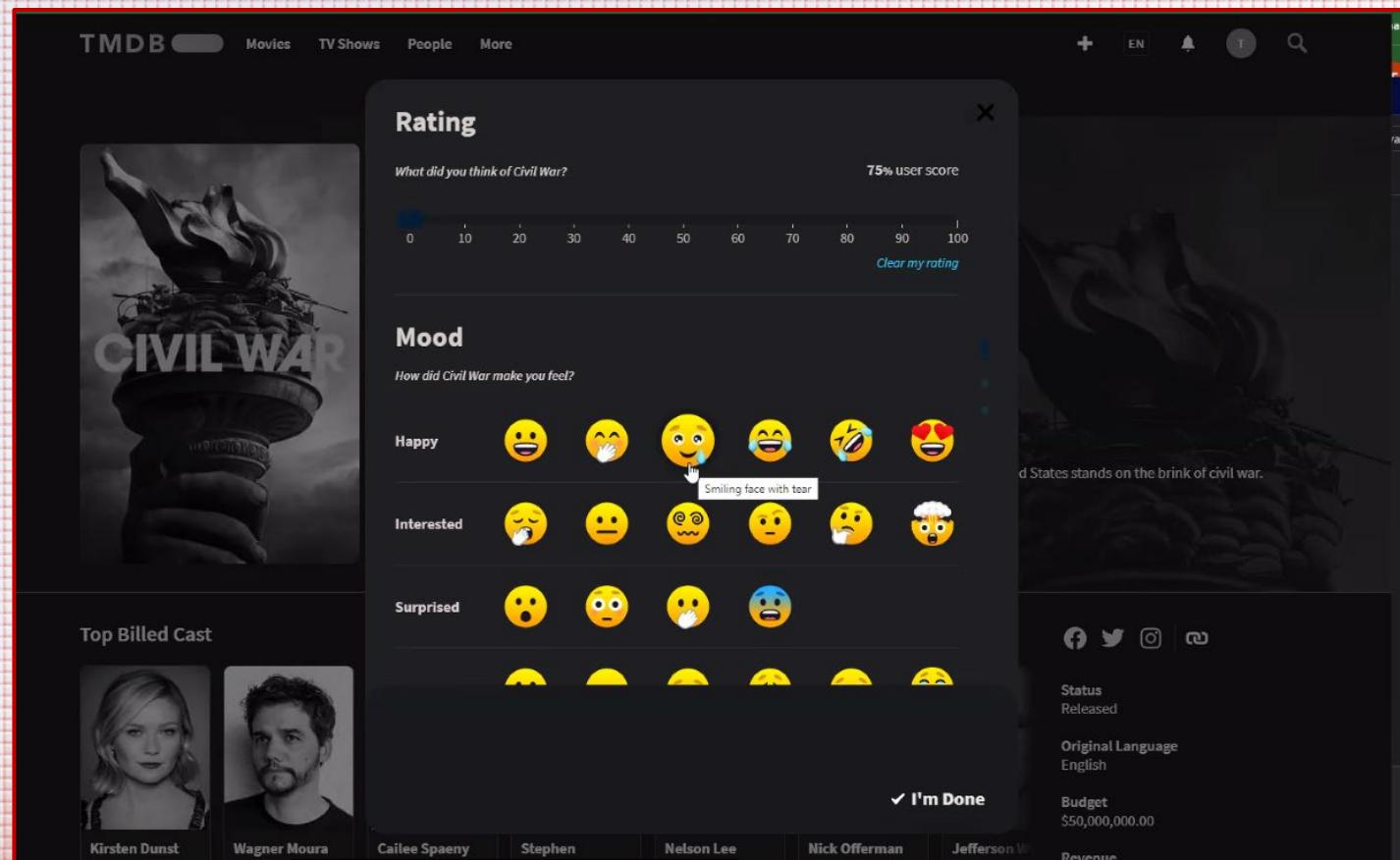
- A link to the actual movie on streaming services as part of the Python output
- A fully integrated seamless HTML system
- Integration of more APIs, such as IMDB and Rotten Tomatoes



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Future Considerations

- TMDB recently added a user provided emoji-based mood/emotion system for each movie
 - However, as of April 2024, this data is not included as part of the API



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Questions?

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