Movie Finder

Group: 08

Patrick Eckel: Design Document, Frontend, Data Transfer
Marcus Gugacs: Design Document, Frontend, Recommender, CLI, Evaluation, Questionnaire, Report, Presentation
Martin Tobias Klug: Design Document, Subtitle Fetching, Summarization Pipeline, Report
Lukas Leitner: Design Document, Data Preprocessing, Report, Presentation

https://www.github.com/llmpaq/movie-finder **01.2025**

Introduction

Motivation:

- Lot’s of video content online across different streaming services
- Central place to get personalized recommendations to value user time

Data

Movie Dataset:

- 180.000 Rows left after preprocessing
- Columns reduced from 20 to 11 + rich features

Subtitle Data:

- Subtitles provided by API (Key required)
- Raw Subtitles downloaded & processed on demand

Methods

Sequence Transformer:

- Model: all-mpnet-base-v2
- Used to similarity between user query and movie features

Emotion Classifier:

- Model: emotion-english-distilroberta-base
- Classify emotions in english text to measure alignment with user mood

Movie Introduction Summarization:

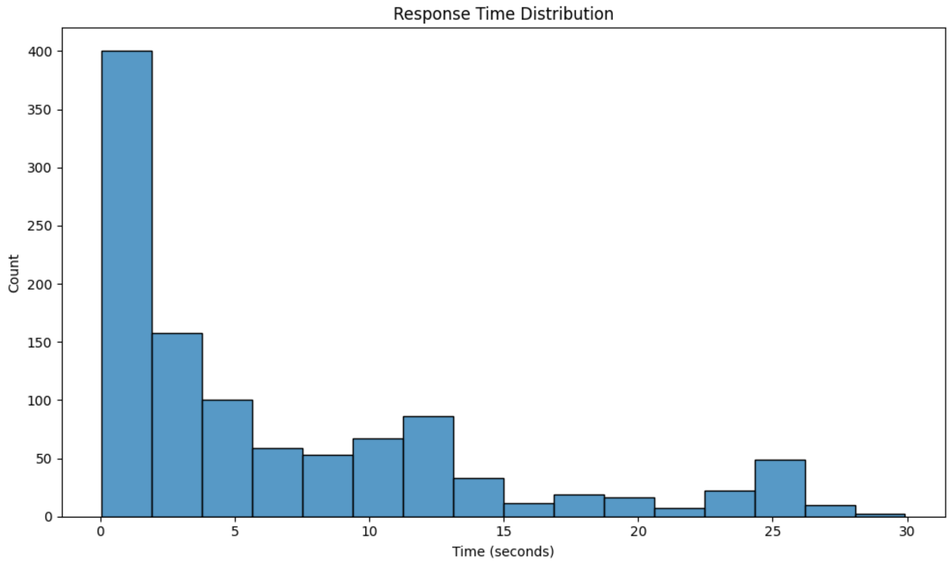
- Model: facebook/bart-large-cnn
- Creates introduction from first 1024 tokens of subtitles

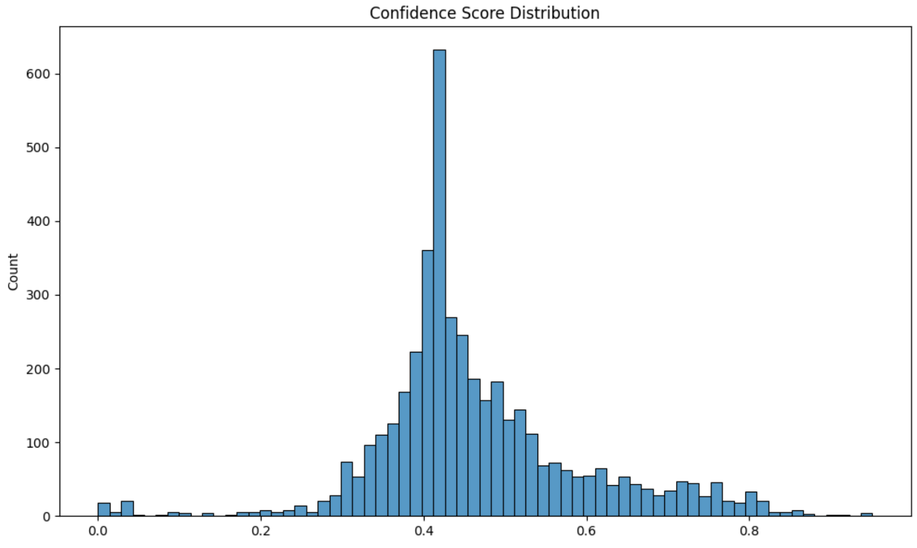
Keyword Extraction:

- Model: KeyBERT
- Extracts key themes from cleaned movie subtitles

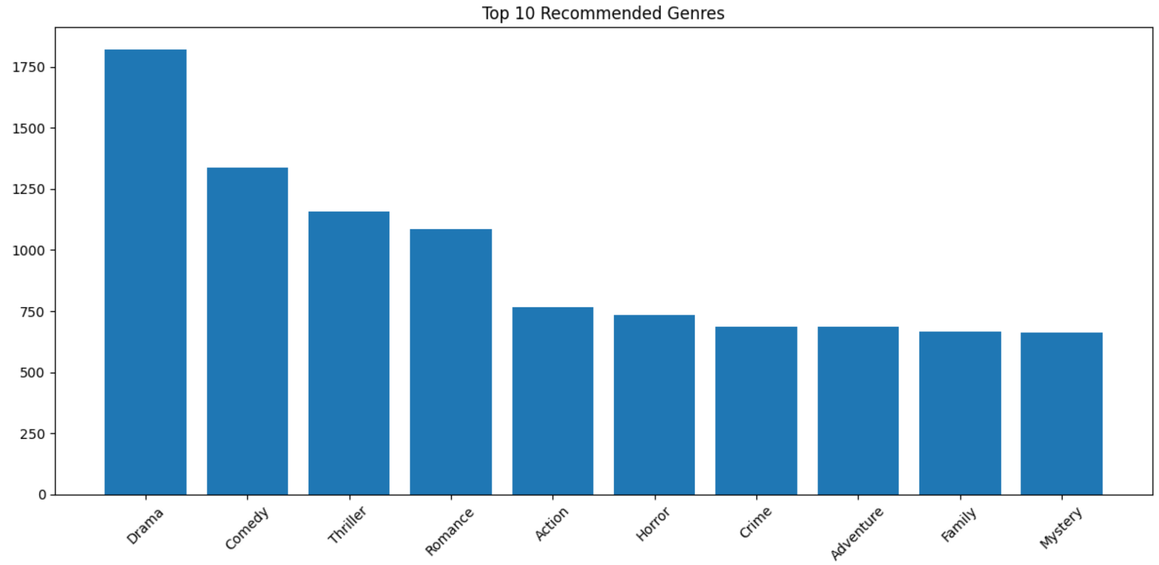
Results

	Average
Average Precision (in %)	99.08
Average Recall (in %)	10.10
Average F1-Score (in %)	14.38





	Average	Standard Deviation	Min	Max	Median
Response Time (in seconds)	6.69	7.32	0.06	29.92	3.60
Genre Diversity	3.8	0.51	1	4	4
Confidence (in %)	46.55	12.94	0.00	95.13	43.36
Rating	6.84	0.81	3.00	9.75	9.60



Conclusion

Findings:

- Usable and efficient recommendations
- Tweaking and fine-tuning for further improvements
- Minor tweaks in testing lead to significant changes

Limitations:

- Limited of movies used per recommendation
- Limited tokens used per introductory summary