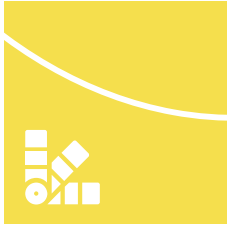


Multimodal movie genre classification

Konstantinos
Mavromatakis

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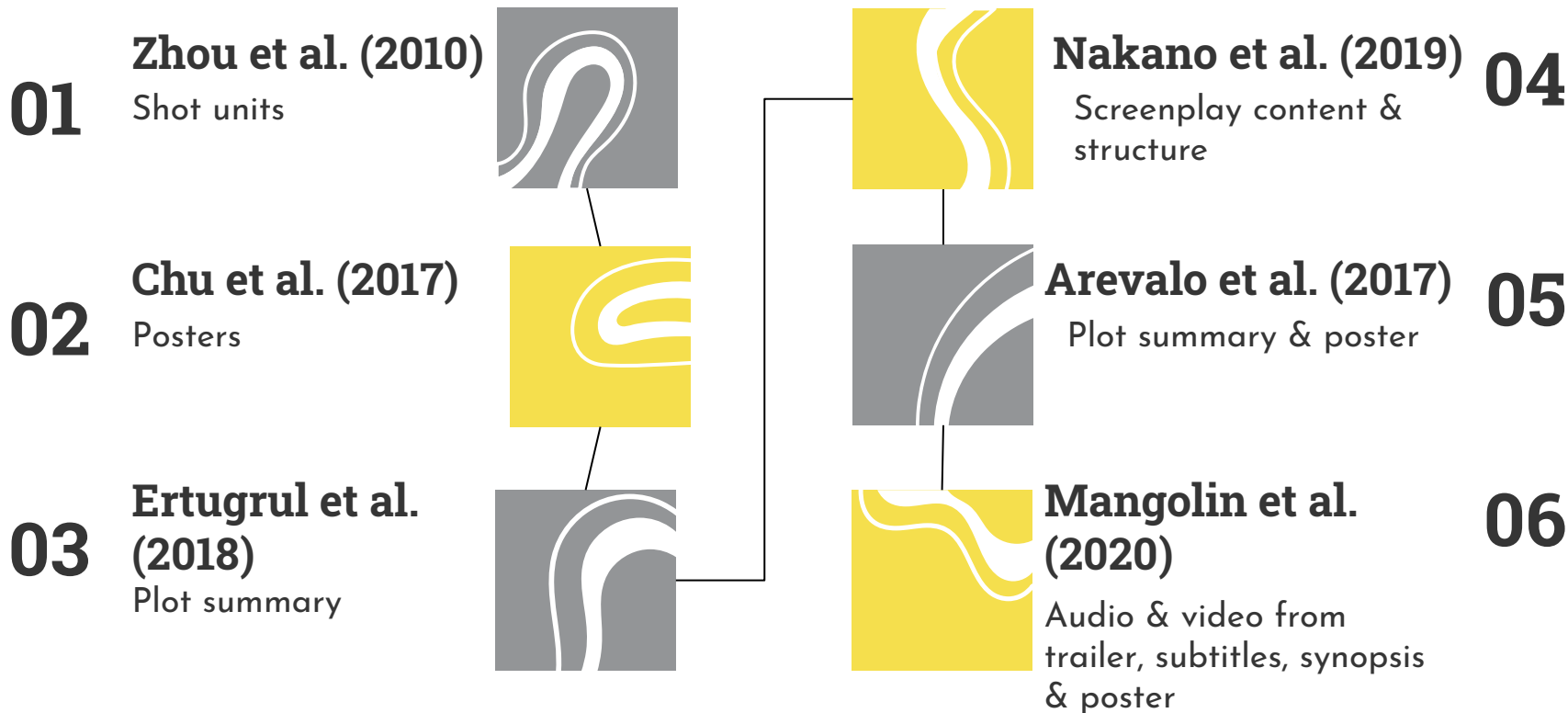
Future Work

Multimodal deep learning

- What does it do?
- How?
 - Concatenation (Deng et al., 2016).
 - Summation (Vinyals et al., 2015).



Movie Genre Classification

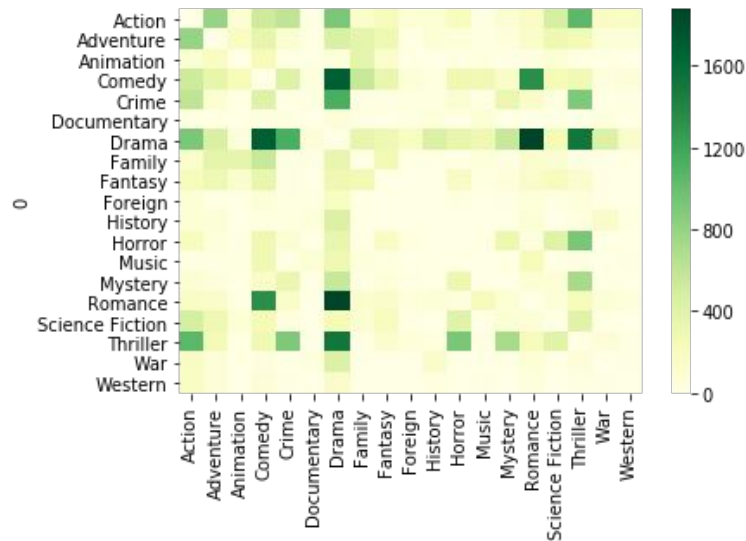
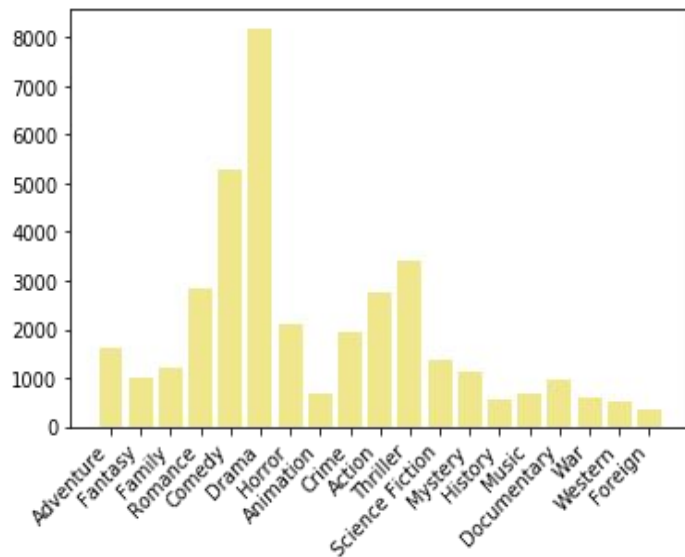




“Do we always need many features to achieve better results?” (Dannélls et al., 2020)

Materials

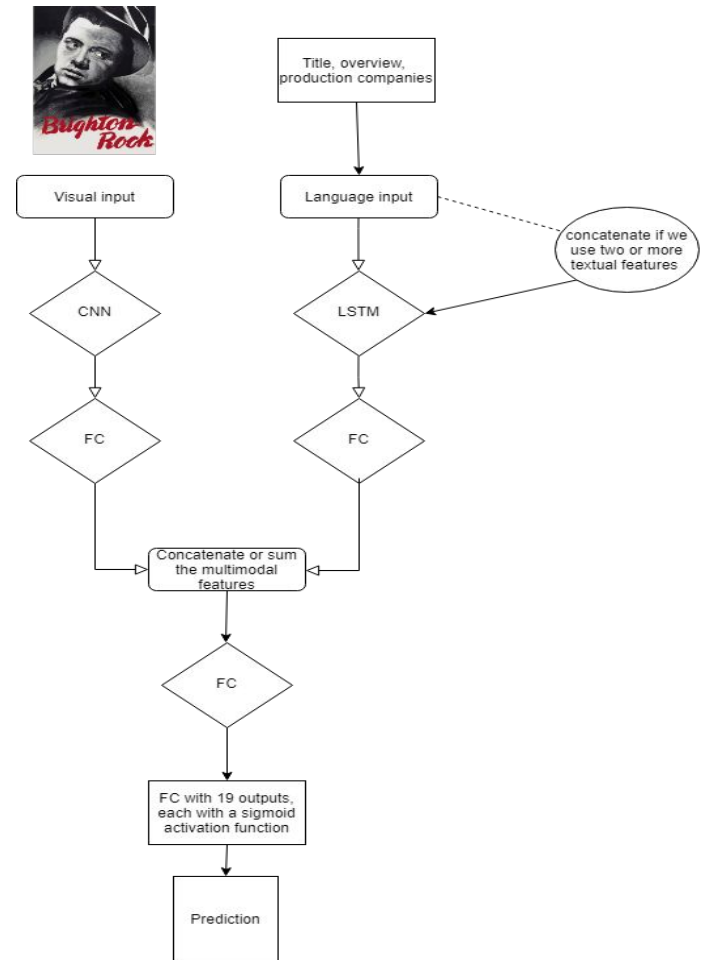
- The MovieDatabase dataset.
- Movie Posters obtained from the TMDB API.



Methods

Combinations of features that were passed as input to the model:

- Overview.
- Poster.
- Overview & poster.
- Title & poster.
- Production companies & poster.
- Overview, title & poster.
- Overview, title, production companies & poster.



Results

Model input	Accuracy / AUC-ROC score with concatenation	Accuracy / AUC-ROC score with summation
Overview & poster	0.8645 / 0.6914	0.8634 / 0.6845
Production companies & poster	0.8438 / 0.6036	0.8315 / 0.6367
Title & poster	0.8363 / 0.6310	0.8422 / 0.6490
Overview, title & poster	0.8310 / 0.6395	0.8464 / 0.6395
Overview, title, production companies & poster	0.8296 / 0.6227	0.8366 / 0.6361
Overview	0.8239 / 0.6004 (no concatenation)	-
Poster	0.8025 / 0.5978 (no concatenation)	-

Discussion



Real genres: crime,
thriller, drama,

Title & poster



Predicted genres:
thriller, drama

Overview & poster



Predicted genres:
crime, thriller, drama

Closer look at the overview:



'gang', 'criminal',
'vicious', 'interwar'

Discussion



Real genres: horror,
thriller

Overview, title,
production
companies &
poster



Predicted genres:
comedy

Overview &
poster



Predicted genres:
horror, thriller

Closer look at the
overview:



'horror',
'scare', 'ghost'

Future work

- 01 Contextual word embeddings
- 02 Pretrained image features
- 03 Explore more features



THANKS!

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