

Suggestions

This are suggestions, what could be done with the Eye/BCI-Data.
Each single suggestion involves this data, there are no suggestions, that
work with other Meta-Data of the videos.

Classifying Videos



IMPOSSIBLE NOT TO LAUGH -
The most popular CAT videos
Tiger Funnies
794.336 Aufrufe



Functional Programming &
Haskell - Computerphile
Computerphile
Empfohlenes Video



- Idea:
 - Calculate the average or major feelings of all viewers of a video
 - tell, if a video is happy, sad, or exciting ...
- The results...
 - ...can be used to fill the carousels with different categories of videos
 - ...can be displayed next to videos (with an emoticon), so the users can choose between search results more efficiently
 - ... can be used, to improve search results (users, who like sad videos will get more sad videos as results)
- Clarification: This can only be displayed for videos where we have collected data.

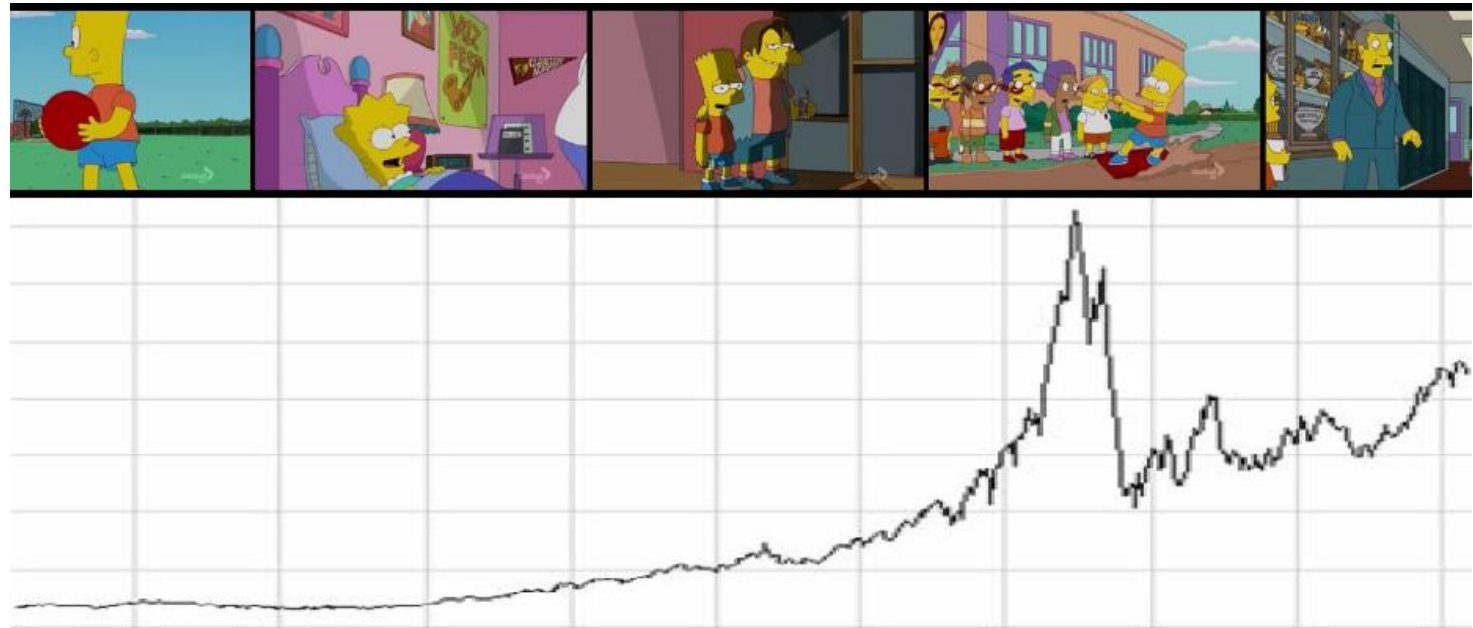
Comparing Videos



- Idea
 - Calculate the average feelings of all viewers of a video
 - With this data, you can calculate how similar two videos are
 - Do this for each pair of videos
- The results can be used, to improve search results
 - The videos in the search results would get a score, based on how the user rated similar videos.
 - This score would be used to sort the videos

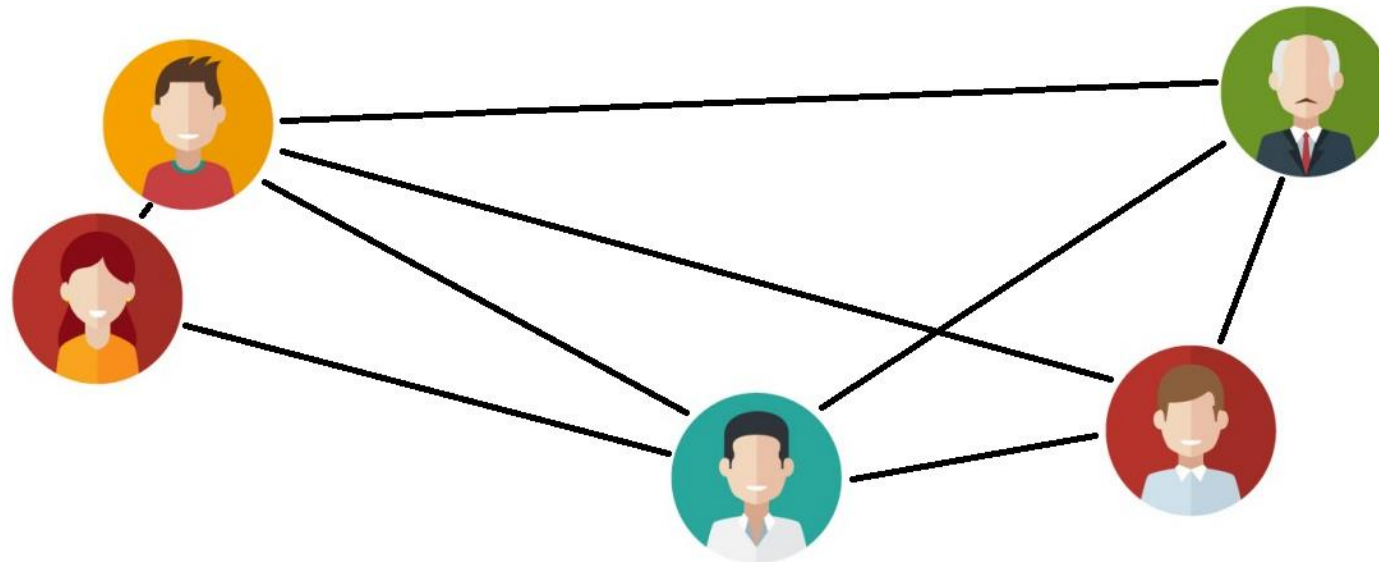
Find important parts of the video

- Scan the bci-data for significant parts
 - for example, does the average excitement of all users suddenly increases?
- Analyze the results
 - Does it work / make sense?
- The results ...
 - ... can be used to improve the preview in the search results












Comparing users



















- Compare both, eye- and BCI-data for all pairs of users
 - Just as presented by Yessi, Arsenii and Jannis
- The final result will be called „similarity“
- The results can be used to improve the searching algorithm
 - users get videos as search results, which similar users already liked (next sheet)



Search-Algorithm, explained with example (1)

- Min has similarity scores for 3 other users:
 - Daniel: 75%, Mariya: 50%, Benny: 25%
- Min searches for „cat“. there are 3 videos for „cat“ (in our data-base):
 - „ Nyan Cat“, „ Grumpy Cat“, „Simon’s Cat“
- Each of this videos is rated by the other users:
 - Daniel: {„Nyan Cat“ :  „Grumpy Cat“ :  „Simon’s Cat“ :  }
 - Mariya: {„Nyan Cat“ :  „Grumpy Cat“ :  „Simon’s Cat“ :  }
 - Benny: {„Nyan Cat“ :  „Grumpy Cat“ :  „Simon’s Cat“ :  }
- Because Daniel more similar to Min, his rating matters more than Benny’s rating

Search-Algorithm, explained with example (2)

- (Copied from previous page):
 - Similarity: Daniel: 75%, Mariya: 50%, Benny: 25%
 - Daniel: { „Nyan Cat“ :  „Grumpy Cat“ :  „Simon's Cat“ :  }
 - Mariya: { „Nyan Cat“ :  „Grumpy Cat“ :  „Simon's Cat“ :  }
 - Benny: { „Nyan Cat“ :  „Grumpy Cat“ :  „Simon's Cat“ :  }
- Scores are calculated, videos sorted by score:
 - „Grumpy Cat“: ( *75% +  *50% +  *25%) / 150% = 2,9
 - „Simon's Cat“: ( *75% +  *50% +  *25%) / 150% = 2,8
 - „Nyan Cat“ : ( *75% +  *50% +  *25%) / 150% = 2,0
- „Grumpy Cat“ is the top result, even though Daniel was the only one who liked it. Because he is most similar to Min!

Summary

- Most suggestions could be used to improve the search results
- We could compare the search-results we get from different attempts
- We could try to merge different attempts for one big search function
 - For example, if similar Users watched a video, we could use this data.
- We could compare the algorithms for user-classification and user-similarity to those algorithms big webservices like YouTube are using

Why we skip Machine Learning

Problems:

- You need much sample-data to teach the machine.

Why we skip Classifying Users

- Problems:
 - Impossible to evaluate the results
 - Privacy of test-subjects