DD2476 Search Engines and Information Retrieval Systems

Project 4: Video Search

Contact: Roelof Pieters, Artificial Experience (roelof@kth.se, 076-3173848)

This project is worth 3 ECTS credits. This means that it is expected to require 80 hours of work for each person in the group. The project formulation, method, and results are presented in a report as well as in a poster session. For more details, look at the course homepage, under Project in the menu.

Problem

Trying to find a video of something (or even a particular part of a video) by describing it with words has proven a hard problem to solve. A search engine would need both abstract, and more fine-grained descriptions to index a video and be able to provide any information on what the video contains.

Recent advances in Deep Learning, a particular form of Machine Learning, have made it possible to create "neural descriptions" of videos, which can be searched, retrieved, and matched to videos.

Assignment

Your assignment will be to index around 1000 youtube clips which will be provided to you. You will have access to one or more video analysis api's which will do the hard machine learning part of converting video frames to textual keywords.

Your assignment:

- Categorize and index the 1k youtube clips
- Create a simple application (or web application) that lets a user search for a word and get an ordered list of videos back as a result.

This assignment can be expanded by trying out more ways of indexing videos. A wide selection of implementations/code of machine learning research papers dealing with multimedia can be found at GitXiv[1].

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[1] http://gitxiv.com/

About Artificial Experience

Artificial Experience is a distributed research team and open network that is currently forming. It brings together machine learning, HCI, design and creative industry people, with the shared goal of researching "CreativeAI"[2] and its its applications, implications and opportunities for academia, industry and culture.

If you have any questions, don't hesitate to ask (in English).

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[2] An extensive thought piece on the discipline of CreativeAI is at
https://medium.com/@ArtificialExperience/creativeai-9d4b2346faf3