The MediaMill Search Engine Video

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ABSTRACT

In this video demonstration, we advertise the MediaMill video search engine, a system that facilitates semantic access to video based on a large lexicon of visual concept detectors and interactive video browsers. With an ultimate aim to disseminate video retrieval research to a non-technical audience, we explain the need for a visual video retrieval solution, summarize the MediaMill technology, and hint at future perspectives.

Categories and Subject Descriptors: H.3.3 Information Storage and Retrieval: Information Search and Retrieval
General Terms: Algorithms, Experimentation, Performance

Keywords: Semantic indexing, video retrieval

1. INTRODUCTION

The number of video fragments that people create, store, and share is reaching alarming proportions. Video is no longer the exclusive domain of professional broadcast companies and consumer electronic producers. Today, consumers, the service industry, educators, and artists are using video as a powerful tool to communicate their messages to an Internet-wide audience. In this tsunami of digital video data, people will soon drown. Unless they adapt to a high-tech video retrieval solution.

Present-day commercial video search engines often rely on just a filename and text metadata in the form of social tags, closed captions or transcribed speech. A video search method based on just text results in disappointing retrieval performance, however, when the audiovisual content is neither mentioned, nor properly reflected in the associated text. In addition, when the videos originate from non-English speaking countries, such as China, or the Netherlands, querying the content becomes much harder as robust automatic speech recognition results and their accurate machine translations are difficult to achieve.

We have developed the MediaMill semantic video search engine [1, 2]. The uniqueness of the MediaMill system lies in its ability to automatically understand the visual content and to allow for interactive support of users when retrieving specific video fragments. The power of the MediaMill video search engine is its lexicon of automatically learned concept detectors such as an *airplane*, a *kitchen*, or a *demonstration*. Those detectors attach an objective linguistic description to an observable entity based on computable visual features and statistical machine learning. Because the automatic interpretation of video is such a complex problem, an automatically learned concept detector will never be perfect. So if we want to use concept detectors for video search, we always need to explore the labeled video fragments further. In the MediaMill video search engine we therefore support the interacting user with advanced visualizations [3], which aid her in making video collections accessible.

2. VIDEO DEMONSTRATION

In our video demonstration [4], we advertise video retrieval research in general, and the MediaMill solution in particular, to a non-technical audience. We explain the notion of visual concept detectors, summarize their underlying technology, highlight the interactive usage of concept detectors for retrieval, and show how the technology can be applied to a real-world online application [5].

3. ACKNOWLEDGMENTS

4. REFERENCES

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