LIST OF INVITED SPEAKERS AND INDUSTRIAL SPEAKERS

INVITED SPEAKERS

1. Alex Hauptmann (CMU)
Lessons for the Future from a Decade of Informedia Video Analysis Research

Abstract: The overarching goal of the Informedia initiatives has been to achieve machine understanding of video and film media, including all aspects of search, retrieval, visualization and summarization in both contemporaneous and archival content collections. For the last ten years, Informedia has focused on information extraction from broadcast television news and documentary content. Multiple terabytes of video have been collected, with automatically generated metadata and indices for retrieving videos from this library continuously available online to local users. The base technology developed by the Informedia project combines speech, image and natural language understanding to automatically transcribe, segment and index broadcast video for intelligent search and image retrieval.

This talk will summarize insights from the integration of speech, language, and image processing, and the generation of multimedia abstractions. While speech and subsequent processing has been the most influential component in the success of the Informedia project, other modalities can prove to be critical in specific situations. Evaluations done in the context of the TRECVID benchmarks show that while some progress has been made, we still have a lot of work ahead. The fundamental "semantic gap" still exists, and there are a number of promising approaches to bridging it, which the talk will review.

2. Alan F. Smeaton, Dublin City University
Large Scale Evaluations of Multimedia Information Retrieval: The TRECVid Experience

Abstract: Information Retrieval is a supporting technique which underpins a broad range of content-based applications including retrieval, filtering, summarization, browsing, classification, clustering, automatic linking, and others. Multimedia information retrieval (MMIR) represents those applications when applied to multimedia information such as image, video, music, etc. In this presentation and extended abstract we are primarily concerned with MMIR as applied to information in digital video format. We begin with a brief overview of large scale evaluations of IR tasks in areas such as text, image and music, just to illustrate that this phenomenon is not just restricted to MMIR on video. The main contribution, however, is a set of pointers and a summarization of the work done as part of TRECVid, the annual benchmarking exercise for video retrieval tasks.

3. Susanne Boll (University of Oldenburg, Germany)
   Interactive Video Retrieval from a User-Centered Mobile Multimedia Perspective

Abstract: Mobile applications beyond pure mobile telephony are more and more popular for everyday users. In recent years, with the advent of 3G mobile networks such as UMTS and also higher computing power and storage capabilities of mobile devices, multimedia has reached the mobile user. In addition, the user's individual usage context and needs are becoming more and more important for the design of mobile applications. However, the concepts needed to comprehensively achieve real *user-centric* mobile applications are just evolving. In this paper, we present selected concepts and prototypes from our research in the field of mobile multimedia systems that specifically address the mobile user's needs. Before we present selected approaches and prototypes from our research, we shortly discuss the aspects of user-centered mobile applications and their challenges. The selected research approaches show different concepts towards better supporting the concrete user by the mobile applications. In this context, we take a look on the specific challenges of image and video retrieval that arise from placing the user in the center of the mobile application design. In our point of view, user-centered mobile multimedia applications pose interesting challenges not only on the storage and retrieval of multimedia content but along the source-to-sink chain from acquisition, enhancement, storage and delivery to the usage of mobile multimedia content.

4. John R. Smith (IBM T. J. Watson Research Center)
   Multimedia Research Challenges for Industry

Abstract: The popularity of digital media (images, video, audio) is growing in all segments of the market including consumer, media enterprise, traditional enterprise and Web. Its tremendous growth is a result of the convergence of many factors, including the pervasive increase in bandwidth to users, affordability of multimedia-ready devices throughout the digital media value chain (creation, management, and distribution), growing ease and affordability of creating digital media content, and growing expectation of the value of digital media in enhancing traditional unstructured and structured information. However, while digital media content is being created and distributed at far greater amounts than ever before, significant technical challenges remain for realizing its full business potential. This paper examines some of the research challenges for industry towards harnessing the full value of digital media.

SPEAKERS FOR INDUSTRIAL SESSIONS:

1. **Keynote Industrial Talk:**
   Ramesh Jain (UC Irvine)
   Practical Applications of Multimedia Search

   Abstract: Just one decade ago image and video retrieval was a technology looking for applications. Now people are dying to get image and video retrieval technology, but there are no good practical solutions. Advances in devices, processing, and storage have resulted in pervasive use of visual information acquisition and usage, but technology development in this area has not kept pace with the rate of other developments. In this paper, we will present some practical systems that are emerging for image and video search and management. I will also present perspectives on why research in image and video retrieval is becoming irrelevant to real world applications. Finally, I will present my beliefs about how research in image and video retrieval can be on the center stage in visual information management for real applications.

2. **Keiichiro Hoashi (KDDI, Japan)**
   Video story segmentation and its application to personal video recorders

   Abstract: Video story segmentation, i.e., the segmentation of video to semantically meaningful units, is an essential technology for advanced video processing, such as video retrieval, summarization, and so on. In this presentation, we will introduce a generic video story segmentation method, which has achieved highly accurate segmentation on both broadcast news (TRECVID data) and non-news variety TV programs. Furthermore, we will discuss the problems which need to be solved in order to implement story segmentations methods to practical applications and products.

3. **Hisashi Aoki (Toshiba Corporation)**
   High-speed dialog detection for automatic segmentation of recorded TV program

   Abstract: To provide easy access to scenes of interest in recorded video, structure-sensitive segmentation is necessary. In TV programs, similar shots appear repeatedly, and such appearance can be a clue to estimate a contextual group of shots. In this research, we introduce a measure that denotes the activeness of shot interaction and use this as the basis to find dialog scenes automatically. This paper presents an algorithm and experimental results of the system which effectively and rapidly detects boundaries of sections in news programs and variety shows.

4. Sheng-Mei Shen (Panasonic Singapore Lab)
Intellectual Property Management & Protection and Digital Right Management in MPEG

Abstract: Many DRM (Digital Rights Management) technologies exist today. While some are consortium standards like DVD-CCA, DTCP, DCP, AACS, others are proprietary like Microsoft's DRM and Sony's OMG. They are being used either by different industries or by individual company. Recently, open DRM standards have been developed. OMA DRM has completed its version 2 and many mobile manufacturers are implementing it now, while MPEG IPMP group has completed its MPEG-2 IPMP and MPEG-4 IPMP and is now working on MPEG-21 IPMP. This talk will discuss the design, technology and applications of MPEG IPMP, and how to make DRM successful.

5. Qibin Sun (Institute of Infocomm Research)
Towards media semantics: an I2R perspective

Abstract: In this talk, we highlight some of the research in I2R on media semantics including sports video analysis, commercial video identification, music retrieval and summarization, image indexing, retrieval and annotation. We then introduce our recent efforts on the international standard called JPSearch which is a new project under ISO/IEC SC29 WG1 (JPEG).

6. Dr. Sébastien Gilles (Chief Scientist, LTU Technologies)
Bringing Image and Video Retrieval Technologies to the Market

Abstract: Mature markets for large-scale image retrieval and image recognition remain largely in the public/governmental sector. Applications range from computer-based intelligence enquiries to industrial property protection. But more and more, the technology is finding its way in customer-related applications, such as MMS filtering. In all cases, the technical challenges to solve are tremendous, in particular, coping with large databases and heterogeneous image qualities. This talk will provide insights into the type of technologies that are used to meet these challenges.