Data Semantics for Multimedia Systems and Applications

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1. Introduction

In the last decades, substantial progress has been made in content analysis, multimedia streaming, and human-centered computing to facilitate the development of large-scale multimedia systems. Together with the recent progress on semantic web, scalable machine learning, and multi-modal interaction, it is now possible to build a new generation of multimedia applications that enable large-scale semantic representation, analysis, and delivery of multimedia data from heterogeneous data sources. However, there is still a long way to go for mature solutions of multimedia database systems that are capable of processing semantics-rich, large-volume of multimedia content. The goal of this workshop is to bring together researchers in multimedia semantic computing and provide a forum for multidisciplinary research opportunities.

2. The Review Process

We received eight submissions. The authors have presented a wide range of approaches and sceneries in the area of semantic multimedia computing. Each paper has been peer reviewed by at least four program committee members, who are experts in the various topics covered by the workshop. In addition, the workshop organizers examined the reviews for each paper and had extensive discussions with reviewers to reach a consensus for each paper. In the end, seven papers were recommended for acceptance, our goal being to preserve the high quality papers without considering the acceptance rate but rather focusing on the discussions these papers will trigger during the workshop.

3. Accepted Papers

Among these seven papers selected for publication, four papers deal with semantic multimedia analysis and streaming, and three papers are related to semantic multimedia language, data sets, and evaluations. The key ideas and contributions of these papers are summarized as below.

Semantic Multimedia Analysis and Streaming: In the paper entitled "Tennis Video with Semantic Scalability", JuiHsin Lai and ShaoYi Chien propose a semantic scalability approach for tennis videos. The paper "A User Model for Personalization Services" by Ye Sun Joung, Magda El Zarki and Ramesh Jain focuses on defining general user model to represent user information and the user context. Joerg Waitelonis and Harald Sack investigate the problem of how Linked Open Data can be adopted to facilitate an exploratory semantic search within the domain of audiovisual data in their paper "Towards Exploratory Video Search by Using Linked Data". The paper "Significance-aware channel power allocation for wireless multimedia streaming" by Sungwoo Hong introduces a transmit power allocation strategy for wireless multimedia communications using cross-layer optimization scheme.

Semantic Multimedia Language, Data Sets, and Evaluations: The paper "SMPL - Adding Semantic Structure, Annotation and Control to SMIL Documents" by Ronen Vaisenberg, Ramesh Jain and Sharad Mehrotra introduces the design and implementation of a declarative XML language – SMPL, to support the semantic structure, annotation and control of SMIL documents. In the paper entitled "Towards a ground truth for affective movie classification", authors Tsvetomira Tsoneva, Pedro Fonseca and Janto Skowronek describe the process of developing a reliable ground truth database for automated classification of emotions conveyed by movies. We hope that this dataset will soon benefit to the research community at large. Mathias Lux propose and evaluate several metrics for retrieving multimedia documents based on MPEG-7 in his paper "An evaluation of metrics for retrieval of MPEG-7 semantic descriptions".

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