

Student Research Seminar

Querying and Ranking Unannotated Images through Online Reference Resources

Mr. Jiang Hao

Date & Time:
October 14, 2009
Wednesday
2:00 pm

Venue:
Room 308
Chow Yei Ching Building
The University of Hong Kong

Abstract:

We present a new image search algorithm which is capable of searching unannotated personal photos in a content-aware manner. A critical step in the process is to infer the relevance of a personal photo with respect to a text query, which is realized through reference against sample images found from the Internet; these images are used as concrete examples to provide context clues for interpreting the content of an unannotated personal photo. Since there are often noises in online image retrieval results, we introduce a joint image content and accompanying text based image content understanding procedure to estimate the relevance of an online reference image to the given text query. Given both the image content and text aspects of the partial image content understanding results, we introduce a multi-step propagation process to fuse together these two facets of image to text query relevance to produce a more reliable and accurate estimation on the quality of an online reference image. Finally, we transfer the image to text query relevance estimation from the reference images to the unannotated personal photos. According to the such a derived image content to text query relevance estimation for the personal photos, we can then find relevant images from a personal photo collection for a text query. To verify the effectiveness of our image search algorithm for finding unannotated personal photos, we experiment using the Caltech101 dataset and also a modest sized personal photo collection. The results appear to be positive, which shows that our algorithm is practically useful for searching personal photos that are without annotations. The personal photos retrieved by our algorithm correlate well with the input queries for the majority of the cases. We also compare the performance of our method with other existing image search algorithms and tools and have obtained encouraging results.

About the Speaker:

JIANG Hao is an MPhil student in the University of Hong Kong's Department of Computer Science. He is under the supervision of Prof. Francis Lau, and unofficially Dr. Songhua Xu of Yale. His research interests include AI, human-computer interaction, computer graphics, the Web, and robotics. He received his MEng in computer science and technology from Zhejiang University.

All are welcome!

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