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Abstract

The image retrieval applications are designed to collect images based on textual query or image contents. Web-scale image search engines (e. g. , Google image search, Bing image search) mostly rely on surrounding text features. It is difficult for them to interpret users' search intention only by query keywords and this leads to ambiguous and noisy search results which are far from satisfactory. It is important to use visual information in order to solve the ambiguity in text-based image retrieval. Internet image search approach is used to fetch images on the web environment. It only requires the user to click on one query image with minimum effort and images from a pool retrieved by text-based search are reranked based on both visual and textual content. The key contribution is to capture the users' search intention from this

one-click query image. The user intent collection steps are automatic, without extra effort from the user. This is critically important for any commercial web-based image search engine, where the user interface has to be extremely simple. Besides this key contribution, a set of visual features which are both effective and efficient in Internet image search are designed. RankBoost framework algorithm is enhanced to rank images with photographic quality. Content similarity and visual quality factors are used for the re-ranking process. Redundant image filtering process is integrated with the system. Query expansion is upgraded using query patterns and associations. The approach significantly improves the precision of top-ranked images and also the user experience.

Refer

ences

- Xiaou Tang, Ke Liu, Jingyu Cui, Fang Wen and Xiaogang Wang, "IntentSearch: Capturing User Intention for One-Click Internet Image Search"; IEEE Transactions On Pattern Analysis and Machine Intelligence, Vol. 34, no. 7, July 2012.
- L. Wu, L. Yang, N. Yu, and X. Hua, "Learning to Tag," Proc. Int'l Conf. World Wide Web, 2009.
- J. Krapac, M. Allan, J. Verbeek, and F. Jurie, "Improving Web Image Search Results Using Query-Relative Classifiers," Proc. IEEE Int'l Conf. Computer Vision and Pattern Recognition, 2010.
- Y. Cao, C. Wang, Z. Li, L. Zhang, and L. Zhang, "Spatial-Bag-of-Features," Proc. IEEE Int'l Conf. Computer Vision and Pattern Recognition, 2010.
- J. Philbin, M. Isard, J. Sivic, and A. Zisserman, "Descriptor Learning for Efficient Retrieval," Proc. European Conf. Computer Vision, 2010.
- G. Chechik, V. Sharma, U. Shalit, and S. Bengio, "Large Scale Online Learning of Image Similarity through Ranking," J. Machine Learning Research, vol. 11, pp. 1109-1135, 2010.
- Y. Zhang, Z. Jia, and T. Chen, "Image Retrieval with Geometry- Preserving Visual Phrases," Proc. IEEE Int'l Conf. Computer Vision and Pattern Recognition, 2011.
- J. Deng, A. C. Berg, and L. Fei-Fei, "Hierarchical Semantic Indexing for Large Scale Image Retrieval," Proc. IEEE Int'l Conf. Computer Vision and Pattern Recognition, 2011.
- Y. Huang, Q. Liu, S. Zhang, and D. N. Metaxas, "Image Retrieval via Probabilistic Hypergraph Ranking," Proc. IEEE Int'l Conf. Computer Vision and Pattern Recognition, 2011.
- "Bing Image Search," <http://www.bing.com/images>, 2012.

Index Terms

Computer Science

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Keywords

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