Chong Huang

Basic Information

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Research Interests: Multimedia Retrieval, Machine Learning, Computer Vision

Education

Sep.2011-Mar.2014 (Expected)

M.S. in Signal and Information Processing,

School of Information and Communication Engineering,

Beijing University of Posts and Telecommunications (BUPT)

Sep.2007-Jun.2011

B.S. in Communication Engineering,

School of Information and Communication Engineering,

Beijing University of Posts and Telecommunications (BUPT)

Research Experience

Apr.2011-Present

Human-Computer Interactive Department, France Telecom Orange Labs (Beijing) Intern

- Thanks to the cooperative relation between BUPT and France Telecom Orange Labs (Beijing), I spent most of graduate life as a full-time intern in the Human-Computer Interactive Department, Orange Labs.

Oct.2013-Present

ImageNet Large Scale Visual Recognition Challenge 2013 Team Leader

- Designed the system for object detection and image classification at large scale.
- Implemented the convolutional neural network on GPU
- Implemented the dropout, stochastic gradient descent, multi-class SVM
- Organized and coordinated the work and provided the guidance to the junior interns

May.2013-Sep.2013

Instance Search Task in the TRECVID 2013 Team Member

- Achievement: **Rank 1** (interactive feedback) and **Rank 5** (automatic retrieval)
- Improved the system which has been used in Instance Search Task in the TRECVID 2012.
- Implemented learning visual feature based on the convolutional neural network.
- Implemented the Lucene-based image retrieval
- Implemented the multi-feature retrieval results fusion

Apr.2013-Aug.2013

MSR-Bing Image Retrieval Challenge (the industrial track) Team Member

- Achievement: **Second Place**
- Participated in the design of the system to assess the effectiveness of query terms in describing the images crawled from the web.
- Implemented the visual feature extraction and the relevance measurement.
- Implemented the Lucene-based image retrieval

May.2012-Sep.2012

Instance Search Task (pilot) in the TRECVID 2012 Team Member

- Achievement: **Rank 2** (interactive feedback) and **Rank 13** (automatic retrieval)
- Designed the system to search video clips that contain the instance from query images
- Proposed a graph-based visual re-rank algorithm, which is published in *ICASSP* 2013
- Implemented the visual feature extraction: Bag-of-Word (BoW), Approximate K-Means (AKM).
- Implemented the offline index: counting min-tree
- Implemented the online search: confuser extraction, geometry verification

Jan.2012-May.2012

Video to Commercial (V2C) Team Member

- Participated in design of interactive service between TV screen and mobile phone.
- Proposed a novel feature named RGB-DSIFT, which is published in *IC-NIDC* 2012.
- Implemented the offline index: inverted index.

May.2011-Sep.2011

Content-based Copy Detection Task in the TRECVID 2011 Team Member

- Achievement: **Rank 6**
- Participated in design of the system to search copy sequences of one query from the video database, in which the query may have different audio and video transformations.
- Implemented the audio feature extraction: Weighted Audio Spectrum Flatness (WASF)
- Implemented the audio-based and visual-based retrieval results fusion

Nov.2009-May.2010

Innovative Awards Team Member

- Designed the system to recognize the sitting people in the library.
- Implemented the infrared sensors module and logical decision circuits.

Publication

- Dong Y., **Huang C.**, & Liu W. (2013, October) When Learning to Rank Encounters the Pseudo Preference Feedback, in *Computer Standards & Interfaces* (*CSI*), (accepted).
- **Huang C.**, Dong Y., Bai H., Wang L., Zhao N., Cen S., & Zhao J. (2013, May). An Efficient Graph-based Visual Reranking, in *Acoustics, Speech and Signal Processing (ICASSP), 2013 IEEE International Conference on* (pp.1671-1675). IEEE
- Zhao N., Dong Y., Bai H., Wang L., **Huang C.**, Cen S., & Zhao J. (2013, May). A Semantic Graph-based Algorithm for Image Search Reranking, in *Acoustics, Speech and Signal Processing (ICASSP), 2013 IEEE International Conference on* (pp. 1666-1670). IEEE
- Bai H., Dong Y., Liu W., Wang L., **Huang C.**, Zhan N., Cen S., & Tao K. France Telecom Orange Labs (Beijing) at TRECVID 2012: Instance Search, *TRECVID* 2012 Notebook Paper
- **Huang C.**, Dong Y., Cen S., Bai H., Liu W., Zhang J., & Zhao J. (2012, September). A fast color feature for real-time image retrieval. In *Network Infrastructure and Digital Content (IC-NIDC), 2012 3rd IEEE International Conference on* (pp. 453-457). IEEE..
- Bai H., Dong Y., Liu W., Wang L., **Huang C.**, & Tao K. France Telecom Orange Labs (Beijing) at TRECVID 2011: Content-Based Copy Detection, *TRECVID* 2011 Notebook Paper
- Bai H., Wang L., **Huang C.**, Liu W., Zeng C., & Dong Y. (2012, December). Audio-Based copy detection in the large-scale internet videos. *PCM'12 Proceedings of the 13th Pacific-Rim conference n Advances in Multimedia Information Processing* (pp. 597-604)
- Wang L., Dong Y., Bai H., Zhang J., **Huang C.**, & Liu W. (2012, July). Contented-Based Large Scale Web Audio Copy Detection. In *Multimedia and Expo (ICME), 2012 IEEE International Conference on* (pp. 961966). IEEE.

Honors

- "Enterprise Scholarship", 2012/2013, (12/726)
- "Outstanding Student Award", Second-class scholarship, 2011/2012

Skills

- Skilled in developing C, C++, Cuda C++ programs under Linux
- Familiar with Python, Shell, Perl, Matlab
- Experienced in fund application (NSFC)
- CET-6 584, GRE 156 (Verbal) + 166 (Quantitative) basic ability of English reading and writing