

Room 701, Power Creative A, No.1, Shangdi East Road
Haidian District, Beijing, 100085, China
TEL: +86-10-58858300 ext 313
FAX: +86-10-58858301
Email: hmzhang@jdl.ac.cn
URL: <http://www.jdl.ac.cn/user/hmzhang/index.htm>

Hongming Zhang

- Summary**
1. Over 10 years of experience in design and development of software applications and systems.
 2. Over 7 years of research experience in computer vision, image processing, pattern recognition and machine learning.
 3. Over 5 years of experience on applied computer vision projects.
 4. Over 1 year of work experience as a research intern in one of the best software research labs in the world.

- Education**
- | | |
|---------------------------------------|--|
| PhD of Engineering
(Expected 2005) | Computer Science Dept. Harbin Institute of
Technology, Harbin |
| M.Engineering
(2000) | Computer Science Dept. Harbin Institute of
Technology, Harbin |
| B.Engineering
(1998) | Computer Science Dept. Harbin Institute of
Technology, Harbin |

- Work Experiences**
1. 2000-present: Joint Research and Development Lab, ICT, Chinese Academy of Sciences, Beijing
 2. Summer of 2001 and 2002: Microsoft Research Asia, Beijing
 3. 1998-2000: Visual Intelligence Lab, Harbin Institute of Technology, Harbin

Research Experiences

Object detection:

1. In 2003-2005, created algorithms and systems for general object detection. Research focus was on object representation, feature extraction and selection, multi-class learning problem. Built algorithms and prototype systems that can detect multi-view human faces, side-view cars and texts in images and videos.
2. In 2001-2002, coordinated a project team to design, develop and implement a face detection system for a face recognition based security product. This product obtains a first class award of Shanghai science and technology.
3. In 1999-2000, created algorithms and systems for rotation invariant face detection combining skin color model, neural network and face structure model.

4. In 2001, designed a human face tracking and facial organ localizing system. This system was presented in ICCV2001 Demo Section.

Human-Computer Interface:

5. In 2002, designed and developed methods and systems of human head pose estimation for vision based human-computer interface in Microsoft Research Asia.
6. In 1999-2000, created a method to extract facial feature points in profile view. This method was applied to 3D Face Synthesis systems.

Video Surveillance:

7. In 2004, designed and developed an algorithm to extract moving objects for video surveillance.

Other projects:

8. In 2001, designed a human skin color model for adult image filtering.
9. In 2001, designed and implemented a face recognition platform in Microsoft Research Asia.
10. In 1999, developed a data labeling system for Chinese sign language synthesis.

Awards

1. Microsoft Research Scholarship, Microsoft Research Asia, 2001-2003.
2. First class award of Shanghai Science and Technology, Shanghai, China, 2004.
3. Excellent Master Thesis Award, Harbin Institute of Technology, 2000.

Skills

1. Over 6 years experience in developing image processing and computer vision systems.
2. Over 10 years experience in C/C++ programming.
3. Over 6 years experience in Matlab programming.
4. Over 6 years experience in Microsoft Visual C++.

Publications

Conference:

1. Hongming Zhang, Debin Zhao. *Spatial Histogram Features for Face Detection in Color Images*. Advances in Multimedia Information Processing - PCM 2004: 5th Pacific Rim Conference on Multimedia, Lecture Notes in Computer Science 3331, pp377-384, 2004.
2. Hongming Zhang, Wen Gao, Debin Zhao, Xilin Chen. *Learning Informative Features for Spatial Histogram-Based Object Detection*. Proceedings of 2005 International Joint Conference on Neural Networks, July 31-August 4, 2005, Montréal, Canada (*To appear*).
3. Hongming Zhang, Debin Zhao, Wen Gao, Xilin Chen. *Combining Skin Color Model and Neural Network for Rotation Invariant Face Detection*. ICMI'2000, Lecture Notes in Computer Science 1948, pp237-244, 2000.
4. Jun Miao, Hongming Zhang, Wen Gao, et al., *FaceTracker: A Human Face Tracking and Facial Organ Localizing System*. The Proc. of the

- 8th International Conference on Computer Vision, (ICCV2001) pp.743-743, 2001.
5. Lijuan Duan, Guoqin Cui, Wen Gao, Hongming Zhang. *Adult Image Detection Method Base-On Skin Color Model And Support Vector Machine*. Fifth Asian Conference on Computer Vision (ACCV2002). Jan 22-25, 2002.
 6. Shiguang Shan, Wen Gao, Jie Yan, Hongming Zhang, and Xilin Chen. *Individual 3D Face Synthesis Based on Orthogonal Photos and Speech-Driven Facial Animation*. Proceeding of 2000 International Conference on Image Processing, Vol. II, pp238-241, 2000.
 7. Wenchao Zhang, Shiguang Shan, Hongming Zhang, Wen Gao, Xilin Chen. *Multi-resolution Histograms of Local Variation Patterns (MHLVP) for Robust Face Recognition*. Audio- and Video-based Biometric Person Authentication 2005, July 20 - 22, 2005. (*To appear*)
 8. Wenchao Zhang, Shiguang Shan, Wen Gao, Xilin Chen, Hongming Zhang. *Local Gabor Binary Pattern Histogram Sequence (LGBPHS): a Novel Non-Statistical Model for Face Representation and Recognition*. International Conference on Computer Vision, 2005 (ICCV2005) (*To appear*)

Journal:

9. Hongming Zhang, Debin Zhao, Wen Gao. *Face Detection under Rotation in Image Plane Using Skin Color Model, Neural Network and Feature-based Face Model*. Chinese Journal of Computers, Vol.25 No.11, pp 1250-1256, 2002. (*In Chinese*).
10. Hongming Zhang, Wen Gao, Debin Zhao, Xilin Chen. *Object Detection Using Spatial Histogram Features*. Image and Vision Computing (Submitted).
11. Jun Miao, Hong Liu, Wen Gao, Hongming Zhang, Gang Deng, Xilin Chen. *A System for Human Face and Facial Feature Location*. International Journal of Image and Graphics (IJIG). Vol.3, No.3, pp461-479, Jul.2003.

**Patents
(China)**

1. Wen Gao, Wenchao Zhang, Shiguang Shan, Hongming Zhang, Xilin Chen. *A Face Recognition Method Based on Template Matching*. (200410098619.7, in pending status)