

LONGFEI ZHANG

Department of Software Engineering,
Beijing Institute of Technology, Beijing, China
longfeizhang@bit.edu.cn; longfeizhang@cs.cmu.edu

(I am currently a visiting scientist in the Department of Computer Science at Carnegie Mellon University. Supported by National Science Foundation (NSF0812465), I have been working with Alexander Hauptmann from Dec.2009)

EDUCATION

Ph.D. in Computer Science, Beijing Institute of Technology, 2005

- Dissertation Title: Research of Content-based Video Retrieval and Indexing
- Advisor: Professor Yuanda Cao

B.S. in Computer Science, Henan University, 2000

WORKING EXPERIENCE

Carnegie Mellon University, Department of Computer Science
Visiting Scientist

Dec 2009 – Present
Pittsburgh, US

Beijing Institute of Technology, Department of Computer Science
Assistant Professor

Aug 2005 – Present
Beijing, China

ACADEMIC SERVICE

- Teaching
 - Graduate: Digital Image Processing and Pattern Recognition (Spring 2006, Fall 2007, and Spring 2008)
 - Undergraduate: Digital Image and Video Technology (Spring 2008 and Spring 2009)
 - Multimedia Network and Stream Technology (Fall 2008)
 - Software Engineering (Fall 2006, Spring 2007, and Spring 2008)
 - Ado.net – Database Assessment Technology (Summer 2006)
- Master thesis supervisor
- Graduate Committee Member

RESEARCH DIRECTION

- Computer Vision
- CBIR/CBVR (Content based Image/Video Retrieval)
- Machine Learning
- Digital Performance & Virtual Reality & Augmented Reality
- Computer Security

RESEARCH PROJECT

Intelligent Stimulation, Training Assistant and Command Systems for China's 60th Anniversary Civilian Pageant

Project Co-Manager

Mar.2009-Oct.2009

This project was sponsored by National Development and Reform Commission. The project was designed to support the training and command of China's 60th Anniversary Civilian Pageant. The goal of the project is using computer simulation, computer vision, machine learning and multimedia techniques to evaluate the training result, identify how to improve training, and assist real-time commanding. I was the manager for Training Assistant System and Command System.

Research of Constraint Planning-based Dynamic Web Services Composition

Project Co-Manager

2009-2011

This project is sponsored by National Natural Science Foundation of China. The goal is to make different types of domain control knowledge such as objective, procedural or temporal knowledge to be represented and exploited in parallel, thus combining the ideas of 'planning = actions + states' into dynamic web service knowledge. I was responsible for semantic analysis.

Captcha Breaking Project

Project Manager

2008-2009

This project was sponsored by a local enterprise. The goal is to recognize the characters in captcha images by using image processing and machine learning techniques. With 5 people in my team, I was responsible for developing

algorithm and project management.

A System for Virtual Composing and Directing Large-scale Outdoor Artistic Performance

Project Manager

2006-2008

This project was sponsored by Beijing Municipal Science and Technology Commission and Beijing Institute of Technology. The project was designed to serve the Opening/Closing Ceremonies of Beijing 2008 Olympics Games and Paralympics Games. The main objective of the project is help the ceremony directors to visualize their creative ideas in the performances by using Computer Simulation, Virtual Reality and Multimedia techniques and to prove the feasibility of these ideas. With our technical support, the directors can not only quickly decide if their performance ideas are feasible but can also rely on our project support to roll out the detail training schedules for the five to six thousands of performers to efficiently participate in the rehearsals at the same time. Our project has been crucial to the success of the Beijing Olympics grand opening/closing ceremonies the Beijing Olympic Games. I was the manager for rehearsal directing system.

SELECTED PUBLICATIONS

“Cross-Camera Long-Term Visual Tracking in a Nursing Home”, Huan Li, Longfei Zhang, Ming-Yu Chen, Alexander Hauptman, and Howard Wactlar, Conference RESNA 2010, Las Vegas, NV, Jun.28

“Informedia @ TRECVID 2010”, Huan Li, Lei Bao, Zan Gao, Arnold Overwijk, Wei Liu, Longfei Zhang, Shoou-I Yu, Mingyu Chen, Florian Metze and Alexander Hauptmann, TRECVID Video Retrieval Evaluation Workshop, NIST, Gaithersburg, MD, Nov. 2010

“A Computable Visual Attention Model for Video Skimming”, Longfei Zhang, Yuanda Cao, Gangyi Ding, and Yong Wang, ISM 2008; Tenth IEEE International Symposium, Dec.15-17, 2008, Pages 667-672

“A Support Vector Machine (SVM) Meta Classifier Based Sport Video Classification”, Longfei Zhang, Yuanda, Cao, and Yihua Zhou, Transactions of Beijing Institute of Technology (Natural Science Edition), Jan. 2006

“Object Tracking Based on Visual Attention Model and Particle Filter”, Longfei Zhang, Yuanda Cao, Mingjie Zhang, and YiHua Zhou, International Journal of Information Technology (IJIT), Nov. 2005

“Object Detection and Segmentation in Sport Video”, Longfei Zhang, Yuanda Cao, Mingjie Zhang and Yihua Zhou, Computer Engineering, Mar. 2006

“Active Sample Selecting Based on Pursue Relevance Feedback”, Longfei Zhang and Yuanda Cao, Progress Proceedings of 2005 national conference on artificial intelligence (CAAI-11), Sep.2005

“Video Parsing based on Object Tracking”, Longfei Zhang, Yuanda Cao, and Yihua Zhou, Journal of Si Chuan University (Natural Science Edition)Vol.42 No.2. 2005: 420-423

“Fields and Athletes Segmentation in Soccer video”, Longfei Zhang, Mingjie Zhang, Yuanda Cao, and Yangsen Zhang, The First National Conference on Information Retrieval and Content Security (NCIRCS'2004), 2004:286-292

“A Prototype System for Virtual Composing and Directing Large-scale Outdoor Artistic Performance”, Gangyi Ding, Hongsong Li, Tianyu Huang, Longfei Zhang, Jing Gao, and Dawei Zhang. Journal of System Simulation. 2008(20)

“Context-Aware Trust Management for Open Network Environment”, Yong Wang, Ming Li, Lingguo Cui, Jingjing Hu, and Longfei Zhang, Transactions of Beijing Institute of Technology (Natural Science Edition), 2008,28(2)

“A Context-Aware Trust Management System”, Yong Wang, Ming Li, Lingguo Cui, Jingjing Hu, and Longfei Zhang, Transactions of Beijing Institute of Technology (Natural Science Edition),2008,28(2)

“New Optimized and Filtering Method of User's Interest”, Dun Li, Yuanda Cao, and Longfei Zhang, Computer Engineering [J] 2006(20)

“An SVM-based soccer video shot classification”, Yihua Zhou, Yuanda Cao, Longfei Zhang and Hongxin Zhang, Machine Learning and Cybernetics, 2005. Proceedings of the Fourth International Conference on Machine Learning and Cybernetics, Guangzhou, 18-21 August 2005 [EI]

“Multiple Background Model-Based Moving Target Detection on Sea Surface”, Mingjie Zhang, Cuihua Li, Mingye Liu, and Longfei Zhang, Transactions of Beijing Institute of Technology. Vol. 25. 2005:495-498

“Shot Boundary Detection Based on Twice Difference and Window-Difference Maximum”, Yihua Zhou, Yuanda Cao, Longfei Zhang, and Hongxin Zhang, Transactions of Beijing Institute of Technology. Vol.11. 2005

“An SVM-based Soccer Video Shot Classification”, Yihua Zhou, Yuanda Cao, Longfei Zhang, and Hongxin Zhang, The 4th International Conference on Machine Learning and Cybernetics. Aug.2005