

Wenze HU

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Education

- **University of California, Los Angeles** Los Angeles, CA
Ph.D Candidate, Department of Statistics Sep. 2008 - present
 - Research Interest: Visual Object Category Learning and Recognition, Machine Learning, Computer Vision
 - Advisor: Song-Chun Zhu
- **Beijing Institute of Technology** China
M.S, Department of Optical and Electrical Engineering Sep. 2006 - June. 2008
 - Research Direction: Augmented Reality and Virtual Reality, Image and Video Processing.
 - Thesis Topic: Research on Background Modeling for Video Surveillance.
 - GPA: 88.2/100
 - Advisor: Yongtian WANG (SPIE Fellow)
- **Beijing Jiaotong University** China
B.S., Department of Physics Sep. 2002 - June. 2006
 - Major: Optical Information Science and Technology
 - GPA: 89.1/100
 - Rank: 4/123

Research Experience

- **Center for Image and Vision Science, UCLA** Los Angeles, CA
Ph.D Candidate Sep. 2008 – Present
 - Project IV: Sparse image representation using active primitives.
 - * Focus: Capturing large structures of natural images.
 - Project III: View invariant object category learning and recognition
 - * Focus: Learning 3D stick based sparse representation of visual object category.
 - Project II: Modelling and parsing of image object categories
 - * Focus: Learning part-based models for visual object categories.
 - Project I: Fire and smoke detection in video
 - * Focus: Combing color, texture and motion features to detect smoke and fires in video.
- **Lotus Hill Institute for Computer Vision Science** China
Visiting Student June 2007 – June 2008
 - Project: Intelligent visual surveillance system under complex scenes
 - Focuses
 - * Background modelling
 - * Interactive scene context labelling
 - * Software performance optimization and tuning
- **Beijing Institute of Technology.** China
Graduate Student, Visiting Student May 2005 – June 2007

- Digital Yuanmingyuan project, phase III. (An out-door mobile marker-less augmented reality project)
 - * Focus: Develop models to robustly recognize and track objects in video.
- Digital Yuanmingyuan project, phase II.(PDA based augmented reality project)
 - * Focus: Virtual object rendering on PDA running Windows Mobile OS.

Publications

1. Wenze Hu, Learning 3D Object Templates by Hierarchical Quantization of Geometry and Appearance Spaces. 2012 Conference on Computer Vision and Pattern Recognition (CVPR), 2012.
2. Wenze Hu, Ying Nian Wu and Song-Chun Zhu, "Image Representation by Active Curves". International Conference on Computer Vision (ICCV) 2011.
3. Jiagen Zhang, Wenze Hu, Benjamin Yao, Yongtian Wang and Song-Chun Zhu, "Inferring Social Roles from Long Timespan Video". VECTaR workshop, in conjunction with ICCV, 2011.
4. Wenze Hu and Song-Chun Zhu, "Learning a probabilistic Model Mixing 3D and 2D Primitives for View Invariant Object Category Recognition". CVPR 2010.
5. Jianting Wen, Haifeng Gong, Xia Zhang, Wenze Hu, "Generative Model for Abandoned Object Detection". International Conference on Image Processing (ICIP), 2009.
6. Wenze Hu, Jianting Wen, Haifeng Gong, and Yongtian Wang, "An Interactive Video Annotation Tool for Video Surveillance". 19th International Conference on Pattern Recognition (ICPR), 2008.
7. Wenze Hu, Haifeng Gong, Song-Chun Zhu and Yongtian Wang. "An Integrated Background Model for Video Surveillance Based on Primal Sketch and 3D Scene Geometry", CVPR 2008.
8. Chen Jing, Wang Yong-tian, Li Yu, Hu Wen-ze and Zang Xiao-jun, "Stable Online Natural Feature-based Registration Algorithm for AR System". Journal of System Simulation, Vol 20, No 24, 2007.
9. Jing Chen, Yongtian Wang, Yu Li, Wenze Hu, Xiaojun Zang," An Improved Real-Time Natural Feature Tracking Algorithm for AR Application". 16th International Conference on Artificial Reality and Telexistence workshops, 2006.

Honors and Awards

- Fellowship from Department of Statistics, UCLA, 2008
- Excellent Master Thesis, Beijing Institute of Technology, 2008.
- Excellent Bachelor Thesis, Beijing Jiaotong University, 2006.
- Honourable Mention in Mathematical Contest in Modelling (Administered by the Consortium for Mathematics and Its Applications, U.S.), 2005
- Scholarship for Excellence in Research Activity, Grade A, Beijing Jiaotong University, 2005.
- Scholarship for Excellent in Study, Grade A, Beijing Jiaotong University, 2005.
- First Place in China Undergraduate Mathematical Contest in Modeling, Beijing Section, 2004.