Zhe Wang

Contact Information

2nd year PhD Student
Department of Computer Science
The University of Arizona

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Research Interests

Data Analysis, Data Visualization, Database Management System

Education

The University of Arizona Tucson, AZ, USA — Aug. 2014 to present

PhD Student, Department of Computer Science

- I'm co-advised by Dr. Richard T. Snodgrass and Dr. Carlos Scheidegger

Chinese Academy of Sciences Beijing, China — Sep. 2011 to June 2014

M.S., Institute of Computing Technology (ICT)

- Adviser: Dr. Hong Liu

Northeast Normal University Changchun, China — Sep. 2007 to June 2011

B.E., College of Software Engineering

- Major: Software Engineering

Research Projects

Realtime Interactive Visualization of PCA for Big Data (Sep. 2015 to present)

- Calculate PCA of large data sets in realtime to support interactive data exploration
- Primary Researcher & Programmer

ANTARES (Aug. 2014 to present)

- The Arizona-NOAO Temporal Analysis and Response to Events System
- Architecture Team Member (Aug. 2014 to present)
- Visualization Team Member (Aug. 2015 to present)
- Chief Programmer (Aug. 2015 to present)

Obstacle Avoidance System for the Blind (June 2012 to May 2014 - M.S. Thesis Project)

- An electronic travel aid to help the visually impaired walk safely using RGB-D sensors
- Primary Researcher & Programmer

3D Scanning and Printing System (June 2013 to July 2013)

- Reconstruct the 3D model of an object in real time using Kinect and KinFu for 3D printer
- Primary Researcher & Programmer Printers

Crowd Density Estimation (Sep. 2011 to June 2012)

- Propose a novel feature for crowd density estimation: the Local Binary Pattern Co-Occurrence Matrix
- Primary Researcher & Programmer

KidSpark (Sep 2009 to Apr. 2010)

- Use a projector and a infrared pen to turn a plane wall into an interactive white board
- Software Team Member

Publications

[1] **Zhe Wang**, Hong Liu, Xiangdong Wang, and Yueliang Qian. Segment and Label Indoor Scene based on RGB-D for the Visually Impaired. In: *International Conference on Multimedia Modeling*(**MMM**), 2014. (Accepted as oral presentation)

[2] Hong Liu, **Zhe Wang**, Xiangdong Wang, Guoying Zhao, and Yueliang Qian. Adaptive Scene Segmentation and Obstacle Detection for the Blind. *Journal of Computer-Aided Design and Computer Graphics*(**JCAD**), 25(12), 1818-1825, 2013.

[3] **Zhe Wang**, Hong Liu, Yueliang Qian, and Tao Xu. Real-Time Plane Segmentation and Obstacle Detection of 3D Point Clouds for Indoor Scenes. In: *The 2nd Workshop on Consumer Depth Cameras for Computer Vision, in conjunction with European Conference on Computer Vision* (**ECCV**), 2012.

[4] **Zhe Wang**, Hong Liu, Yueliang Qian, and Tao Xu. Crowd Density Estimation Based On Local Binary Pattern Co-Occurrence Matrix. In: *the 2nd IEEE International Workshop on Advances in Automated Multimedia Surveillance for Public Safety, in conjunction with IEEE International Conference on Multimedia and Expo* (**ICME**), 2012.

[5] Tao Xu, Hong Liu, Yueliang Qian and **Zhe Wang**. A Fast and Roust Pedestrian Detection Framework based on Static and Dynamic Information. In: *IEEE International Conference on Multimedia and Expo* (**ICME**). 2012.

Works-In-Progress

- Zhe Wang and Carlos Scheidegger. Real-time Interactive Visualization of PCA for Big Data. Preparing for InfoVis 2016.

Work Experience

Department of Computer Science, The University of Arizona
Tucson, AZ, USA
- Research Assistant — Aug. 2014 to present

Institute of Computing Technology, Chinese Academy of Science
Beijing, China
- Research Assistant — Sep. 2011 to June 2014

Jingshi Information Technology Co., Ltd.
Hangzhou, China
- Co-Founder — Apr. 2011 to July 2013

IDEAL Research Institute of Information Technology, Northeast Normal University
Changchun, China
- Research Assistant — Sep. 2008 to Sep. 2010

Awards

- Dongshi Medal, NENU (**top 38** students of the university) (2011)
- National Second Prize in Microsoft Imagine Cup Software Design (**top 3** projects in China) (2010)
- National Second Prize in Microsoft Imagine Cup Multipoint Education Award (**top 2** projects in China) (2009)
- Presidential Scholarship, NENU (**top 1%** students) (2008, 2009, 2010, 2011)

Skills

Programming Language: C/C++, Python, Javascript, C#, SQL,
Library and Tools: D3, Numpy, Scipy, OpenCV, PCL, Matplotlib, Latex, Vim
OS: OSX, Linux, Windows