Jian Wang

CONTACT INFORMATION	5000 Forbes Ave Pittsburgh, PA 15213	412-315-8973 jianwan2@andrew.cmu.edu

RESEARCH INTERESTS

Computer Vision, Computational Photography, Signal Processing

EDUCATION

Carnegie Mellon University (CMU), Pittsburgh, PA   8/2013 to present
Expected graduation: 7/2018

Ph.D., Electrical and Computer Engineering department
- Advisors: Prof. Aswin C. Sankaranarayanan, Prof. Srinivasa Narasimhan

University of Science and Technology of China (USTC), Hefei, China

M.S., Automation department   9/2009 to 7/2013
- Advisor: Prof. Zonghai Chen

Xi'an Jiao Tong University (XJTU), Xi'an, China   9/2005 to 7/2009

B.Eng., Automation department   B.Ec., Finance department (double major)

RESEARCH EXPERIENCE

Machine Perception, Google   6/2017 to present
Advisor: Dr. Jiawen (Kevin) Chen
Title: Intern
Research topic: stereo matching, image denoising

Illumination and Imaging Laboratory, CMU   1/2016 to present
Advisor: Prof. Srinivasa Narasimhan
Title: Research assistant
Research topics: structured light, time-of-flight sensor, dynamic vision sensor, 3D imaging, non-line-of-sight imaging

Image Science Lab, CMU   8/2013 to present
Advisor: Prof. Aswin C. Sankaranarayanan
Title: Research assistant
Research topics: video compressive sensing, imaging architecture, optics design, camera-projector system, light transport analysis, photometric stereo, 3D imaging

Media Lab, FutureWei Technologies, Inc.   5/2014 to 8/2014
Advisor: Dr. Jinwei Gu
Title: Research intern
Research topics: video co-segmentation, spatial-temporal graph cuts, multi-camera system

Microsoft Research Asia   2/2012 to 2/2013
Advisor: Dr. Yasuyuki Matsushita
Title: Research intern
Research topics: gigapixel 3D camera, photometric stereo

Simulation and Intelligent Control Lab, USTC   9/2009 to 7/2013
Advisor: Prof. Zonghai Chen
Title: Research assistant
Research topics: control of intelligent car based on visual sensor, photoelectric sensor and electromagnetic sensor, human action recognition, biometrics

Publications	1. Zhuo Hui, Kalyan Sunkavalli, Joon-Young Lee, Sunil Hadap, **Jian Wang** and Aswin C. Sankaranarayanan, "Reflectance Capture Using Univariate Sampling of BRDFs", in International Conference on Computer Vision (**ICCV**), 2017.

Publications

1. Zhuo Hui, Kalyan Sunkavalli, Joon-Young Lee, Sunil Hadap, **Jian Wang** and Aswin C. Sankaranarayanan, "Reflectance Capture Using Univariate Sampling of BRDFs", in International Conference on Computer Vision (**ICCV**), 2017.

2. Vishwanath S. R. Venkata, **Jian Wang**, Xin Li, Aswin C. Sankaranarayanan, "Compressive Spectral Anomaly Detection", in IEEE Conference on Computational Photography (**ICCP**), Stanford, CA, May 2017. (**Oral**)

3. **Jian Wang**, Aswin C. Sankaranarayanan, Mohit Gupta, and Srinivasa G. Narasimhan, "Dual structured Light 3D Using A 1D Sensor", in European Conference on Computer Vision (**ECCV**), Amsterdam, The Netherlands, Oct. 2016. (**Oral**)

4. Aswin C. Sankaranarayanan, **Jian Wang**, and Mohit Gupta, "Radon Transform Imaging: Low Cost Video Compressive Sensing at Extreme Resolutions", in SPIE Sensing and Analysis Technologies for Biomedical and Cognitive Applications, Baltimore, MD, Apr. 2016.

5. **Jian Wang**, Yasuyuki Matsushita, Boxin Shi, and Aswin C. Sankaranarayanan, "Photometric Stereo with Small Angular Variations", in International Conference on Computer Vision (**ICCV**), Santiago, Chile, Dec. 2015.

6. Suhas Lohit, Kuldeep Kulkarni, Pavan Turaga, **Jian Wang**, and Aswin C. Sankaranarayanan, "Reconstruction-free Inference on Compressive Measurements", in 4th IEEE International Workshop on Computational Cameras and Displays (**CCD**), Boston, MA, Jun. 2015. (**Best paper award**)

7. **Jian Wang**, Mohit Gupta, and Aswin C. Sankaranarayanan, "LiSens — A Scalable Architecture for Video Compressive Sensing", in IEEE Conference on Computational Photography (**ICCP**), Houston, TX, Apr. 2015. (**Oral**)

8. **Jian Wang**, Xiao Liang, Yasuyuki Matsushita, Magnetro Chen, and Bojun Huang, "Gigapixel 3D Camera", Tech-report, `http://goo.gl/BcAf1M`, 2015.

9. **Jian Wang**, Xiaowei Zhang, Jin Yang, Xin Zan, and Xiaoyong Liu, "Design of control algorithms for smart car based on vision", Microcomputer & Its Applications, vol. 29, pp. 74-77, 2010.

Patents

1. Aswin C. Sankaranarayanan, **Jian Wang**, Mohit Gupta and Srinivasa G. Narasimhan, "Structured light 3D scanner using a line-sensor", filing date: Oct 1, 2016.

2. Aswin C. Sankaranarayanan, Mohit Gupta and **Jian Wang**, "Radon transform imaging — light modulator-free compressive imaging", filing date: Apr 18, 2016.

3. Aswin C. Sankaranarayanan and **Jian Wang**, "Video compressive sensing at high measurement rates using line sensors", filing date: May 19, 2015.

4. Jinwei Gu, **Jian Wang**, and Wei Jiang, "Video co-segmentation with multi-view spatial-temporal graph cuts", filing date: May 30, 2015.

Honors and Awards

- Best paper award, in 4th IEEE International Workshop on Computational Cameras and Displays (**CCD**)   2015
- Best of the best summer intern good performance award, FutureWei Technologies, Inc.   2014
- Award of Excellance, Stars of Tomorrow Internship Program, Microsoft Research Asia   2013
- First-Class Award (Top 5.6%) and Excellent Paper Award (Top 4.2%), in 4th National University Freescale Cup Intelligent Car Racing   2009

Courses in CMU 15862 Computational Photography, 16720 Computer Vision, 18799N Computational Imaging Sensors, 10701 Machine Learning, 18751 Applied Stochastic Process, 18792 Advanced Digital Signal Processing (TA), 18799J Compressive Sensing, 18799D Nonlinear Optimization, 16823 Physics-based methods in Computer vision (TA), 18793 Image and Video Processing, 33353 Intermediate Optics, 36705 Intermediate Statistics, 15462 Computer Graphics, audit