

Sizhuo Ma

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RESEARCH INTEREST

Computer Vision, Computational Imaging

EDUCATION

Dec. 2016 – Ph.D. of COMPUTER SCIENCES, University of Wisconsin-Madison
Present

Aug. 2014 – M.S. of COMPUTER SCIENCES, University of Wisconsin-Madison
Dec. 2016 GPA: 3.92/4.00

Sep. 2010 – B.S. of COMPUTER SCIENCE AND ENGINEERING, Shanghai Jiao Tong University, China
July. 2014 GPA: 90.3/100

WORK EXPERIENCE

May. 2016 – **WISION Lab, University of Wisconsin-Madison**
Present *Graduate Research Assistant*
Advisor: Professor Mohit Gupta

- Develop novel solutions to motion-related computer vision problems (*e.g.*, scene flow, burst photography) with computational camera designs (*e.g.*, light field, structured light, single-photon cameras).

May. 2020 – **Snap Research**
Aug. 2020 *Research Intern, Computational Imaging Team*
Supervisor: Shree Nayar

Jan. 2016 – **Living Environments Lab, University of Wisconsin-Madison**
May. 2016 *Graduate Research Assistant*
Advisor: Professor Kevin Ponto

- Built prototypes for AR applications on mobile devices, using hardware/software platforms including Google Project Tango, Vuforia, and Unity.

Sep. 2012 – **Visual Media and Data Management Lab, Shanghai Jiao Tong University**
Jun. 2014 *Undergraduate Research Assistant*
Advisor: Professor Bin Sheng

- Implemented a real-time, monocular, dense SLAM system in C++ as a platform for AR applications.

TEACHING EXPERIENCE

Sep. 2015 – **Teaching Assistant**
Jan. 2016 *CS301: Introduction to Data Programming (Python)*
University of Wisconsin-Madison

Sep. 2014 – **Teaching Assistant**
May. 2015 *CS302: Introduction to Programming (Java)*
University of Wisconsin-Madison

PUBLICATIONS

- 2020 **Sizhuo Ma**, Mohit Gupta. Inertial Safety from Structured Light. *European Conference on Computer Vision (ECCV 2020)*
- 2020 **Sizhuo Ma**, Shantanu Gupta, Arin C. Ulku, Claudio Bruschini, Edoardo Charbon, Mohit Gupta. Quanta Burst Photography. *SIGGRAPH 2020*
- 2019 **Sizhuo Ma**, Brandon M. Smith, Mohit Gupta. Differential Scene Flow from Light Field Gradients. *International Journal on Computer Vision (IJCV) Special Issue on Best Papers of ECCV 2018*
- 2018 **Sizhuo Ma**, Brandon M. Smith, Mohit Gupta. 3D Scene Flow from 4D Light Field Gradients. *European Conference on Computer Vision (ECCV 2018)* [**Oral presentation**]

PATENT

Systems, Methods, and Media for High Dynamic Range Quanta Burst Imaging
Inventors: Mohit Gupta, Sizhuo Ma, Filing Date: April 2020

Systems, Methods, and Media for Determining Object Motion in Three Dimensions from Light Field Image Data
Inventors: Mohit Gupta, Sizhuo Ma, Brandon Smith, **Patent granted**, US Patent 10706564

HONORS AND AWARDS

- 2020 SNAP RESEARCH FELLOWSHIP
2012 SHANGHAI MUNICIPAL SCHOLARSHIP
2011 – 2012 SJTU ACADEMIC EXCELLENCE SCHOLARSHIP

SKILLS

Programming Languages: Python, MATLAB, C, C++, Java, C#,
Operating Systems: Windows, Linux, Android
Tools/Libraries: OpenCV, PyTorch, CUDA, OpenGL, Unity, Blender
Languages: English (Proficient), Chinese (Native), Japanese (JLPT N1)