

# Yu Ji

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## CONTACT INFORMATION

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## EDUCATION

**University of Delaware**, Newark, DE USA

*Ph.D.* in Computer Science

**Jan 2011 - Dec 2015**

- Ph.D. Thesis: Coded Light Source for Recovering “Invisible” Phenomena
- Advisor: Dr. Jingyi Yu

**Nanyang Technological University**, Singapore

*MSc.* in Computer Engineering

**Aug 2009 - Dec 2010**

- Master Thesis: 3D Mesh Editing Using Manifold Harmonics
- Advisor: Dr. Ying He

**Huazhong University of Science and Technology**, Wuhan China

*B.Eng.* in Electronics and Information Engineering

**Sep 2005 - Jun 2009**

## INDUSTRIAL EXPERIENCE

**Tencent Pixel Lab**, New York, NY USA

*Senior Graphics Researcher*

**Apr 2022 - Present**

- Develop algorithm & capture system for 3D Reconstruction.

**DGene Lab**, Baton Rouge, LA USA

*Chief Scientist*

**Jan 2018 - Jan 2022**

- Lead a research & development group. Develop and build algorithm and system for high precision 3D human Reconstruction.

**DGene (Plex-VR)**, Santa Clara, CA USA

*Principal Scientist*

**Apr 2017 - Dec 2017**

- Worked on computational photography and 3D Reconstruction. Develop and build a 3D capture dome for high precision human 3D reconstruction.

**VIA Technologies, Inc.**, Fremont, CA USA

*Principal R&D Engineer*

**Jan 2016 - Mar 2017**

- Worked on 3D reconstruction and developed a rendering engine for Virtual Reality devices.

**Epson Research & Development**, San Jose, CA USA

*Research Intern*

**Jun 2013 - Aug 2013**

- Mentor: Dr. Yuanyuan Ding & Dr. Jing Xiao.
- Worked on object detection & localization techniques and developed a real-time system for detecting pedestrian and automobile.

HONORS AND  
AWARDS

**Frank A. Pehrson Graduate Student Achievement Award**, University of Delaware, 2015  
**Graduate Student Excellence Award**, University of Delaware, 2014  
**Professional Development Award**, University of Delaware, 2013, 2014  
**CVPR 2013 Travel Grant**, the IEEE Computer Society PAMI Technical Committee, 2013  
**Honorable Graduation**, Huazhong University of Science and Technology, 2009  
**Excellent Undergraduate Student Award**, Huazhong University of Science and Technology, 2008

PUBLICATIONS  
JOURNALS

- [J1] Yuqi Ding, Zhang Chen, **Yu Ji**, Jingyi Yu, and Jinwei Ye. “Light Field-Based Underwater 3D Reconstruction Via Angular Resampling”, accepted by *IEEE Transactions on Computational Imaging (TCI)*, 2023.
- [J2] Yuqi Ding, Zhong Li, Zhang Chen, **Yu Ji**, Jingyi Yu, and Jinwei Ye. “Full-Volume 3D Fluid Flow Reconstruction with Light Field PIV”, accepted by *IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI)*, 2023.
- [J3] Mingyuan Zhou, Yuqi Ding, **Yu Ji**, Jingyi Yu, and Jinwei Ye. “Shape and Reflectance Reconstruction Using Concentric Multi-Spectral Light Field”, accepted by *the International Conference on Computational Photography (ICCP)*, and *IEEE Transactions on Pattern Analysis and Machine Intelligence, SI:ICCP (PAMI)*, 2020.
- [J4] Wei Yang, Yingliang Zhang, Jinwei Ye, **Yu Ji**, Mingyuan Zhou, Zhong Li and Jingyi Yu. “Structure from Motion on XSlit Cameras”, accepted by *IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI)*, 2019.
- [J5] Jinwei Ye, **Yu Ji**, Mingyuan Zhou, Sing Bing Kang and Jingyi Yu. “Content Aware Image Pre-Compensation”, accepted by *IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI)*, 2018.
- [J6] Nianyi Li, Jinwei Ye, **Yu Ji**, Haibin Ling and Jingyi Yu. “Saliency Detection on Light Field”, accepted by *IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI)*, 2016.

CONFERENCES

- [C1] Yuqi Ding, **Yu Ji** and Jinwei Ye. “Polar-Photometric Stereo Under Natural Illumination”, *in the International Conference on 3D Vision (3DV)*, 2022.
- [C2] Yuqi Ding, **Yu Ji**, Mingyuan Zhou, Sing Bing Kang and Jinwei Ye. “Polarimetric Helmholtz Stereopsis”, *in the International Conference on Computer Vision (ICCV)*, 2021. Oral Presentation.
- [C3] Zhong Li, **Yu Ji**, Jingyi Yu, and Jinwei Ye. “3D Fluid Flow Reconstruction Using Compact Light Field PIV”, accepted by the *the European Conference on Computer Vision (ECCV)*, 2020.
- [C4] Zhang Chen, Anpei Chen, Guli Zhang, Chengyuan Wang, **Yu Ji**, Kyros Kutulakos, and Jingyi Yu. “A Neural Rendering Framework for Free-Viewpoint Relighting”, accepted by *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2020.
- [C5] Zhang Chen, **Yu Ji**, Mingyuan Zhou, Singbing Kang, and Jingyi Yu. “3D Face Reconstruction using Color Photometric Stereo with Uncalibrated Near Point Lights”, accepted by *the International Conference on Computational Photography (ICCP)*, 2020.
- [C6] Jie Lu, **Yu Ji**, Jingyi Yu, and Jinwei Ye. “Mirror Surface Reconstruction Using Polarization Field”, in Proceedings of *the International Conference on Computational Photography (ICCP)*, 2019.
- [C7] Shi Jin, Ruiyang Liu, **Yu Ji**, Jinwei Ye and Jingyi Yu. “Learning to Dodge A Bullet: Concyclic

View Morphing via Deep Learning”, in Proceedings of the *European Conference on Computer Vision (ECCV)*, 2018.

[C8] Zhong Li, **Yu Ji**, Wei Yang, Jinwei Ye and Jingyi Yu. “Robust 3D Human Motion Reconstruction Via Dynamic Template Construction”, in Proceedings of the *International Conference on 3D Vision (3DV)*, 2017.

[C9] Wei Yang<sup>†</sup>, **Yu Ji**<sup>†</sup>, Sing Bing Kang and Jingyi Yu. “Ambient Occlusion via Compressive Visibility Estimation”. Accepted by the *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2015.

[C10] **Yu Ji**, Jinwei Ye and Jingyi Yu. “Depth Reconstruction from the Defocus Effect of an XSlit Camera”. Accepted by *Computational Optical Sensing and Imaging (COSI)*, *Optical Society of America*, 2015.

[C11] Jinwei Ye, **Yu Ji**, Wei Yang and Jingyi Yu. “Depth-of-Field Analysis and Coded Aperture Imaging on XSlit Cameras”. To appear in the *European Conference on Computer Vision (ECCV)*, 2014. Oral Presentation. [Acceptance Rate: 2.63%]

[C12] Wei Yang, **Yu Ji**, Jinwei Ye, S. Susan Young and Jingyi Yu. “Coplanar Common Points in Non-Centric Cameras”. To appear in the *European Conference on Computer Vision (ECCV)*, 2014. [Acceptance Rate: 25.06%]

[C13] **Yu Ji**, Jinwei Ye, Sing Bing Kang and Jingyi Yu. “Image Pre-compensation: Balancing Contrast and Ringing”. To appear in the *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2014. [Acceptance Rate: 29.88%]

[C14] Nianyi Li, Jinwei Ye, **Yu Ji**, Haibin Ling and Jingyi Yu. “Saliency Detection on Light Fields”. To appear in the *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2014. [Acceptance Rate: 29.88%]

[C15] Jinwei Ye, **Yu Ji** and Jingyi Yu. “A Rotational Stereo Model Based on XSlit Imaging”. in the *International Conference on Computer Vision (ICCV)*, 2013. Oral Presentation. [Acceptance Rate: 2.52%]

[C16] **Yu Ji**, Jinwei Ye and Jingyi Yu. “Reconstructing Gas Flows Using Light Paths Approximation”. To appear in the *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2013. Oral Presentation. [Acceptance Rate: 3.2%]

[C17] Jinwei Ye, **Yu Ji** and Jingyi Yu. “Manhattan Scene Understanding Via XSlit Imaging”. To appear in the *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2013. [Acceptance Rate: 25.2%]

[C18] Jinwei Ye<sup>†</sup>, **Yu Ji**<sup>†</sup>, Feng Li and Jingyi Yu. “Angular Domain Reconstruction of Dynamic 3D Fluid Surfaces”. in the *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2012. [Acceptance Rate: 24%]

[C19] Yuanyuan Ding, Feng Li, **Yu Ji** and Jingyi Yu. “Dynamic 3D Fluid Surface Acquisition Using a Camera Array”. in the *International Conference on Computer Vision (ICCV)*, 2011. [Acceptance Rate: 20.5%]

<sup>†</sup> co-first author

PATENT

A Real-time Object Capture System, United States Patent 62048887, September 2014.

3-D Light Field Camera, United States Patent 61920074, December 2013.

An XSlit Camera for 3D Scene Reconstruction, United States Patent 61886161, October 2013.