Yiming Qian

Department of Computer Science
University of Manitoba
Winnipeg, MB Canada R3T 2N2

Phone: +1(780)668-5381
Email: qym.ustc@gmail.com
Web: https://yi-ming-qian.github.io/

RESEARCH INTERESTS

Computer Vision, Computer Graphics, Deep Learning, Computational Imaging

APPOINTMENTS

Assistant Professor 07/2021 – Present
Department of Computer Science
University of Manitoba, Canada

Postdoctoral Fellow 03/2019 – 06/2021
School of Computing Science
Simon Fraser University, Canada
Supervisor: Yasutaka Furukawa

EDUCATION

Ph.D. in Computer Science 09/2014 – 11/2018
University of Alberta, Canada
Advisors: Herbert Yang and Minglun Gong
Thesis: Light Transport Acquisition and 3D Reconstruction in the Presence of Light Refraction

M.Sc. in Computer Science 09/2012 – 08/2014
Memorial University of Newfoundland, Canada

B.Eng. in Automation 08/2008 – 07/2012
School of Information Science and Technology, University of Science & Technology of China

SELECTED HONORS & AWARDS

- **Alberta Innovates Graduate Student Scholarship** 2016 – 2018
  $31500CAD annual support to academically superior graduate students at an Alberta university
- **Graduate Travel Award** 2016, 2017
- **Graduate Student Professional Development Award** 2015, 2016
- **PhD Early Achievement Award** 2015
  Awarded annually to one Ph.D. student across the department
- **Dean's Excellence Award** 2015
  Awarded annually to one PhD student in each department of Faculty of Science

- **Best Paper Award** 2015
  The 28th Canadian Conference on Artificial Intelligence, Halifax, Nova Scotia

SELECTED PUBLICATIONS

[16]. Jiacheng Chen, **Yiming Qian**, Yasutaka Furukawa. "HEAT: Holistic Edge Attention Transformer for Structured Reconstruction." *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition* (***CVPR***), 2022.

[15]. **Yiming Qian**, Hang Yan, Sachini Herath, Pyojin Kim, Yasutaka Furukawa. "Single User WiFi Structure from Motion in the Wild." *IEEE International Conference on Robotics and Automation* (***ICRA***), 2022.

[14]. **Yiming Qian**, Hao Zhang, Yasutaka Furukawa. "Roof-GAN: Learning to Generate Roof Geometry and Relations for Residential Houses." *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition* (***CVPR***), 2021.

[13]. Sachini Herath, Saghar Irandoust, Bowen Chen, **Yiming Qian**, Pyojin Kim, Yasutaka Furukawa. "Fusion-DHL: WiFi, IMU, and Floorplan Fusion for Dense History of Locations in Indoor Environments." *IEEE International Conference on Robotics and Automation* (***ICRA***), 2021.

[12]. **Yiming Qian**, Yasutaka Furukawa. "Learning Pairwise Inter-Plane Relations for Piecewise Planar Reconstruction." *Proceedings of the European Conference on Computer Vision* (***ECCV***), 2020.

[11]. Shihao Zou, Xinxin Zuo, **Yiming Qian**, Sen Wang, Chi Xu, Minglun Gong, Li Cheng "3D Human Shape Reconstruction from a Polarization Image." *Proceedings of the European Conference on Computer Vision* (***ECCV***), 2020.

[10]. **Yiming Qian**, Yinqiang Zheng, Minglun Gong, Yee-Hong Yang. "Simultaneous 3D Reconstruction for Water Surface and Underwater Scene." *Proceedings of the European Conference on Computer Vision* (***ECCV***), 2018.

[9]. Bojian Wu, Yang Zhou, **Yiming Qian**, Minglun Gong, Hui Huang. "Full 3D Reconstruction of Transparent Objects." *ACM Transactions on Graphics* (*Proceedings of* ***SIGGRAPH***), 2018.

[8]. **Yiming Qian**, Minglun Gong, Yee-Hong Yang. "Stereo-based 3D Reconstruction of Dynamic Fluid Surfaces by Global Optimization." *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition* (***CVPR***), 2017.

[7]. Yunhai Wang, **Yiming Qian**, Yang Li, Minglun Gong, Wolfgang Banzhaf. "Artificial Multi-Bee-Colony Algorithm for k-Nearest-Neighbor Fields Search." *Proceedings of the ACM Genetic and Evolutionary Computation Conference* (***GECCO***), 2016.

[6]. **Yiming Qian**, Minglun Gong, Yee-Hong Yang. "3D Reconstruction of Transparent Objects with Position-Normal Consistency." *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition* (***CVPR***), 2016.

[5]. **Yiming Qian**, Minglun Gong, Yee-Hong Yang. "Frequency-based Environment Matting by Compressive Sensing." *Proceedings of the IEEE International Conference on Computer Vision* (***ICCV***), 2015.

[4]. **Yiming Qian**, Hao Yuan, Minglun Gong. "Budget-Driven Big Data Classification." *Canadian Conference on Artificial Intelligence*, 2015. *Best Paper Award*.

[3]. **Yiming Qian**, Minglun Gong, Li Cheng. "STOCS: An Efficient Self-Tuning Multiclass Classification Approach." *Canadian Conference on Artificial Intelligence*, 2015.

[2]. Minglun Gong, **Yiming Qian**, Li Cheng. "Integrated Foreground Segmentation and Boundary Matting for Live Videos." *IEEE Transactions on Image Processing* (***TIP***), 2015.

[1]. Hadar Averbuch-Elor, Yunhai Wang, **Yiming Qian**, Minglun Gong, Johannes Kopf, Hao Zhang, Daniel Cohen-Or. "Distilled Collections from Textual Image Queries." *Computer Graphics Forum* (*Proceedings of **Eurographics***), 2015.

PATENT

- Yunqing Wang, **Yiming Qian**. "Video Coding Using Parameterized Motion Model." U.S. Patent 10,645,417, issued May 5, 2020.

TEACHING

Lecturer

- COMP4060/7570: 3D Understanding for Visual Computing — Fall 2021
- COMP1020: Introductory Computer Science 2 — Winter 2022

PROGRAMMING

C/C++, Python, MATLAB, PyTorch, Ceres

INTERNSHIPS

- **Google, Mountain View** — 2017
  1 US patent on stereo video compression was granted.
- **Microsoft Research Asia, Beijing** — 2011 – 2012
  20 undergraduate students were enrolled annually into the program across the university.

SERVICE & OUTREACH

Program Committee and Reviewer

- IEEE/CVF Conference on Computer Vision and Pattern Recognition
- AAAI Conference on Artificial Intelligence
- International Conference on Robotics and Automation
- IEEE Transactions on Pattern Analysis and Machine Intelligence
- IEEE Winter Conference on Computer Vision
- Asian Conference on Computer Vision
- Eurographics
- Pattern Recognition
- IEEE Signal Processing Letters
- Machine Vision and Applications
- Optics and Lasers in Engineering

Volunteer

- Speaker at Let's Talk Science for high school students from rural areas, 2016, 2017
- Tour Guide for UAlberta Computing Science Open House, 2015, 2016, 2017
- Demo Presenter at Iverson Programming Competition Day, 2015, 2016