

# Binbin Xu

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## Research Interests

Visual SLAM, and Computational Photography

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## Education

- 2017–2021 **PhD student in Department of Computing, Imperial College London.**  
Supervisors Dr. Stefan Leutenegger and Prof. Andrew Davison
- April 2015– **M.Eng., Precision Engineering, University of Tokyo.**  
March 2017 Graduated with 4.0/4.0 GPA and Outstanding Master's Thesis Award  
Thesis Optical Flow-based Video Completion for a Moving Spherical Camera  
Supervisors Assoc. Prof. Atsushi Yamashita and Prof. Hajime Asama
- 2010–2014 **B.Eng., Information Engineering, South China University of Technology.**  
GPA 88.07/100 (Ranking: TOP 6% (20/329))

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## Publications

- ICRA 2019 **Binbin Xu**, Wenbin Li, Dimos Tzoumanikas, Michael Bloesch, Andrew Davison, Stefan Leutenegger: *MID-Fusion: Octree-based Object-Level Multi-Instance Dynamic SLAM*. IEEE International Conference on Robotics and Automation (ICRA), 2019
- RA-L 2017 **Binbin Xu**, Sarthak Pathak, Hiromitsu Fujii, Atsushi Yamashita, Hajime Asama: *Spatio-temporal Video Completion in Spherical Image Sequences*. IEEE Robotics and Automation Letters, Vol. 2, No. 4, pp. 2032-2039, 2017
- ROBIO 2016 **Binbin Xu**, Sarthak Pathak, Hiromitsu Fujii, Atsushi Yamashita, Hajime Asama: *Optical Flow-based Video Completion in Spherical Image Sequences*. Proceedings of the 2016 IEEE International Conference on Robotics and Biomimetics, pp.388-395, 2016
- ICAM 2015 **Binbin Xu**, Sarthak Pathak, Hiromitsu Fujii, Atsushi Yamashita, Hajime Asama: *Robot Body Occlusion Removal in Omnidirectional Video Using Color and Shape Information*. Proceedings of the 2015 JSME/RMD International Conference on Advanced Mechatronics, pp.49-50, 2015 (**Honorable Mention Award**)
- ROBIO 2013 Ningjia Yang, Feng Duan, Yudi Wei, Chuang Liu, Jeffrey Too Chuan Tan, **Binbin Xu**, Jin Zhang: *A study of the human-robot synchronous control system based on skeletal tracking technology*. Proceedings of the 2013 IEEE International Conference on Robotics and Biomimetics, pp.2191-2196, 2013
- ROBIO 2012 Wenyu Li, Feng Duan, Bo Chen, Jing Yuan, Jeffrey Too Chuan Tan, **Binbin Xu**: *Mobile robot action based on QR code identification*. Proceedings of the 2012 IEEE International Conference on Robotics and Biomimetics, pp.860-865, 2012
- ROBIO 2012 Ningjia Yang, Feng Duan, Sicen Liu, Lili Dai, Jeffrey Too Chuan Tan, **Binbin Xu**: *Ankle-angle analysis of drop-foot patients in walking with FES*. Proceedings of the 2012 IEEE International Conference on Robotics and Biomimetics, pp.831-836, 2012

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## Experience

- Feb. 2018 **Australian Robotic Vision Summer School and visiting at University of Adelaide.**  
Hosts: ACRV, Professor Ian Reid, Dr. Yasir Latif
- May – Aug. 2017 **Participant Student, OpenCV in Google Summer of Code.**  
Mentor: Dr. Gary Bradski
- April – June 2017 **Visiting Student, Department of Computer Science, University of Tokyo.**  
Supervisor: Professor Takeo Igarashi
- Sep. 2014 – March 2015 **Research Student, Department of Precision Engineering, UTokyo.**  
Supervisors: Assoc. Prof. Atsushi Yamashita and Prof. Hajime Asama

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## Honors & Awards

- 2017–2020 **CSC-Imperial Scholarship**, sponsored equally by China Scholarship Council and Imperial College London together (15 students per year in the Imperial College)
- 2017 **Outstanding Master’s Thesis Award**, Department of Precision Engineering, University of Tokyo
- 2016 **JSME Fellow Award for Outstanding Young Engineers**, The Japan Society of Mechanical Engineers (JSME)
- 2016 - 2017 **Monbukagakusho Honors Scholarship for Privately-Financed International Students**, Japan Student Services Organization (JASSO)
- 2015 **Honorable Mention Award**, 2015 JSME/RMD International Conference on Advanced Mechatronics (ICAM 2015)
- 2011 **Second Grade Student Scholarship**, South China University of Technology
- 2009 **First Prize of High School Chemical Olympiad**, Jiangsu Province, China
- 2009 **Second Prize of High School Physics Olympiad**, Jiangsu Province, China

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## Teaching

- 2017–Present **Graduate Teaching Assistant, Imperial College London.**
- Autumn 2017 M.Sc. C++ Programming Integrated Lab, Instructor: Dr. Fidelis Perkonigg  
Computer Vision, Instructors: Dr. Su-lin Lee and Prof. Guang-Zhong Yang
- Spring 2018 Advanced Robotics, Instructor: Dr. Stefan Leutenegger
- Autumn 2018 Robotics, Instructor: Prof. Andrew Davison
- Spring 2019 Advanced Robotics, Instructor: Dr. Stefan Leutenegger
- 2015–2017 **Teaching Assistant, University of Tokyo.**
- 2016 Academic English Writing, Instructor: Prof. Kumiko Morimura
- Spring 2015 Mathematical Programming and Optimization, Instructor: Prof. Hajime Asama

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## Skills

- Programming C++, Python, MATLAB with practical experiences.
- Language Chinese Mandarin (native), English (fluent, TOEFL iBT 102, GRE 321+3.5),  
Japanese (proficiency, JLPT N1).

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## Professional Activities

- Reviewers Conferences: IROS 2018, ICRA2019, IROS 2019, CASE 2019  
Journals: RA-L, T-RO, T-MM