Ziwen Lu

Education

2021-Now **PhD** Computer Science
University College London

2017-18 **MSc** Robotics and Computation
University College London

2015-17 **BEng** Electrical and Electronic Engineering
University of Nottingham

2013-15 **BEng** Electrical and Electronic Engineering
University of Nottingham, Ningbo, China

Work Experience

2026-Now **Lecturer (Teaching) in Robotics and AI**
University College London
Module Lead for Computer Vision and Sensing and COMP0219: Sensors, Sensing and Signal Conditioning, co-lead for COMP0250: Robot Sensing, Manipulation and Interaction. Supervision of MSc students on industrial projects

2024-2026 **Associate Lecturer (Teaching)**
University College London
Module Lead for COMP0241. Developed new content for this module in the newly launched MSc programme at UCL East. Coordinated 3 PGTAs for 73 students and received highly positive feedback. Module co-lead for COMP0219 for material and assessment preparation and delivery. Support for COMP0217 on developing lab sessions and the final project. Established the motion-capture software workflow and trained lab technicians for the final-project dataset with ground-truth collection.

2020-2024 **Postgraduate Teaching Assistant**
University College London
PGTA for 5 modules across different years. Extensively involved in the supervision of master student projects in MSc Robotics and Computation from 2019, including areas such as sparse SLAM with prior maps, semantic segmentation, path planning, lens calibration, and structure from motion.

2021-22 **Research Assistant**
University College London
Integration and experimentation of Robotnik VOGUI platform with Optitrack system for autonomous construction pick and place task with UR-10e robotic arm on the mobile platform. Gripper integration with the UR-10e arm.

2019-21 Design, simulation, fabrication of a custom-built tricycle autonomous guided vehicle with a physical full-scale prototype. Integration with the ROS navigation stack for obstacle avoidance and path planning, reaching 1cm precision for the docking task. ROS integration of FARO scanner API for autonomous mapping with terrestrial laser scanning on a robotic mobile platform.

2018-19 **Robotics Engineer** *Robotics Control and Machine Vision*
Mo-sys Engineering Ltd
Driver design and construction for using electronic camera lens distortion parameters in the Unreal Engine. Experiment design and setup on the evaluation of the product optical tracking system.
Investigation, simulation, validation and construction of AGV prototype(motor selection, amplifier integration, kinematics, URDF implementation); ROS driver for the custom-made differential drive and the optical tracker;

2016 **Electronic Intern**
IMI Precision Engineering (Norgren), Lichfield, UK
Developed an automated test and data collection system for a new railway product using LabVIEW and NI DAQ devices.

Publication

2026 **When Registration Error Becomes Ambiguous: Behavioural Effects of Static Misalignment in Augmented Reality (ISMAR-TVCG 2026, Honorable Mention for Best Paper)**
Ziwen Lu, Kalila Shapiro, Ernst Kruijff, Anthony Steed, Simon Julier

2025 **Do You See What I See? Bring Live Pedestrians into an Outdoor Collaborative Mixed Reality Experience (UIST 2025)**
Jingyi Zhang, Ziwen Lu, Changrui Zhu, Simon Julier, Anthony Steed

2023 **Reviving the Euston Arch: A Mixed Reality Approach to Cultural Heritage Tours (ISMAR-Adjunct 2023, Honorable Mention for Best Design at Student Competition)**
Ziwen Lu, Jingyi Zhang, Kalila Shapiro, Nels Numan

Towards Outdoor Collaborative Mixed Reality: Lessons Learnt from a Prototype System(IEEE VRW 2023)
Nels Numan, Ziwen Lu, Benjamin Congdon, et al.

Automated Multimodal Data Capture for Photorealistic Construction Progress Monitoring in Virtual Reality (IEEE VRW 2023)
Harvey Stedman, Ziwen Lu, and Vijay Pawar

2020 **Exploiting Semantic and Public Prior Information in MonoSLAM (IROS 2020)**
Chenxi Ye, Yiduo Wang, Ziwen Lu, Igor Gilitschenski, Martin Parsley, Simon Julier

Professional Training

2025 UCL CEE Short course on Leading Engineering Curriculum Transformation: An Integrated Engineering Approach

2024 UCL Arena for Lecturers on Probation (ALP)

2022 UCL Arena: Core Teaching Skills