

Yu Xia

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PROFILE

Mechatronics Engineering graduate from the University of Melbourne with experience in simulation, sensor data analysis, CAD and 3D modelling, robotics, and control systems. Recently completed an internship at a forklift company, gaining hands-on industrial experience with mechanical, electrical, and control systems. Detail-oriented and responsible, with a strong focus on analytical accuracy and solving real-world engineering problems. Passionate about applying engineering knowledge to practical industrial and automation applications

EDUCATION

Master of Mechatronics Engineering

Jul, 2024 - Jul, 2026

The University of Melbourne

- WAM 70

Bachelor of Science

Jan, 2019 - Dec, 2022

The University of Melbourne

- WAM 70

EXPERIENCE

Robot Path Planning and Obstacle Avoidance Developer

Feb, 2026 - Jun, 2026

University of Melbourne ASCLINIC Robot Project, MEL,3000

- Developed ROS 2-based path planning and dynamic obstacle avoidance using LiDAR and the A* algorithm, enabling real-time obstacle detection and route re-planning within 3 seconds
- Collaborated with teammates to annotate 600 images and train a computer vision model to identify five plant species and detect pest presence, achieving 99% classification accuracy
- Optimised LiDAR slowdown and stopping thresholds, safety clearances, turning costs and obstacle-clustering parameters, improving motion stability and producing clearer images during plant inspection
- Integrated autonomous navigation, localisation, plant recognition and task control into an end-to-end robotic system, completing the final demonstration in 2 minutes 12 seconds and achieving second place

Forklift Maintenance Technician Intern

Feb, 2026 - Jun, 2026

EP Equipment Australia, MEL, VIC

- Diagnosed and solved brake noise and lifting vibration issues on two forklifts through hands-on inspection, fault identification, and corrective maintenance
- Discovered a practical and cost-effective solution for forklifts did not meet Australian operational requirements, managed with suppliers, and settled the issue through minimal component replacement, reducing repair cost for the company
- Developed strong proficiency in assembling and configuring F4 pallet trucks across different model types, including mechanical fitting, component installation, and basic functional checks
- Coordinated with the China-based software team to configure forklift inspection software for technicians and recorded training videos to support future use
- Improved parts inventory checking and forklift assembly workflows by developing more efficient methods, helping the team reduce manual effort and complete tasks more efficiently

Capstone Project Member - Robotic system integration

Jan, 2025 - Oct, 2025

The University of Melbourne, MEL, VIC

- Created CAD models of a robotic workplace and combined with Gazebo for physically-based collision simulation
- Integrated the UR3e robot with a RQ 2F-85 gripper in simulation environment and added grasping capability
- Converted motion-planning trajectories into ROS 2 commands and integrated execution with simulation environment
- Designed a 3D-printed mount for the Intel RealSense D435 and validated stable operation on robotic arm
- Resolved a 2-week blocking issue for a teammate, kept project on schedule, and re-planned workstream with clear milestones

Student Welfare Volunteer & Academic Tutor

Nov, 2023 - Jan, 2024

VCE summer tutoring, MEL, VIC

- Improved students' VCE scores by an average of 10% through clear communication and personalised teaching strategies
- Built strong interpersonal skills by establishing trust with students and parents through weekly updates on children's progress and efforts
- Prepared a variety of breakfasts and lunches for 50 students alongside fellow volunteers
- Managed schedules and responsibilities by attending classes and training sessions on time, demonstrating punctuality and reliability throughout program
- Identified a bullying incident through careful observation and worked with volunteers to resolve issue

Volunteer of Supply Distributor

Aug, 2020 - Feb, 2021

Covid-19 Community Service, WuHan, China

- Achieved a zero-infection record by strictly following pandemic prevention protocols during distribution process, ensuring community health and safety
- Supplied in distribution of essential supplies to over 500 households, ensured a 99% accuracy rate, and promptly met residents' needs
- addressed urgent requests and complaints from residents during distribution process, maintained a high level of customer satisfaction
- Collaborated closely with a team of 50 volunteers and coordinated delivery of supplies across multiple communities

KEY SKILLS

- CAD: Working proficiency with SolidWorks & Fusion 360
- Programming: Working proficiency with Python, C and Matlab; familiarity with ROS 2
- Fast learner with strong adaptability
- Teamwork: Able to work in collaborative research and project environments
- Communication: Clear and concise in presenting technical concepts and results
- Problem-Solving: Proactive in identifying issues and developing practical solutions
- Licence: Australian High Risk Work Licence – Forklift Truck (LF)