# Xuanzhi Liu

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## EDUCATION

**University of New South Wales**                                         Sydney, Australia
*M.S. in Information Technology*            *GPA: 3.4*           *Sep 2023 – Sep 2025 (Expected)*
- Coursework: Computer Vision, Deep Learning, Artificial Intelligence

**Guangdong University of Finance & Economics**                          Guangzhou, China
*B.S. in Computer Science*                  *GPA: 3.13*                   *Sep 2019 – Jun 2023*
- Coursework: Data Structure, Linear Algebra, Discrete Mathematics
- Honor: Outstanding Thesis Award (Top 1% of the university)

## RESEARCH INTERESTS

Research focuses on applying Robotics and Machine Vision technologies to solve real-world problems within industrial environments, focusing on automation, quality inspection, predictive maintenance, and other related applications.

## EXPERIENCE

**Laboratory for Intelligent Design and Machine Vision, SIAT**           Shenzhen, China
*Visiting Student*                                                       *Jul 2022 – Ari 2023*
- Led a team of three to design an advanced robotic grasping system. This project involved utilizing 2D object detection algorithms and 3D point cloud reconstruction technology, resulting in a system with a 100% accuracy rate in grasping.
- Engaged in several industrial vision projects, training machine learning models tailored to specific project requirements using TensorFlow and PyTorch. Demonstrated proficiency in deploying these models on various systems with C++, enhancing the scalability and reliability of the solutions.
- Conducted extensive research that culminated in a first-author publication. The research was accepted for Oral presentation at the 2023 International Joint Conference on Robotics and Artificial Intelligence (JCRAI 2023).

**Shenzhen Guangcheng Innovation Technology Co., Ltd.**                  Shenzhen, China
*3D Vision Intern*                                                       *Oct 2022 – Feb 2023*
- Trained and deployed Mask-RCNN, a 2D vision algorithm, and seamlessly integrated it with structured light 3D reconstruction technology to resolve industrial product quality inspection issues. This integration improved quality inspection accuracy to 90%.
- Conducted extensive field tests across various industrial environments to observe and understand the application of computer vision technology in real-world settings. These hands-on experiences provided valuable insights into product requirements and technical challenges, enhancing practical understanding of industrial projects.

## PUBLICATIONS

**Conferences**
- **Liu, Xuanzhi**, Jixin Liang, Yuping Ye, Zhan Song, and Juan Zhao. "A Food Package Recognition and Sorting System Based on Structured Light and Deep Learning." In Proceedings of the 2023 International Joint Conference on Robotics and Artificial Intelligence, pp. 19-25. 2023. [Project]

**Patents**
- **Liu, Xuanzhi** et al. An automatic visual recognition method and sorting system, 2023. No. CN116213306A

## TECHNICAL SKILLS

**Languages:** C/C++, Java, Python, CUDA, SQL, LATEX, Markdown

**Frameworks/Tools:** PyTorch, TensorFlow, OpenCV, AWS, GCP, Pandas, Numpy, Scikit-learn