Jia Yansong

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Education

- **National University of Singapore** — Singapore
  Master of Science in Mechanical Engineering — *Aug 2022 – Jan 2024*
  - **GPA**: 4.56/5.0
  - **Course Taken**: Linear System, Computer Control System, Machine Vision, Deep Learning for Robotics, Neural Network, Autonomous Mobile Robotics
- **National University of Singapore Research Institute (Suzhou)** — Suzhou, China
  Exchange student — *Sep 2021 – May 2022*
- **Hunan University** — Changsha, China
  Bachelor of Mechanical design and manufacturing and automation — *Sep 2018 – Jun 2022*
  - **GPA**: 3.44/4.0
  - **Awards**:
    Sheng Shijing Undergraduate International Exchange Special Class A Scholarship
    University Comprehensive Scholarship for 2018-2019 Academic year
    University Second-class Scholarship for 2019-2020 Academic year
    2019-2020 Champion of Hunan Province University Football League

Work Experience

- **Venti Technologies** — Singapore
  Research and Software Intern in Perception Team — *May 2023 – Present*
  - **Traffic Light Detection Evaluation**: Receiving V2I and auto-aligning V2I with traffic light detection results on timestamp level to evaluate detection results.
  - **Online Traffic Light Raw Image Collection**: Online auto-collecting specific raw traffic light images.

Research Experience

- **Radar-Camera Fusion Detection with Velocity Estimation** — Aug 2022 – Apr 2023
  NUS Advanced Robotics Center — *Supervisor: Professor Marcelo H Ang Jr*
  - **Status**: Accepted for IAS-18 (The 18 th International Conference on Intelligent Autonomous Systems in Suwon, Korea).
  - **Contributions**:
    1. Develop a novel clustering method for radar point clouds.
    2. Estimate the true velocities of radar points by designing and using a tracking algorithm.
- **Radar based Multi-object Tracking for Self-driving Vehicles** — Sep 2021 - May 2022
  NUSRI (Suzhou) — *Supervisor: Professor Marcelo H Ang Jr*
  - **Methods**: Applying Kalman Filter as the prediction algorithm, and Hungarian algorithm as the assignment algorithm.
  - **GitHub Address**: https://github.com/JYS997760473/Multi-Object-tracking-2D.git
- **Hunan University RUISU Racing Team frame design and manufacturing** — Sep 2018 – May 2019
  Hunan University
  - **Introduction**: Using UG and AutoCAD to model the whole frame of the racing.

Course Projects

- **EE5103: Computer Control System**: https://github.com/JYS997760473/NUS-EE5103-Project
- **EE5101/ME5401: Linear System**: https://github.com/JYS997760473/NUS-EE5101-ME5401-Project
- **EE590904/ME5404: Neural Network**: https://github.com/JYS997760473/NUS-ME5404-EE5904-Projects
- **ME5406: Deep Learning for Robotics**: https://github.com/JYS997760473/NUS-ME5406-Project1
- **ME5413: Autonomous Mobile Robotics**: https://github.com/JYS997760473/NUS-ME5413-Projects

Professional Skills

- **Languages**: C++, C, Python, MATLAB, Shell
- **Platforms**: ROS, Linux
- **Technical Tools**: Git, Docker, CMake, Catkin, Simulink
- **Modern Control System**: MPC, LQR, PID
- **Deep Learning**: CNN, MLP
- **Machine Learning**: SVM, KNN
- **Reinforcement Learning**: Q-Learning, SARSA

Activities

- **Member of Hunan University Football Team** 2019 – 2021
- **Member of Hunan University Ruisu racing team** Sep 2018 – May 2019

Hobby

- **Soccer/Football**