

TAN YONG JIE

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EDUCATION

Singapore Institute of Technology

Bachelor of Engineering with Honors in Robotics Systems

Sep 2024 - Present

Nanyang Polytechnic

Diploma in Robotics & Mechatronics Engineering

Apr 2019 - Mar 2022

- Graduated with a Grade Point Average of 3.54
- Awarded Director List for 3 semesters

Institute of Technical Education

Higher National ITE Certificate in Mechatronics Engineering

Apr 2017 - Mar 2019

- Awarded Director List for 3 semesters
- Graduated with Certificate of Merit and Outstanding Graduate Award in 2019

EXPERIENCE

Kodecoo Academy

Teacher

May 2024 – Mar 2024

- Coached students for robotics competitions including First Lego League (FLL) and National Robotics Competition (NRC) using SPIKE Prime and block-based programming.
- Cultivated problem-solving, creativity, and collaboration skills in students aged 9 to 15.

Singapore Police Force

Ground Response Force (Full-Time National Service)

May 2022 – May 2024

- Performed counter duties such as lodging police report, provide feedback and advise, and attending to police emergency hotline calls.
- Performed ground patrolling to ensure the safety of the neighborhoods and being the first responder to police emergency hotline.

COMPETITION EXPERIENCE

Worldskills Singapore National Competition, Mechatronic

2018, 2020-2021

- Awarded the Medallion of Excellence in Mechatronics in 2020 and 2021 competition
- Collaborated in a 2-person team to design, assemble, and program modular industrial automation systems using PLC, HMI, pneumatics, and robotics.
- Utilised Panasonic Programmable Logic Controller (Ladder diagram and Sequential function chart)

PROJECT

ROS Navigation with LIMO ROBOT (Portfolio: <https://yongjiec.github.io/project/sep1>)

May - Jul 2025

- Utilised ROS1, RTAB-Map SLAM and navigation stack on Limo robot
- Tuned costmaps and planners for Navigation
- Integrated depth camera, lidar for mapping and obstacle avoidance
- Used Rviz and ROS tools for live debugging and trajectory visualization

SKILLS & INTERESTS

- Language: English & Mandarin (Spoken & Written)
- Technical skills: SLAM (Simultaneous Localization and Mapping), LiDAR-based Localization, EKF (Extended Kalman Filter) and Sensor Fusion
- Visualisation and Simulation Tools: RViz and Gazebo
- Programming & Software skills: C, C++, Python, ROS (ROS1), Linux Development, Git (Version Control)
- Leadership skills: Responsible, Honest, Strong Team Collaboration, Technical Communication, Problem Solving
- Interests: Enjoys cycling and music