

# TAN YONG JIE

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## EDUCATION

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### 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

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### 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

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

## LEADERSHIP & COMPETITION EXPERIENCE

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Worldskills Singapore National Competition, Mechatronics

2018, 2020-2021

- Awarded Medallion of Excellence in Mechatronics in 2020 and 2021
- Design, build, maintain and repair automated equipment, and programme equipment control systems uses shortest time and industry standards.
- Programming using Panasonic Programmable Logic Controller (Ladder diagram and Sequential function chart)

## PROJECT

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ROS Navigation with LIMO ROBOT (Systems Engineering Project 1)

- ROS1 navigation system using 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

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- Language: English & Mandarin (Spoken & Written)
- Technical skills: SLAM (Simultaneous Localization and Mapping), LiDAR-based Localization, EKF (Extended Kalman Filter), Sensor Fusion
- Tools: RViz, 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