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

Kodecoon Academy
Teacher   **May 2024 - Sep 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 safety of the neighborhoods and being the first responder to police emergency hotline

LEADERSHIP & COMPETITION EXPERIENCE

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 standard
- Programming using Panasonic Programmable Logic Controller (Ladder diagram and Sequential function chart)

PROJECT

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

- Language: English & Mandarin (Spoken & Written)
- Engineering skills: Hands-on experience with ROS1 for autonomous navigation, SLAM (RTAB-Map), LiDAR integration, and path planning.
- Proggramming& Software skills: C | C++ | Python | ROS1
- Leadership skills: Active Listener | Responsible | Innovative | Honest | Confident
- Communication & Presentation Skills: Reflective | Open mindedness | Collaborative
- Interests: Enjoys cycling and music