Tan Choon Yi

https://www.linkedin.com/in/choonyi-tan/ https://github.com/Glaiden 2201766@sit.singaporetech.edu.sg
https://glaiden.github.io/Portfolio/ +65 98634223

Education

Singapore Institute of Technology Aug 2022 - current
Bachelor of Engineering with Honors in Robotics Systems

Nanyang Polytechnic Graduate April 2019
Diploma in Mechatronics

University Coursework

Robot Operating System (**ROS 1 & ROS 2**), **System Engineering**, **Project Management**, **Mechanical Design**, **AutoCAD**, **SolidWorks**, Prototyping, Data Structures & Algorithms, Embedded Systems, Object-Oriented Programming, Robotics

Skills

Languages: C/C++, Python
Tools: ROS1, ROS2, Gazebo, RViz, SolidWorks, Inventor, Fusion 360, STM32, Nordic nRF MDK, Raspberry Pi, Arduino, Git/GitHub, Linux, Excel

Projects

Bollore Logistics - Industrial Innovation project | *ROS1, ROS2, Visual Components, Arduino, C++, SolidWorks*

- Partnered with **3PL** Company Bollore Logistics. Project requires simulation, planning, and creating a solution to increase the effectiveness of production line with automation.
- Simulate proposed solution in Visual Components.
- Fabricating a rack and pinion divert mechanism using **SolidWorks**, **3D printing**, and hardware programming on **Arduino** board to operate a DC motor.

Robotic Platforms | *C, Python, Spin Language, STM32 Nucleo MCU, Pixy Camera, Parallax MCU, AgileX-LIMO*

- Built and implemented a robotic platform with color tracking capability using an STM32 to process signature readings from a Pixy2 camera.
- Developing a maze solving algorithm based on following the left wall in **ROS2** using sensor readings from LaserScan topic to navigate an unmapped maze.
- Fabricating obstacles based on an assigned theme and altering parameters on the LIMO robot's Dijkstra algorithm

Polytechnic Final Year Project | *Inventor, 3D printing, prototyping, fabrication*

- Designed and fabricated a walking aid for weak elderly and stroke patients.
- Conducted market research on existing solutions for inspiration and to ensure the design uniqueness.
- Created multiple iterations of walking aid designs in AutoCAD Inventor to ensure feasibility and practicality.
- Fabricated the design using both metallic parts and 3D printed parts.

Embedded systems student assistant | ***Embedded systems, C++*** April 2024 - April 2024

- Configure pin out of a nRF52832 board.
- write code to test hardware

Work Experience

Sivantos | *Intern* May 2018 - Aug 2018

- Worked with a senior engineer in the advanced engineering department that takes part in new product development.
- Write up a FMEA(failure mode effect analysis) document for a component, predict potential failure and weigh the risk and frequency.
- Document and perform test of product with focus on a specific component.

AB Sciex | *Material handler* Dec 2019 - July 2021

- In charge of production line supermarket management, plan for rearrangement, removal of obsolete component and inclusion of newly demanded components
- In charge of day to day purchases of operational critical components, control daily deliveries to the production line
- Daily kitting of all production line stations and safety audit of production floor

Singapore Armed Forces | *Security troopers(Service)* Nov 2019 - Nov 2021

- Managed day-to-day operations of the pass office as a 2IC, overseeing access control to the air base with rigorous security checks and providing training and support for new service troopers.
- Handles biyearly audits of pass office and also red teaming
- Awarded with 2 letters of commendation and also Best servicemen of 2021(service support)