Shaw Bin NYANG

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Bio

My background is in Mechanical Engineering with a second major in Innovation and Design. I strive to pursue a research career in robotics and push the boundaries of intelligent systems. Currently looking for Robotics Engineer position upon my graduation in May 2021.

Education

National University of Singapore 2017 - May 2021
B.Eng Mechanical Eng. (HONS), Second Major Innovation & Design *GPA 4.42/5.0*

Experience

Agency for Science, Technology and Research (A*STAR) June 2020 - Present
Robotics Summer Intern + FYP

- Autonomous aircraft inspection robot.
- Worked on motion planning (MoveIt framework) in Gazebo during summer internship.
- Currently working on SLAM and localization as part of Final Year Project.

NUS Advanced Robotics Center Dec 2019 – Mar 2020
Research Assistant

- Evaluated 3D Lidar-based SLAM techniques and tools for indoor/outdoor environment.
- Implemented a simulated environment to facilitate the development and testing of mobile robot algorithms.
- Co-led groups of students with regards to legged robot payload design and game-engine based simulation.

Red Dot Robotics May 2019 – Jul 2019
Associate Robotics Engineer (Intern)

- Support the conversion of a vehicle to be autonomous ready, with focus on mechanical design and low level interface of actuators.
- Experience with design, physics based modeling and integration of components ranging from part to assemblies.
- Act as liaison with suppliers to ensure smooth operations.
- Maintain accurate documentation resulting in shared knowledge of issues and lessons learnt.

Projects

ROS-Based Robot (Link) Nov 2020 – Present

- Omnidirectional Robot running on GMapping + AMCL + Nav Stack (DWA Local Planner).
- Hands on introduction to concepts such as SLAM, Localization & Path Planning algorithms.

NUS SEDS - SUBT | Mechanical & Low-Level Control (Link) Aug 2019 – Present

- Participated in DARPA Subterranean (SubT) Challenge Urban Circuit.
- Involved in the mechanical design of robot fleet and robotics-focused mechanisms.
- To design ground robot with adaptive ground clearance for harsh terrain.

GUIDECK | Computer Vision & Mechatronics (Link) Jan 2019 – Dec 2019

- A motorized smart system to improve productivity and safety in PPVC construction by reducing the reliance on manual positioning and human judgement.
- OpenCV (real time colour masking & distance measurement) to eliminate 'eyeballing' measurements.

WaterBloc | Mechanical and Arduino Programming (Link) Jan 2019 – Apr 2019

- Smart showering device by providing real-time feedback of water usage and optimal goal settings.
- Control of solenoid valve with Arduino and measuring rate of water flow with flowmeter.
- First place in our problem statement category.

Skills

Skills: ROS, Mobile Robotics, SLAM, Point Cloud Library, Mechanical Engineering, Prototyping, 3D printing
Languages: C/C++, Python
Tools: Solidworks, Autodesk Fusion 360, Git, OpenCV