

HO KAE BOON

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EDUCATION

National University of Singapore **Aug 2020 – Present**
Bachelor of Engineering (Hons) – Mechanical Engineering

- Major in Mechanical Engineering
- Minor in Artificial Intelligence
- Specialization in Robotics
- Current Cumulative Average Point: 4.70/5.00
- Awarded ASEAN Undergraduate Scholarship
- Related Coursework: Fluids Mechanics, Thermodynamics, Manufacturing Processes, Mechanics of Machines, Strength of Materials, Feedback Control System, Signal & System, Data Structure & Algorithm, Machine Learning, Computer Vision

WORKING EXPERIENCE

Research Intern, Institute for Infocomm Research (I²R, A*STAR) **Jan 2023 – May 2023**

- Implemented real-time planar terrain reconstruction feature with plane segmentation method inside PyBullet simulator based on captured RGB-D environment data, to be integrated with legged robot digital double for robot perceptive locomotion study.
- Assisted with the mass collection of environmental data for the study of terrain detection algorithms.

Student Research Attachment (UROP), Solustar Pte Ltd **Dec 2021 – Jul 2022**

- Implemented a PI-control system to adjust wheel velocity based on the detected position of fiducial markers captured by camera visual, tested on both Gazebo and physical robot.
- Maintained and carried out sales demos for mobile robots to interested clients including Sentosa and Changi.

Student Helper, NUSIT **Sep 2021 - Jan 2022**

- Resolved troubleshooting queries through phone calls and emails during the deployment of Workspace One Software across all NUS public computers.

Project Manager & Mechanical Engineer, NUS Robomasters **Aug 2020 - Dec 2021**

- Guided and delegated project tasks among a group of 5 students to ensure adherence to a 5-week sprint cycle robot development timeline to compete in the DJI RoboMasters Championship.
- Designed mechanical components including chassis, claw, and gimbal, produced CAD & engineering drawings using Solidworks, and liaised with lab for sheet metal and CNC fabrication.

Part-Time Tutor, Clever Tuition Centre OUG **Mar 2019 - May 2019**

- Conducted Mathematics and English lessons for 30+ primary school students, providing interactive classroom activities to enhance the learning experience and improve students' grades.

CO-CURRICULA AND VOLUNTEER EXPERIENCE

Cluster Leader, NUS Residential Life Office**May 2022 - Present**

- Organized bonding events regularly and provided mentorship and support to 15 cluster mates to promote a healthy living environment for PGPR residents.

Training Cell Member, NUSSU commit**Jul 2021 – May 2023**

- Conducted a total of 15 training workshops, each with 30+ participants, in software technical skills including Photoshop, Illustrator, After Effect, Excel, Python, HTML and Javascript.
- Tailored curriculums according to students' learning abilities.

Training Director, NUSSU ChariTeach AY22/23**Jul 2021 – May 2023**

- Wrote Scratch programming language teaching materials for volunteers to guide underprivileged children.

Welfare Committee & OGL, NUS i-Care AMCISA FOC AY21/22**Sep 2020 - Aug 2021**

- Mentored incoming international freshmen and resolved individual queries on transitioning into university life in Singapore.
- Facilitated bonding activities during the orientation camp with 30+ students.

AWARDS

Top Student for CS1010E: Programming Methodology(I)

- Achieved top performance in a class of 864 students.

TECHNICAL SKILLS

- Programming Skills: Python | C++ | HTML | Javascript | ROS1
- CAD Software: Solidworks | Fusion 360 | Solid Edge
- Media Editing: Photoshop | Illustrator | Premiere Pro
- Other Software: MATLAB | Power BI | Basic Microsoft Office Suite
- Languages: English | Chinese | Malay