KER CHIN TIAN

FINAL YEAR COMPUTER ENGINEERING UNDERGRADUATE

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EDUCATION

Computer Engineering (BEng with Honours), Robotics Specialisation 2019 - Present
National University of Singapore (NUS)
CAP: 4.8 / 5 (Dean's List) | NUS Merit Scholarship | Expected to graduate in May 2023

Exchange - Computer Engineering 2022
University of Toronto (UofT)
NASA Exchange Scholarship

NUS High School Diploma (High Distinction) 2013 - 2018
NUS High School of Mathematics & Science
CAP: 4.8 / 5 | Outstanding Student Award - Achievement, Leadership, Service

WORK EXPERIENCE

Embedded Engineering Intern June 2021 - Nov 2021
Zimplistic Pte Ltd (Rotimatic)

- Single-handedly developed an integrated IoT test system using PyQt and Firebase on a Raspberry Pi interfaced with a router, printer, scanner, camera, and a physical switch, which was deployed at 4 manufacturing sites and at Rotimatic's in-house test department
- Gathered requirements, designed and implemented test scripts for Rotimatic's subassemblies and full assembly using Python's unit test framework, which was adopted by the Quality Assurance (QA) team
- Built a Modbus test tool utilized by Rotimatic engineers for easier debugging and testing
- Took initiative to debug and fix the machines used by other teams, allowing them to carry on with their work smoothly

Intern Mar 2019 - May 2019
Ministry of Home Affairs Singapore (MHA), Sense-making & Surveillance

- Created real-time face recognition Android apps using different Machine Learning (ML) models and evaluated their performance to determine their suitability in Body-Worn Cameras for uniformed officers
- Reviewed video analytics platforms and surveillance systems around the world and presented my findings to better understand industry standards
- Analysed the accuracy of Singapore's surveillance platform in detecting various attributes to highlight the strengths and weaknesses of the system

Software Engineering Intern Jan 2019 - Feb 2019
Open Government Products, GovTech Singapore

- Collaborated with engineers, designers, and managers to develop a webpage and a mobile app to digitalise identity cards in Singapore, which was later integrated with Singpass
- Programmed a webpage to inform donors of the food levels in food banks and a Telegram bot to match drivers to food delivery requests, to help with the food insecurity problem in Singapore

Research Intern (Part-Time) Feb 2017 - Dec 2017

DSO National Laboratories

- Designed a faceted reflectarray antenna to bridge the gap in existing literature, achieving higher efficiencies as compared to similarly sized flat reflectarray antennas
- Won the Bronze Award at the Singapore Science and Engineering Fair, and presented on stage at the ASEAN User Conference in Singapore

Intern (Part-Time) Sept 2016 - Dec 2016

Defence Science and Technology Agency (DSTA)

- Developed a Virtual Reality (VR) simulation of a fire evacuation drill onboard a commercial vessel with HTC Vive using Unity3D to educate and train the public on the emergency procedures, which was released and presented at the Young Defence Scientists Programme (YDSP) Congress

TOOLS, TECHNOLOGIES & SKILLS

- **Languages**: Python, Java, C, MATLAB, ARM Cortex-M, Verilog
- **Systems and software**: Raspberry Pi, Arduino, Linux, Real-Time Operating Systems (RTOS), basic Robot Operating System (ROS), Object-Oriented Programming (OOP), Firebase, PostgreSQL, basic Wireshark, Git, Jira
- **Sensors**: inertial measurement units (IMUs), ultrasonic sensors, infrared sensors, basic LIDARs
- **Skills:** teamwork, consistency, adaptability, problem-solving, independence

EXTRACURRICULAR ACTIVITIES

Undergraduate Teaching Assistant, NUS Aug 2020 - Apr 2021, Jan 2023 - Present

- Tutored a class of 10 to 20 undergraduates and guided them in engineering labs and projects
- Evaluated students' assignments and lab reports, and provided regular feedback on their performance to ensure that students are on track

Netball Varsity Team Player, NUS Aug 2019 - Present

- Active member who represented NUS in the Singapore University Games (SUniG) as well as the Institute Varsity Polytechnic (IVP) Games to achieve 3rd and 1st respectively in 2022 and 2023

Human Powered Vehicles Design Team Member, UofT Jan 2022 - May 2022

- Developed an end-to-end, plug-and-play system to read data from 6 load cells simultaneously in order to measure drag and lift forces on a wing easily
- Volunteered to contribute to other tasks like laying carbon fibres, sanding, and evening out the vehicle surface using Bondo putty
- Represented UofT in the 37th annual Michigan Human Powered Vehicle Rally

Event Organiser, NUS Nov 2020 - Feb 2021

- Initiated a campaign to increase appreciation for bus drivers in NUS after learning about their work situation by designing posters and infographics, and sharing them online and physically
- Collected messages from the NUS community, handwrote cards for the bus drivers and distributed them together with goodies to thank the bus drivers for their hard work

ADDITIONAL INFORMATION

- Fluent in English and Chinese (both spoken and written)
- Enjoys nature, sports and travelling