Khairul Iman
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PERSONAL STATEMENT

In line with my interests to be more hands on in taking up meaningful projects, I have also joined a plethora of hackathons and co-curricular activities in order to expose myself to more projects beyond the scope of my course. Being able to be part of meaningful external projects inspired me to learn more about what NOC can offer, and thus I also began exploring internships opportunities related to my course in order to attain a better understanding of what other skills I can learn to be a better candidate for startup internships.

All of the projects which I have undertaken so far, be it external or academic, was due to my personal belief that I learn better when tasked with a hands-on project, on top of learning it straight from the books.

Currently, the most recent entrepreneurial project which I am a part of is yWaste. The main idea of this startup is to tackle the food waste issues observable in Singaporean households. This idea was pitched to the Innovation & Enterprise Practicum Award organised by School of Computing, and we were awarded funding in May 2020 to further grow the idea. We are now in the prototyping stages of developing the mobile application in React-Native as well as a text Optical Character Recognition model for text scanning from grocery reciepts.

For the IDP Student's Club, I am under the Outreach & Development division as a Department Head. With the other Department Head, Tessa Zhang, we have worked together to organise the first ever virtual hackathon in August 2020, titled Ideate2020, for the club with support from the EDIC department. This was a huge turning point for me, as it was the first project where I was responsible for managing everything, ranging from procuring prizes, settling the frontend registration webpage, as well as setting up the event on Devpost. It also inculcated a business spirit within me to some degree, since I felt that the process of bringing an idea to reality was something quite meaningful and rewarding.

For external hackathons, I was fortunate enough to take part in ComfortDelgro Move-in-please challenge for their hackathon competition, and I worked along with a team of 4 other Computer Engineering Undergraduates. We pitched a computer vision based solution to solve the problem of crowding on busses during peak hours using LEDs and Raspberry Pi Sensors. This idea was eventually selected to be the First Place idea for their challenge, due to its unique combination of applying hardware, software and psychology to incentivise individuals to move in and not crowd around exits of busses during peak hours.

I had joined NUS Information Technology on 4 separate occasions over the course of 9 months, together with my project partner, Hong Wei Yang. My most recent position was as a Part-time IoT Intern under the NUS Student Work Scheme (NSWS). I was given the opportunity to expand on the work done over the Summer project to improve the capabilities of the Network Automation Portal for provision network devices to NUS Researchers. Over the Summer of 2020, I had joined NUS IT's Summer internship program to develop a sample prototype of the said automation portal. Previously, I had also joined their Winter internship program in December 2019 and was subsequently offered the NSWS position to continue work on their Wireless 24/7 Network Monitoring project.

Overcoming the challenges from working on technical projects in NUS Information Technology made me more invested to learn even more about what computer networks and web development. Within my academics, I decided to pursue Innovation and Design as a second major, where I undertook projects relating to space systems.

Currently undertaking the year-long module, EG3301R, where my project topic is on Applying Machine Learning and Artificial Intelligence to Satellite Data. We are trying to predict sites for renewable energy sources like using satellite data. I learnt how to manage the skills of different people, and was also able to apply what I have learnt to produce an interim prototype using React.js, Tensorflow and Tensorflow.js to demonstrate that an image classifier can be used on satellite images.

I believe that my hand-on approach to learning would greatly benefit me in any enviroment, and I would gladly put in the time and effort needed to contribute as much as I can.

EDUCATION

NUS
Computer Engineering
Second Major in Innovation and Design
Expected May 2022
CGPA: 4.06

LINKS

Github: @namiwa
LinkedIn: Khairul Iman
Website: khairuliman.com

SKILLS

PROGRAMMING
Proficient:
• JavaScript • Python
• Java • C/C++
Familiar:
• MySQL • Matlab
• Verilog • Assembly
• CSS

SOCIETIES

- iDP Student's Club, Dept. Head
- NUS Investment Society, Test Engineer
- Developer's Student Club, Web Developer

EXPERIENCE

NUS INFORMATION TECHNOLOGY | Project Intern
Aug 2020 - Dec 2020 | Part-time
- Extending the network automation project, currently working to improve useablity and adding more testing features.

May 2020 - July 2020 | Full-time
- Working on an network automation project, attempting to optimise network provisioning for remote sensors to researchers on the campus network

Feb 2020 - Apr 2020 | Part-time
- Improved prototype dashboard UI, and converted the previous 2 tier architecture to a 3 tier architecture to improve security and scalability

Dec 2019 - Jan 2020 | Full-time
- Developed a prototype network sensor using a Raspberry Pi, Raspbian OS and Linux Networking Utilities
- Integrated wireless data collected to a web dashboard built using React.js, Redux.js and Express.js

NUS - CG2271 | Laboratory Teaching Assistant
Aug 2020 - Dec 2020 | Part-time
- Assisting in conducting weekly laboratory teaching sessions
- Provided ad-hoc support to module coordinator for adminstrative activities

PROJECTS

STARTUP PROJECT | yWaste
May 2020 – Present
We intend to tackle the issue of food waste in Singaporean households by creating a mobile application which can assit in tracking food expiry. The mockup of the application can be seen here.

IDEATE 2020 | Hackathon Organising Commitee
Aug 2020
As the Outreach and Development Head, I oversaw external engaging activities for students under the Innovation and Design Second Major. Organised the club's first online hackathon, seen here.

EG3301R - ASI-304 | Applying AI and ML to Satellite Data
Jan 2020 – Dec 2020
Currently working with a team of 4 developers to explore implementation with Tensorflow. The interim prototype can be seen here.

NUS INVESTMENT SOCIETY | Quantitative Engineer
Oct 2019 – Jul 2020
Exporing with open source datasets provided from Data.gov, URA and OneMap APIs, we attempt to collect sufficient data to apply regression techniques to housing data. The report can be seen here.

AWARDS

2020	Funding Awarded	Innovation & Enterprise Practicum School of Computing
2020	Award Granted	Association of Muslim Professionals STEM 2nd Chance Award
2019	1st Place	ComfortDelgro Hackathon Move-in-Please 2019

COURSEWORK

Year	Module Code	Name	Grade
1	CG1111	Engineering Principles & Practice I	B+
1	MA1511	Engineering Calculus	B
1	MA1512	Differential Equations for Engineering	CS
1	CS1010	Programming Methodology	B+
1	CS1231	Discrete Structures	B
1	GER1000	Quantitative Reasoning	B
1	CG1112	Engineering Principles & Practice II	A-
1	MA1508E	Linear Algebra for Engineering	B+
1	CS2040C	Data Structures and Algorithms	A-
1	EE2026	Digital Design	B+
1	GEQ1000	Asking Questions	CS
2	CS2101	Effective Communication for Computing Professionals	A
2	CS2113T	Software Engineering & Object Oriented Progamming	B+
2	CG2027	Transistor-level Digital Circuits	A
2	CG2028	Computer Organisation	B+
2	GES1012	Popular Culture in Singapore	CS
2	EG2311	Introduction to Satellite Systems	B
2	EG3301R	DCP Project: ASI-304	IP
2	CG2023	Signals & Systems	CS
2	ST2334	Probability & Statistics	CS
2	CG2271	Real-Time Operating Systems	B+
2	EG2201A	Introduction to Design Thinking	B+
2.5	EG3612	Vaction Internship Programme	CS
3	EG3301R	DCP Project: ASI-304	IP
3	EE4204	Computer Networks	IP
3	CG3207	Computer Architecture	IP
3	CS2107	Introduction to Information Security	IP

Module Legend

Grade	Meaning
Letter Grade between A to C+	Module Granted Credits
IP	In Progress
CS	Completed Satisfactorily