

Sim Yu Jie

SOFTWARE ENGINEER · COMPUTER ENGINEER

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"Hard work beats talent when talent doesn't work hard."

Summary

I am a Year 4 Computer Engineering Student specialising in Artificial Intelligence. I enjoy attending hackathons where I get to apply my knowledge on Machine Learning. In addition to my specialisation, I enjoy solving programming questions and creating my own applications as it gives me a sense of accomplishment when I overcome a hurdle or learn something new. I am always keen to learn something new, especially when it improves my ability as a programmer.

Education

NUS(National University of Singapore)

Singapore

BENG IN COMPUTER ENGINEERING

Aug. 2018 -

- Obtained the DSTA Merit Scholarship.
- I am currently studying in Computer Engineering with an interest in Artificial Intelligence. I have experience in a broad spectrum of skills relevant to the industry.
- Expected CAP : 4.25

MJC(Meridian Junior College)

Singapore

A LEVEL

Jan. 2014 - Dec. 2015

- I took on a 4 H2 PCME course during my 2 years in Junior College as I believed in pushing myself to the limits to improve myself.
- I also took on a leadership role as CCA Captain during my 2 years in Junior College.
- I organized a school-wide food donation drive for the needy.

Skills

DevOps	Heroku, Docker, Firebase, GitHub, GitLab
Back-end	PostgreSQL, REST API, Firebase, SQL, Spring Framework
Front-end	React, HTML5
Machine Learning	scikit-learn, Spacy, Tensorflow, NLTK, pandas, numpy, matplotlib
Programming	Python, Java, C, C++, LaTeX, Kotlin, JavaScript
Hardware Design	Verilog, Vivado HLS, Assembly
Languages	English, Chinese, Malay

Job Experiences

NUS (National University of Singapore)

Singapore

DATA STRUCTURES AND ALGORITHMS TEACHING ASSISTANT

August. 2019 - May. 2021

- I was in charge of teaching lab classes. The topics I covered ranged from basic data structures such as linked lists, arrays, binary heaps and trees to complex algorithms such as Floyd Warshall, Dijkstra's and Kruskal's algorithm.

DSTA (Defence Science and Technology Agency)

Singapore

NATURAL LANGUAGE PROCESSING INTERN

July. 2020 - November. 2020

- I was tasked to create an application which automated the early detection of vulnerabilities in software using various Machine Learning libraries such as **Spacy**, **NLTK**, and **scikit-learn**.

DSTA (Defence Science and Technology Agency)

Singapore

DEVSECOPS INTERN

May. 2021 - July. 2021

- Worked on multiple tools to improve the development and security operations, some of which are listed below.
- Created a tool which automated the pulling of **Gradle** and **Javascript** dependencies from an online to offline environment using **Docker**, **Bash** and **Nexus**.
- Created a tool which automated penetration testing in an offline environment using **Burpsuite**, **Docker** and **Bash**.
- Created an website for restricted access to a file system using **React** with a **Spring Framework** backend.
- Created a tool which will set up Ansible playbook with an offline Nexus repository in an offline environment using **Ansible** and **Docker**.

Extracurricular Activities

ECE Undergraduate Student Council

COHORT REPRESENTATIVE

- Gathered holistic feedback from my cohort and provided them to the ECE Department.
- Provided cohesive bonding within the cohort.
- Disseminated announcements from the ECE Department to the student body.

Singapore, NUS

Nov. 2018 - PRESENT

ECE Undergraduate Student Council

PRESIDENT

- Attended outreach events to the community, such as ECE Open Day, Engine Day, as well as ECE Open House.
- Organised large scale events such as the Freshmen Welcome Party, Internship and Career Fair, and Graduation Farewell Party.

Singapore, NUS

Aug. 2019 - May 2021

ECE Undergraduate Student Council

EXCO Advisor

- Provided advice to the incumbent EXCO on the running of council.
- Proposed various activities which could be held to enrich student life.

Singapore, NUS

May 2021 -

Honors & Awards

DOMESTIC (TECHNICAL)

- 2019 **Certificate of Completion**, Project Gemini, Orbital Programme
- 2019 **2nd Place**, EnlighteNUS IEEE Hack 2019
- 2021 **Honorable Mention**, BrainHack 2021
- 2021 **Certificate of Completion**, Coursera, Machine Learning Foundations
- 2021 **Certificate of Completion**, Coursera, Tensorflow 2 for Deep Learning

Singapore

Singapore

Singapore

Singapore

Singapore

DOMESTIC (NON-TECHNICAL)

- 2019 **Certificate of Service (Distinction)**, 5th Undergraduate Student Council
- 2020 **Certificate of Service (Distinction)**, 6th Undergraduate Student Council
- 2021 **Certificate of Service (Distinction)**, 7th Undergraduate Student Council
- 2021 **Excellence in Teaching Award**, Honor List of Student Tutors

Singapore

Singapore

Singapore

Singapore

Interests

Robot Cikgu Jamal

Telegram

SOFTWARE ENGINEERING

- I developed a Telegram Bot using **Python** which can help students revise on their Malay as I realised there was insufficient practice provided when I enrolled in LAM1201.
- I intend to further develop the Bot to make revision on-the-go more user-friendly.

Malay-on-the-go

Mobile Application

SOFTWARE ENGINEERING

- I am developing a mobile application created using **React Native** to aid in the learning of simple Malay words as there are not many apps which provide such a service in the Google Playstore for free.

My website

Frontend Development

PERSONAL PORTFOLIO

- I am working on revamping my website. My original website was built using **HTML** and **CSS** from scratch. However, I am working on converting it using **React** as it has yet to be updated with my latest information.

Doctored Image Detection

Image Classification

MACHINE LEARNING

- I am working on a Machine Learning project which aims to detect if an image has been altered via stretching either horizontally or vertically using **OpenCV** and **Keras**.

Kattis

Programming

COMPETITIVE PROGRAMMING

- I am working on solving competitive programming questions as an interest as I find it fun to solve challenging programming questions. Some of the sites I use are Kattis and Leetcode.

Program Committees

2019	Organizer , ECE Freshmen Welcome Party	Singapore
2019	Representative , ECE Student-Staff Liaison Committee	Singapore
2020	Project Director , ECE Freshmen Welcome Party	Singapore
2020	Project Director , ECE Internship and Career Fair	Singapore
2020	Organizer , ECE Graduation Farewell Party	Singapore
2020	Representative , ECE Student-Staff Liaison Committee	Singapore
2021	Project Director , ECE Internship and Career Fair	Singapore
2021	Organizer , ECE Freshmen Welcome Party	Singapore
2021	Organizer , ECE Graduation Farewell Party	Singapore
2021	Representative , ECE Student-Staff Liaison Committee	Singapore
2022	Organizer , ECE Internship and Career Fair	Singapore
2022	Organizer , ECE Graduation Farewell Party	Singapore

Presentations

Engineering Open House 2021

SPEAKER

- Shared about my student life in NUS.

[Singapore](#)

March 2021

ECE Open Day Webinar 2021

SPEAKER

- Shared about some of the challenges I faced in University, as well as how I overcame them.

[Singapore](#)

April 2021

ECE e-Open House 2021

PANELLIST

- Answered questions from prospective students on student life matters.

[Singapore](#)

May 2021

ECE Outreach Webinar 2021

SPEAKER

- Shared about my experience as the President of the Undergraduate Student Council as well as the activities that we conduct.

[Singapore](#)

July 2021