Joel Chang

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Education

National University of Singapore *Singapore*

Year 3 Undergraduate, Bachelor of Computing (Information Security), Honours *Aug 2018 - Dec 2021 (expected)*

- Coursework: Computer Security, Introduction to Computer Networks, Introduction to Operating Systems, Interaction Design, Introduction to Software Engineering

Technical Skills

Experienced Languages Python, C, C++, SQL, HTML/CSS, Shell

Familiar Languages Java, JavaScript

Frameworks Apache, Django, Flask, BootStrap

Experience

National University of Singapore *Singapore*

CS2113T(Introduction to Software Engineering) Teaching Assistant *Aug 2020 - Dec 2020*

- Conducted code reviews for 10 students for their individual software engineering projects
- Reviewed and managed 2 teams of students for their software engineering team projects
- Conducted weekly lessons, regarding software engineering principles and best practices

National Cybersecurity Research and Development Labs(NCL) *Singapore*

CyberSecurity Research Intern *May 2020 - Jul 2020*

- Created a python-based scraping bot to **simulate the actions of an attacker controlling a botnet during a CDX**.
- Created a cantainerized bot using Docker to automate the user actions during a CDX, to generate network traffic
- Implemented a scalable examiner-examinee server that allows the exchange of information between the 2 servers inside Docker containers

National University of Singapore *Singapore*

Advisor *May 2020 - Jul 2020*

- Managed 5 teams of freshmen in their summer software engineering project. Out of the 5 teams, **2 teams achieved the Apollo 11 award and 3 teams achieved the Gemini award**
- Acted as a project manager for the 5 teams, by ensuring that all of them meet the deadlines and are on track for their monthly submissions
- Provided 5 teams with advice on their software engineering journey along the way

Projects

Vulnerability Website *(https://github.com/joelczk/vulnerability- website,)* *Singapore*

Developer (Django, SQLite, Web Security) *May 2020 - PRESENT*

- Colloborated with Prof. Sufatrio from NUS to create a vulnerable website and hardened website to allow easy deployment for educational purposes
- Created a vulnerable version of the website with vulnerabilties such as SQL Injection attacks and CSRF vulnerabilities
- Created a hardened version of the website using in-built Django libraries to ensure **proper network headers for the website, as well as, automated code analysis and file scanning functionalities using Github Actions**

A.T.A.S *(https://github.com/AY1920S2-CS2113T-M16-1/tp)* *Singapore*

Developer (Java) *Jan 2020 - May 2020*

- A.T.A.S was a project developed under CS2113T(Introduction to Software Engineering) and was aimed at creating a CLI for students to keep track of their tasks and assignments.
- Implemented the algorithm behind the search functionality, and the storage of tasks and assignments.
- Wrote the User Guide and Developer guide for the relevant features that I worked on, as well as formatted both documents to make it more reader-friendly.

LumiRandom *(https://github.com/joelczk/LumiRandom)* *Singapore*

Project Lead (Python, Flask, PostresSQL) *Jan 2019 - May 2019*

- Worked on web project to simulate NUS's module management website as part of CS2102(Introduction to Database) project. using **Python as the backend language and PostgresSQl as the database of choice**
- Colloborated with a team of 5 to implement the database schema and the backend of the project
- Gave a short presentation of the database schema and the implemetation of the project to the tutors and received Distinction for this project

Languages

English Professional Working and Speaking

Chinese Proficient Working and Speaking

Awards

2020	**Bronze Award**, DSTA CDDC	*Singapore*
2020	**Finalist**, DSTA Code Exp Hackathon	*Singapore*
2019	**DSTA CDDC**, Bronze Award	*Singapore*
2019	**Gemini Award**, Orbital Programme	*NUS*