

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 Practice, Digital Forensics, Computer Security, Introduction to Computer Networks, Introduction to Operating Systems, Interaction Design, Introduction to Software Engineering, Penetration Testing Practice

Technical Skills

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

Familiar Languages React, 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 containerized 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

Penetration Testing Project

Singapore

TEAM MEMBER

Jan 2021 - May 2021

- Conducted Penetration Testing for one of the IT systems hosted in NUS, using both automated testing and manual testing
- Participated in scoping meetings with stakeholders involved
- Wrote a report and gave a presentation on the findings to stakeholders in NUS

Vulnerability Website (<https://github.com/joelczk/vulnerability-website>)

Singapore

DEVELOPER (DJANGO, SQLITE, WEB SECURITY)

May 2020 - PRESENT

- Collaborated 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 vulnerabilities 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**

LumiRandom (<https://github.com/joelczk/LumiRandom>)

Singapore

PROJECT LEAD (PYTHON, FLASK, POSTGRES SQL)

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 PostgreSQL as the database of choice**
- Collaborated 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 implementation 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 **5th Position**, NUS Attack/Defense CTF
2020 **Bronze Award**, DSTA CDDC
2020 **Finalist**, DSTA Code Exp Hackathon
2019 **DSTA CDDC**, Bronze Award
2019 **Gemini Award**, Orbital Programme

Singapore
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Singapore
NUS