

# Hubertus Adhy Pratama Setiawan

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## Education

### National University of Singapore (NUS)

Bachelor of Computing in Information Security

Singapore

Aug 2019 - Jun 2023

- CAP: 4.69 out of 5 (3.75 out of 4)
- Recipient of the Cyber Security Agency of Singapore (CSA) Book Prize, a scholarship awarded to the top 4<sup>th</sup> year student in B.Comp - Information Security (AY2022-23).
- Specialised in parallel computing, networking and distributed systems, and systems security.

## Technical Skills

**Programming Languages** Python, C/C++, Rust, Java, Bash, SQL

**Technologies and Tools** Linux, Docker, Git, AWS, Ansible, Elasticsearch, Flask, Burp suite, GDB, Ghidra, Wireshark

**Certifications** [Red Hat Certified System Administrator](#)

## Work Experiences

### National University of Singapore (NUS)

Teaching Assistant

Singapore

Jul 2023 - Jun 2024 (contract)

- Taught more than 150 students about object-oriented programming concepts to help them write clean, extensible, and maintainable code. Explained interesting concepts in computer science such as generics, immutability, lazy evaluation, asynchronous programming, and functional programming.
- Taught a second course on systems security, focusing on binary exploitation (buffer overflow, return-oriented programming) and kernel observability (Linux Security Modules, eBPF).
- Previously taught Programming Methodology, Data Structures and Algorithms, and Computer Networks to a total of 120 students across 4 semesters as an undergraduate tutor. Received the [Honor List of Student Tutors](#) awards ([AY2021-22](#)) for excellence in teaching.

### TRS Forensics

Information Security Intern

Singapore

Dec 2021 - May 2022

- Prevented penetration testers from attacking out-of-scope targets during an engagement by writing an internal tool using Flask, OpenVPN, Linux iptables, and the ELK stack.
- Enabled the management team to make data-driven decisions by creating an internal data visualisation website using Dash, Flask, and MySQL. Automated the deployment process to Apache HTTP Server using bash scripts.
- Improved the security posture of TRS' clients by conducting penetration testing on their web and Android applications. Wrote comprehensive reports with clear steps to help clients patch their systems.
- Performed digital forensics process starting from evidence preservation until image analysis using various state-of-the-art forensics tools.

### Envision Digital International

Cybersecurity Engineer Intern

Singapore

Jun 2021 - Sep 2021

- Verified the security of Envision's products by conducting vulnerability scanning and threat modelling. Wrote bash scripts to automate the process of uploading the software, scanning, and retrieving the scan result by utilising REST API.
- Setup a Linux server as a testing environment for the integration of ELK stack to the company's SIEM systems. Created SSL certificates and configured the TLS stack to preserve the confidentiality of the logs.

## Projects

### Matching Engine

2023

- Built a multi-threaded order matching engine in C++ to match buy and sell orders using the price-time priority rule.
- Developed unit tests and conducted stress testing to verify the correctness and scalability of the software.

**Redis Clone** | <https://github.com/adhy-p/codecrafters-redis-python/>

2023

- Developed a Redis clone using Python. Similar to the original Redis implementation, this clone is a single-threaded application that can communicate with numerous clients simultaneously by utilising the [epoll](#) system call.

**Chiroproctor** | <https://github.com/adhy-p/chiroproctor>

2021

- Devised an IoT solution to help people maintain good postures. Created and trained a machine learning model to predict user's posture based on accelerometer and gyroscope data.
- Managed the infrastructure (AWS EC2), devices communication (Bluetooth Low Energy + MQTT), and data collection.

## Extracurricular Activities

- [NUS Greyhats](#) (Oct 2021 - June 2023): NUS' cybersecurity interest group. Presented [a talk about Burpsuite](#), played capture the flags (CTF) as a team, and participated in internal trainings in cryptography, web exploitation, reverse engineering, and binary exploitation.