

Hubertus Adhy Pratama Setiawan

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Education

National University of Singapore (NUS)

Bachelor of Computing in Information Security

Singapore

Aug 2019 - May 2023

- Current CAP: 4.69 out of 5 (3.75 out of 4)
- Relevant coursework: Software Engineering and Object-Oriented Programming, Data Structures and Algorithms, Parallel and Distributed Computing, Computer Networks, Operating Systems, Penetration Testing, Database Systems.

Technical Skills

Programming Languages Python, C, C++, Bash, Java, SQL

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

Certifications [Red Hat Certified System Administrator](#), Red Hat Certified Engineer (expected, Jul 2023)

Work Experiences

TRS Forensics

Information Security Intern

Singapore

Dec 2021 - May 2022

- Developed an internal tool to prevent penetration testers from attacking out-of-scope targets during an engagement using Flask, OpenVPN, Linux iptables, and the ELK stack.
- Created an internal data visualisation website using Dash, Flask, and MySQL. Wrote scripts to automatically deploy the website using Apache HTTP Server.
- Conducted penetration testing on various web and Android applications and 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

- Conducted vulnerability scanning using various software composition analysis tools and wrote bash scripts to automate the process of uploading the software, scanning, and retrieving the scan result by utilising REST API.
- Built a testing environment for the integration of the ELK stack for sending, collecting, and correlating security logs.
- Helped the Digital Forensics and Incident Response Team to perform digital forensics on EnCase Image using Autopsy and AccessData FTK Imager.

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.

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.

Other Experiences

National University of Singapore (NUS)

Student Researcher

Singapore

Aug 2022 - Apr 2023

- Implemented an end-to-end solution to convert malwares to *behaviour graphs*, a high-level structure which captures both the control flow and the capabilities of the malware.
- Utilised IDAPython for control-flow graph generation, Mandiant capa for capability identification, and NetworkX for graph manipulation. The code is available at <https://github.com/adhy-p/explaining-malware>.

National University of Singapore (NUS)

Student Tutor

Singapore

Aug 2020 - Dec 2022

- Taught Programming Methodology (AY2020-22), Data Structures and Algorithms (AY2020-21), and Computer Networks Practice (AY2022-23) to a total of 120 students across 4 semesters.
- Received the [Honor List of Student Tutors](#) awards (AY2021-22) for excellence in teaching.

Extracurricular Activities

- [NUS Greyhats](#) (Oct 2021 - Present): 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.
- [NUSSU CommLit](#) (Sep 2019 - May 2021): NUS' Student Union wing of IT. Served as the Director of Operations and Logistics; conducted trainings and organised on-call schedule to maintain two computer labs in NUS.