

Hong Rui Yi

hongymb07@gmail.com • (60) 176273626 • saladbkp.github.io • github.com/saladbkp
• linkedin.com/in/hong-rui-yi-7769092b9/

Education

Asia Pacific University of Technology & Innovation

Jalan Teknologi, Bukit Jalil

Bachelor of Computer Science (Cyber Security) | **CGPA: 3.80/4.0**

2022.09 - Present

Relevant Courses: Switching and Routing, Data Structures, Foundation of Programming, System Development

Forensic & Security Research Center Student Section APU: CTF Challenges Creator Team

Technical Skills

- **Programming Languages:** Python, Java, C#, C, C++
- **Communication Languages:** Chinese, English, Malay
- **Operating Systems:** Windows XP/7/10, Linux, Ubuntu, Centos 7
- **Interested field:** Reversing, Binary exploitation, Crypto, Web bug bounty
- **Certificates:** AWS Certified Cloud Practitioner

Soft Skills

- **Determination:** Always ready to take on challenges and persist until solutions are found.
- **Discipline:** Able to manage time and tasks efficiently, meeting both deadlines and standards.
- **Consistent:** Maintain high quality and performance across different projects and environments.
- **Curious:** Constantly learning new tools, technologies, and techniques to improve and innovate.

Projects (<https://saladbkp.github.io/diaries/>)

(Hardware-Software Security) Secure Vehicle Access Control System | Team Project

- Designed and implemented a **secure vehicle unlocking system** integrating ESP32, GPS (NEO-9M), RF receiver (RXB6), buzzer, and 5V relay for real-time lock control.
- Developed a mobile application using **Flutter** and **Firestore** to provide user access, tracking, and control interface.
- Integrated **RSA-based hash sharing, SHA-256 challenge-response verification, and blockchain-like logging** to ensure secure, tamper-evident access records.

(Reverse Workshop) Plants vs. Zombies Game Hacking Workshop | Solo Project

- Demonstrated practical reverse engineering by **analyzing memory layouts**, identifying dynamic base addresses, and automating hacks with Python and **pymem**.
- Developed scripts to achieve real-time effects like infinite resources and instant planting, showcasing dynamic address resolution and **ASM patching**.

(Software) Food Ordering System Project with JAVA | Team Project

- Implemented a multi-user system to manage food ordering and delivery processes using **OOP concepts**.
- Utilized **socket communication** to facilitate **real-time communication** between clients and servers.

(Networking) Network Design Project with Cisco Packet Tracer | Team Project

- Proposed **VLAN, WLAN, EtherChannel, HSRP** Architecture in 3 network area.
- Implement basic security and use **ACL** and **VPN** to improve the security of switch and routers.

(AI) Spam SMS Detection using Deep Learning Model | Personal Project

- Developed a model for detecting spam SMS messages using **Word2Vec** and **LSTM** neural networks.

(IOT) ESP8266 WiFi Project in Arduino | Personal Project

- Configured **ESP8266** to connect with an Android app for wireless communication.

(WIN API) Desktop Application for Copying Spotify Song Names | Personal Project

- Implemented a Spotify class to retrieve song names and used **WinAPI** functions like FindWindow, GetWindowText, and CopyToClipboard to interact with the desktop application.

(Reverse) Extract 16-bit and 32-bit MZS DOS DLL String Tables | Personal Project

- Developed a **VB code** to read resource offsets from **DLLs**, extract bytes, and perform conversion operations.

(Hardware) Firmware analysis on D-Link DCS-932L | Personal Project

- Conducted **firmware analysis**, web interface security testing, and network traffic monitoring to identify vulnerabilities in the D-Link DCS-932L IP camera.
- Exploited CVE-2019-10999 (buffer overflow in alphapd backend server).

(Android) Samsung A305F Android Root with Patched Boot.img | Personal Project

- Successfully rooted a **Samsung A305F** running Android 11 by patching boot.img + disable DM-Verity using **Magisk**.

Working Experience

Software Automation Developer

2022.07 – 2024.06

- Utilized **MVVM** architecture to create maintainable WPF applications for machine performance analyzing purposes.
- Experienced in developing vision software using **OpenCV** for image processing and OCR in QT.

Penetration Testing Intern – Maybank IPT Infrastructure Team

2025.08 - 2025.11

- Conducted penetration tests on Android, web applications, APIs, infrastructure, and Wi-Fi for Maybank projects.
- Identified and reported multiple **OWASP Top 10** vulnerabilities in a UAT web application.
- Assisted senior testers in **rooting a Redmi device** for real-world Android penetration testing.
- Developed a JavaScript script to automate JWT token reuse exploitation for **API security testing**.

Freelance Developer

2024 - Present

- Developed an automated **web scraping bot** for 3 SG beauty websites to track price discounts across categories for monthly price comparison.
- Built an automated **testing bot using multiple IP proxies** for HK Cityline customers to ensure robust ticketing performance.
- Reverse-engineered BookMyShow's ticket **JWT token algorithm** for security analysis.
- Created a **2D game using DirectX 9** with polygon-based character movement, animation, real-time updates, and collision detection.
- Designed and implemented AI models, including **Deep Q-Network (DQN)** and other algorithms, for game completion.

optimization.

- Implemented **liveness detection using MTCNN** for face blink and lip movement recognition via webcam, improving anti-spoofing security.
- Developed an **ElGamal cryptographic** system and a derangement-based **Santa gifter & giftee matching** system.
- Built an **RSA-based secure messaging system** for encrypted communication between two parties, implementing key generation, encryption, and decryption in Python.

Competition Experience (CTF time: <https://ctftime.org/team/359854>)

Capture the Flag (CTF)

- ASEAN Battle of Hackers (ABOH) 2023
- Wargames.MY 2023
- RENTAS CTF 2024 (**final rank 13/30**)
- PSIIEC CTF 2024 (**3rd place**)
- Curtin CTF 2024 (**4th place**)
- ASCIS CTF 2024 (**5th place**)
- PWC CTF 2024 (**1st place**)
- Sherpa CTF 2024 (**2nd place in student category**)
- Hibiscus CTF 2024 (**3rd place**)
- Wargame CTF 2024 (**5th place**)
- CSLU CTF 2024 (**1st place**)
- HACKTHEON SEJONG APRIL 2025 (**25th place represent Malaysia APU student category**)
- BlackBerry CTF MAY 2025 (**1st place**)
- UM CTF MAY 2025 (**1st place defense jeopardy**)
- UTEM CTF MAY 2025 (**4th place**)
- CYDES CTF JUN-JULY 2025 (**4th place**)
- BARQSEC APU CTF JULY 2025 (**1st place**)
- SUNWAY CTF AUG 2025 (**1st place**)

Other

- Level 99 Game Jam (**rank 90/329**): 3D + Unity
- APU AWS Deepracer 2023: AI + Python
- APU Hackthletes X Solana Hackathon 2024: Web3 + Vue

FSEC Role

- IBOH CTF 2024 (**Crypto, AI Challenge Creator**)
- IBOH CTF 2025 (**PWN, RE Challenge Creator**)
- ICTF CTF 2024 (**Crypto Challenge Creator**)
- ICTF CTF MAY 2025 (**RE Challenge Creator**)
- FORENSIC GAME CTF 2024 (**Challenge Creator**)
- SIBER SIAGA CTF 2025 (**RE, PWN Challenge Creator**)
- SIBER SIAGA FINAL Attack and Defense 2025 (**PWN Challenge Creator**)

Workshop

- Back to Childhood's Garden Game Hacking 101 speaker