

Raihan Sultan Pasha Basuki

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RESEARCH INTEREST

NLP/ML-assisted anomaly detection and vulnerability discovery, side-channel attacks on wireless networks, firmware security and reverse engineering, log and traffic analysis for attack detection and threat intelligence, anti-forensic technique and mitigation, DDoS mitigation using SDN, secure ML systems.

EDUCATION

Ary Ginanjar University Jakarta, Indonesia
Bachelor of Computer Science Sept. 2022 – Jun 2026

- Cumulative GPA 3.76 / 4.0, Major GPA 3.8 / 4.0
- Coursework: Networking, Machine Learning, Data Mining, Operating System, Algorithm and Data Structure

RESEARCH EXPERIENCE

Research Trainee Remote, Chicago
System and AI Research Training Program (SYAIR), University of Chicago Jan 2025 - Jun 2025

- Analyzed 30+ technical papers from ACM, IEEE, USENIX, and NDSS conferences.
- Replicated and reproduced key experiments from top-tier publications.
- Engaged in weekly progress updates under direct mentorship from Prof. Haryadi Gunawi (University of Chicago).

Research Assistant Hybrid, Jakarta
ESQ Group Ltd. Apr 2025 - present

- Researched and developed Large Language Model (LLM) algorithms for the upcoming project.
- Evaluated, improved, and tested multiple model algorithms for implementation in the Talent DNA™ AskAdinda feature.

Research Assistant Hybrid, Jakarta
Computer Network Research and Development Unit (CNRDU), Ary Ginanjar University Dec 2024 - present

- Assisted in the development of emerging network technologies such as Software-Defined Networking (SDN), Network Function Virtualization (NFV), and IoT networking.
- **Network Security:** Researched IDS/IPS, DDoS attack mitigation, and data encryption.
- **Network Optimization:** Worked on routing algorithms, load balancing, and Quality of Service (QoS) improvement.
- Write and publish articles in several local technology journals.

Research Assistant Hybrid, Jakarta
AI Research and Development Unit (AIRDU), Ary Ginanjar University Dec 2024 - present

- Assisted in AI model development programming for facial recognition, natural language processing (NLP), and big data analysis.
- Conducted experiments with machine learning and deep learning algorithms.
- Provided AI training for students, professionals, and the general public, as well as workshops on popular AI tools.
- Provided research assistance within office hours, for research group members.
- Write and publish articles in several local technology journals.

PRIOR PUBLICATIONS

1. **Raihan Sultan Pasha Basuki**, Muh. Said Abbas, Aliyah Kurniyasih. "Development of a Student Depression Prediction Model Based on Environmental and Academic Factors" (*Manuscript ready upon request*).
2. **Raihan Sultan Pasha Basuki**, Kinanty Kusuma. "Prediction of the Impact of Active and Passive Smoking on the Risk of Lung Disease Using RapidMiner and the Naïve Bayes Algorithm" (*Manuscript ready upon request*).

WORK EXPERIENCE

System Engineer

Metacyber Brother Indo

Hybrid, Jakarta

Dec 2023 - Dec 2024

- Managed technical engineering across multiple cybersecurity platforms for 20 clients: Delivered solutions for diverse clients by implementing and maintaining platforms like SolarWinds and Splunk for IT monitoring, SentinelOne for endpoint protection, and Tenable for comprehensive vulnerability assessments. Ensured seamless integration and optimal performance for each platform.
- Oversaw operations and maintenance of the Arbor Edge Defense (AED) platform for 10 clients: Specialized in DDoS mitigation using AED by Netscout, performing proactive system checks, updates, and fine-tuning configurations to fortify client network security postures.
- Conducted vulnerability assessments: Leveraged Tenable to identify, analyze, and mitigate critical vulnerabilities, providing actionable reports and remediation plans to improve security resilience.

Data Engineering Facilitator

ASEAN Foundation

Remote, Jakarta

Apr 2023 - Jun 2023

- Course Facilitator at ASEAN Data Science Explorers Batch 3 and 4, atleast 500 Students - Focusing on Data Analytics and Modeling using SAP Analytics Cloud.
- Developed five visuals by performing data engineering and analysis using SAP Analytics Cloud for COVID-19 information.

Teaching Assistant

Ary Ginanjar University

Hybrid, Jakarta

Sep 2024 - present

- Served as a Teaching Assistant for Calculus 1 (KKMT104), and Computer Network (KKAR201), providing support on 10+ assignments and mentoring over 40+ students.

Team Leader

Ary Ginanjar University Security Club (AGSEC)

Hybrid, Jakarta

Jun 2023 - present

- Competed in multiple CTF competitions at regional and international levels. With Jeopardy, Attack-Defense, and mixed formats.
- Organized internal workshops to enhance members' skills and knowledge in cybersecurity.

OPEN SOURCE PROJECT

OWASP Zed Attack Proxy (ZAP)

[GitHub Repo](#)

- Automated security scans by integrating them with CI/CD for continuous security testing
- Expanded web application vulnerability scanning to include active scanning, passive scanning, spidering, and fuzzing
- Customized attack payloads and modified plugins
- Tools Used: Java, HTML, Python, Shell

OWASP Core Rule Set (CSR)

[GitHub Repo](#)

- Modified rules for Core Rule Set by enhanced detection for SQLi, XSS, RCE, Command Injection, SSRF, File Uploads, Bot Detections, WAF Bypasses, API Security, and Rate Limiting
- Tools Used: Python, Shell

JDOS (DDoS program, fully written in Java)

[GitHub Repo](#)

- Tools Used: Java

OTHER PROJECTS

NeTracker

[GitHub Repo](#)

- A Network Traffic Tracker, working in kernel-level. Made using eBPF (C-Language).
- Tools Used: C, Python, bpftool, Shell

PHP/8.1.0-Dev Exploit

[GitHub Repo](#)

- An exploit for PHP version 8.1.0-Dev 'User-Agentt' RCE, EDB-ID 49933.
- Tools Used: Python, Shell

NetPulse

[GitHub Repo](#)

- NetPulse is a basic comprehensive network scanner. It combines multiple features such as host discovery, port scanning, service detection, vulnerability detection, OS detection, banner grabbing, and logging into a single, easy-to-use tool.
- Tools Used: Python, Shell

FunLocker

[GitHub Repo](#)

- WebCrawlZ is a simple web crawler tool that scans a website for all anchor ('a') tags and prints their 'href' attributes. It is built using Python and utilizes the 'requests', 'BeautifulSoup', and 'fake-useragent' libraries for web scraping and user agent spoofing.
- Tools Used: Python, Shell

WebCrawlZ

[GitHub Repo](#)

- FunLocker is a password-locked file decryptor (so far only have .docx and .pdf file decryptors). FunLocker uses a set of base passwords provided by the user to attempt to unlock encrypted files. The program will generate various combinations of these passwords to maximize the chances of successfully decrypting the file. This is useful if you have a list of possible passwords that you commonly use and need to recover access to a file that has been encrypted with one of these passwords.
- Tools Used: Python, Shell

ABILITIES AND SKILLS

Programming Language: C, C++, Python, Java

Scripting and Automation: Javascript, jQuery, AJAX, Bash Scripts, Powershell

Security Domain: Cryptography, Penetration Testing, Digital Forensics, Incident Response, SQL Injection, OSINT

Security Tools: Nmap, Metasploit, Aircrack-ng, Nikto, SQLMap, IDA, Ghidra, Wireshark, Burpsuite, Social Engineering Toolkit, ZAP, Kali Linux

IT Security Platforms: Splunk, Solarwinds, SentinelOne, Tenable

Cloud Platforms: Alibaba Cloud, AWS, GCP, Microsoft Azure

Certifications: ISC2 Certified in Cybersecurity (CC), IBM Certified Cybersecurity Analyst, Alibaba Cloud Certified Developer

Languages: Indonesia (Native), English (Professional Proficiency), German (Limited Working Proficiency), Italian (Elementary Proficiency)

REFERENCES

Prof. Haryadi Gunawi

haryadi@cs.uchicago.edu

- UChicago - Indonesia research training instructor
- Professor at Department of Computer Science, University of Chicago

Andi Purnomo, M.Kom.

andi.purnomo@esqbs.ac.id

- Academic advisor
- Lecturer at Department of Computer Science, Ary Ginanjar University

Aliyah Kurniasih, M.Kom

aliyah.kurniasih@esqbs.ac.id

- Research Advisor
- Lecturer and Researcher at Department of Computer Science, Ary Ginanjar University