

# 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

Sep 2022 - Jun 2026

Bachelor in Computer Science

- **Cumulative GPA:** 3.73/4.0, **Major GPA:** 3.8/4.0
- **Coursework:** Networking, Machine Learning, Data Mining, Operating System, Algorithm and Data Structure

## Selected Publications

**Development of a Student Depression Prediction Model Based on Environmental and Academic Factors** (*Manuscript Ready*).

Jan 2025

Raihan Sultan Pasha Basuki, Muh. Said Abbas, Aliyah Kurniyasih.

**Prediction of the Impact of Active and Passive Smoking on the Risk of Lung Disease Using RapidMiner and the Naïve Bayes Algorithm** (*Manuscript Ready*).

Jun 2024

Raihan Sultan Pasha Basuki, Kinanty Kusuma

## Research Experience

### Junior Researcher

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

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.
- 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.

- Publish articles in several local technology journals.

## Work Experience

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### 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, Operating Systems, and Networking, 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 Projects

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### 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

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### 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](#)

- 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

### WebCrawlZ

*[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

## Abilities and Skills

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**Programming Languages:** C, C++, Python, Java

**Scripting & Automation:** Javascript, jQuery, AJAX, Bash Scripts, Powershell

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

**Security Tools:** Nmap, Metasploit, Nikto, SQLMap, IDA, Ghidra, Wireshark, Burpsuite, Social Engineering Toolkit, 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

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**Prof. Haryadi Gunawi**

*[haryadi@cs.uchicago.edu](mailto:haryadi@cs.uchicago.edu)*

- Mentor
- Professor at Department of Computer Science, University of Chicago

**Andi Purnomo, M.Kom.**

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- Academical Advisor
- Lecturer at Department of Computer Science, Ary Ginanjar University

**Aliyah Kurniyasih, M.Kom.**

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- Thesis Advisor
- Lecturer at Department of Computer Science, Ary Ginanjar University

**Cantika Previana, M.Kom.**

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- Lecturer at Department of Computer Science, Ary Ginanjar University