

Tsania Camila Finnisa

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Research Interest

Computer Security, Web Security, System Security, Security in Internet of Things (IoT), and Security in Machine Learning.

Education

Dian Nuswantoro University

Sept 2022 – June 2026

#5 Best Innovation University in Indonesia^[1]

(expected)

- **Cumulative GPA:** 3.90/4.00
- **Major GPA:** 3.90/4.00
- **Relevant Coursework:** System and Cyber Security (A), Computer Networks (A), Cryptography (A), Internet of Things (A), Machine Learning (A).

Research Experience

University of Chicago - Indonesia Research Training Program

Remote, UChicago

Jan. 2025 – Present

- Selected as one of 50 best students across Indonesia to receive international research training program instructed by Prof. Haryadi Gunawi of University of Chicago.
- Covered 30+ technical papers from USENIX, ACM, IEEE and NDSS conferences.
- Replicated and reproduced key experiments from top-tier publications.
- Watched talk videos of 10+ research papers.
- Reproduced papers on Computer Security specifically in Cybersecurity and Internet of Things (IoT).

BONARFA : Bonsai Smart Farming

April 2024 – Aug 2024

Indonesia Student Creativity Program

- Research and development of IoT-based tools to monitor soil conditions and automatic watering in a Bonsai garden.
- Designing and implementing the IoT tool to the Bonsai garden.
- Monitor product performance to ensure it runs optimally both directly and remotely.
- Conducting research with a team for approximately 30+ hours per week.
- Conducting a Final Presentation in front of a jury from the Indonesian Ministry of Education (DIKTI).

Honor & Awards

Student Creativity Program (Program Kreativitas Mahasiswa) 2024

April 2024

- Successfully obtained funding in the Student Creativity Program (Program Kreativitas Mahasiswa) 2024 at the national level from 43,000 competing teams to design innovative research project.

Experience

Teaching Assistant

Sept - Nov 2024

- Assisted bootcamp students in understanding the Computer Network at Dian Nuswantoro University.
- Assisting 75 students in class per week.
- Helped students to troubleshoot problems and accelerate learning process.

Project Team Leader

April - Aug 2024

- Designing concepts, time estimates, and adjusting research needs in building functional IoT products to make partners' work easier.
- Coordinate and assign tasks to team members

- Facilitate effective communication between researchers and partners to monitor and maintain product quality.

Projects

BONARFA: Automatic watering and soil monitoring system in Bonsai Field Jepara

- Design architecture for an Internet of Things tool for soil monitoring system, and automatic watering.
- Configuring a physical device for the Internet of Things with Blynk IoT.
- Write 200+ LOC
- Tools Used: Arduino IDE

RFID as a Door Lock and Attendance Tool Integrated with IoT

- Make infrastructure for Door Lock using NodeMCU ESP-8266 and RFID sensor
- Write 125 lines of code in C++ and 520+ lines of codes in PHP
- Configuring the final product to a website
- Tools Used: Arduino IDE, ESP-8266

Image Classification for Shape Recognition Using Convolutional Neural Network (CNN) and Random Forest Comparison

- Design a model to compare the accuracy for image detection using a Convolutional Neural Network (CNN) and a Random Forest.
- Contributed in 200+ LOC.
- Achieved 86% accuracy in CNN and 76% accuracy in Random Forest for Detecting object shape.
- Library Used: TensorFlow, Keras, Scikit-learn

RSA Encryption for Simple Web

- Make a simple implementation of the RSA algorithm for a string-formatted data on a Website.
- Write 300+ LOC.
- Language Used: PHP

Skills

Programming Languages: C++, C, Python, Java, SQL, JavaScript, PHP

Web Framework: CodeIgniter4, Bootstrap, Laravel

AI/ML Platforms/Libraries: TensorFlow, Pandas, Matplotlib, NumPy, Seaborn, SciPy, Keras, Scikit-learn

Backend Systems: MySQL, MariaDB

Tools: Nmap, Metasploit, Wireshark, Nslookup, the Harvester, Sherlock

Misc: Figma, Linux, Git, Github, Docker, Nginx, Chameleon Cloud, Arduino, NodeMCU ESP-8266, ESP-32

Reference

Prof. Haryadi Gunawi

haryadi@cs.uchicago.edu

UChicago - Indonesia System and AI Research Instructor.

Professor, Department of Computer Science, University of Chicago

Adhitya Nugraha, S.Kom, M.Cs

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Academic Advisor.

Head of AI and Research Development Group, Dian Nuswantoro University.

Fauzi Adi Rafrastara, M.CS

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Research Advisor.

Lecturer, Department of Computer Science, Dian Nuswantoro University.