

# Muhammad Haekal Muhyidin Al-Araby

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github.com/muhhae

## Education

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**Sepuluh Nopember Institute Of Technology** Aug 2022 – 2026 (Expected)  
B.Eng. in Computer Engineering

- GPA: 3.65/4.0
- Major GPA: 3.8/4.0
- Coursework: Operating System (A), Computer Architecture (A), Computer Security (A), Embedded System (A), Computer Network (AB), Database (AB)

## Experience

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**Computer Engineering Department & Faculty of Medics, Sepuluh Nopember Institute of Technology** Sept 2024 – Feb 2025  
*Backend Software Engineer*

- Designed, implemented, and deployed a system for efficiently storing digital images of cancer cells.
- Wrote 900+ LOC.

**Computer Engineering Department, Sepuluh Nopember Institute of Technology & SDDPI Komdigi** July 2024 – Jan 2025  
*Backend Software Engineer*

- Designed and implemented system for efficiently finding anomaly or wrong data in SDPPI database.
- Wrote 1000+ LOC.

**Computer Engineering Department, Sepuluh Nopember Institute of Technology** Aug 2024 – Jan 2025  
*Teaching Assistant for Computer Security*

- Graded Mid-Term and Final Exam of 2 classes for the total of more than 70 students.

**Computer Engineering Department, Sepuluh Nopember Institute of Technology** Aug 2024 – Dec 2024  
*Teaching Assistant for Basic Programming*

- Oversaw 8 session of practicum consist of more than 25 students each.
- Gave additional assistance for 6 groups consist of 5-6 students each.
- Graded the work of over 30 students.

**Computer Engineering Department, Sepuluh Nopember Institute of Technology** Jan 2024 – Jun 2024  
*Teaching Assistant for Digital Circuit*

- Oversaw 4 session of practicum consist of more than 30 students each.
- Gave additional assistance for 9 groups consist of 3-4 students each.
- Graded the work of over 27 students.

**Computer Engineering Department, Sepuluh Nopember Institute of Technology** Aug 2023 – Dec 2023  
*Teaching Assistant for Basic Programming*

- Graded the Final Exam of over 70 students.

## Projects

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**Interpreted Programming Language**  
[github.com/muhhae/interpreted-lang-py](https://github.com/muhhae/interpreted-lang-py)

- Implemented core programming language feature such as variable, arithmetic, function, and class.
- Designed and implemented custom IDE with working syntax highlighting and interactive shell.
- Wrote 1600+ LOC.

- Tools Used: Python, CustomTKinter.

### **Tetromania Castle**

[github.com/muhhae/tetromania-castle](https://github.com/muhhae/tetromania-castle)

- Gothic themed tetromino game.
- Implemented 2D collision detection.
- Wrote 1000+ LOC.
- Tools Used: C++, SFML, Premake5.

### **PingPong Game**

[github.com/muhhae/esp32-pingpong](https://github.com/muhhae/esp32-pingpong)

- PingPong Game written in C++ for ESP32 and dotmatrix display.
- Implemented how dotmatrix displays every frame in the game.
- Implemented music player using buzzer.
- Wrote 700+ LOC.
- Tools Used: C++, PlatformIO, ESP32, MD\_Parola, MD\_MAX72xx.

### **Lorem Ipsum**

[github.com/muhhae/lorem-ipsum](https://github.com/muhhae/lorem-ipsum)

- Web application for sharing random image.
- Wrote 2000+ LOC.
- Tools Used: Go, MongoDB, Echo, Templ, HTMX, TailwindCSS.

## **Technical Skill**

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**Languages:** C, Python, Javascript, C++, Go, C#, Shell, Lua

**Framework:** Tensorflow, Keras, React, Echo

**Database:** PostgreSQL, MongoDB

**Tools:** Linux, Neovim, Git, GitHub, Docker

**Misc:** AWS EC2, AWS S3, Arduino, Platformio, ESP32, Unity3D

## **References**

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### **Haryadi S. Gunawi**

*Associate Professor of Computer Science, University of Chicago*  
[haryadi@cs.uchicago.edu](mailto:haryadi@cs.uchicago.edu)

### **Surya Sumpeno**

*Associate Professor of Computer Engineering, Sepuluh Nopember Institute of Technology*  
[surya@its.ac.id](mailto:surya@its.ac.id)

### **I Ketut Eddy Purnama**

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