# Resha Dwika Hefni Al-Fahsi

Robotics and Machine Learning Enthusiast

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## About Me

**Technical Skills** C/C++, Python, Computer Vision, Robotics, Deep Learning
**Languages** Indonesian, English

## Work Experience

**Neurabot**
AI Engineer Intern — Yogyakarta, Indonesia (December 2020 – Now)

- Developed an autotagging system for medical imaging.

**UGM AI CENTER**
Research Assistant — Yogyakarta, Indonesia (June 2019 – December 2020)

- Involved in many Robotics, Computer Vision and Machine Learning Projects:
  - Developed back end of automated machine learning pipeline for data scientist to increase their productivity.
  - Developed service robot platform.
- Programming Language: Python, C++
- Software, Tools and Libraries: Docker, TensorFlow, Keras, PyTorch, scikit-learn, OpenCV, ROS, Gazebo, RViz, Qt

**Gadjah Mada Robotic Team**
Senior Programmer Team Lead — Yogyakarta, Indonesia (November 2016 – October 2019)

- Senior Programmer and Team Leader for University's Robotic Research Team in Wheeled Soccer Robot Division:
  - Designed robot software architecture using ROS framework.
  - Implemented RRT* algorithm for the robot path planning.
  - Designed robot communication system, consist of basestation, local database using hashtable and peer to peer communication using TCP unicast and UDP multicast.
  - Designed decision-making algorithm for autonomus robot using FSM.
  - Implemented robot localization algorithm using Kalman Filter and Particle Filter.
  - Developed ball detection algorithm.
  - Implemented Artificial Neural Network in C++.
- Programming Language: Python, C++
- Software, Tools and Libraries: ROS, Qt, OpenCV, Protobuf, C++11, C++ STL, Boost

**Honeywell Laboratory at Department of Electrical and Information Engineering UGM**
Research and Development Intern — Yogyakarta, Indonesia (January – May 2019)

- Developed a dashboard design for face recognition system in Honeywell Laboratory of Department of Electrical and Information Engineering UGM.

**Department of Electrical and Information Engineering UGM**
Lecturer Assistant Yogyakarta, Indonesia (August 2017 – January 2018)

- Lecturer Assistant for Basic Programming Course.

## Competitions and Personal Projects

**GUGEN Competition** (December 2019)

- Developed a novel text-entry system for visual impaired people.
- Top 6 for Grand Prize and Excellence Award.

**AI-JAM Japan 2019** (December 2019)

- Developed a novel text-entry system for visual impaired people.
- Got Gold award from AI-JAM Japan.

**Indosat Ooredoo HackData** (November 2019)

- Developed an IoT platform for measuring and maintaining electrical system.
- Top 10 Finalist.

**The 21th International Electronics Symposium (IES)** (September 2019)

- Presented two scientific paper in a poster presentation and exhibition session.
- Got best paper award.

**OpenVINO Hackathon** (August 2019)

- Developed a deep learning platform for early detection of sick livestock.
- Got $3^{rd}$ place award from PT Synnex Metrodata Indonesia.

**DILo Hackathon Festival Yogyakarta** (August 2019)

- Developed an IoT platform for measuring water usage.
- Got $2^{nd}$ runner up place award from DILo (Digital Innovation Lounge).

**Laboratory Attendance Dashboard Website Based on Face Recognition System** (January – May 2019)

- Developed a dashboard website for face recognition system in Honeywell Laboratory of Department of Electrical and Information Engineering UGM.
- Face recognition system and dashboard website was built using TensorFlow and Dash by Plotly respectively.

**Wheeled Soccer Robot Contest of Kontes Robot Indonesia Regional 3** (April 2018)

- Developed a wheeled soccer robot platform.
- Got $3^{rd}$ place and best strategy award from Kementerian Riset, Teknologi dan Pendidikan Tinggi Republik Indonesia.

**Fukurō** (November 2016 – October 2019)

- Fukurō is a wheeled soccer robot platform based on RoboCup Middle Size League.

## Education

**Universitas Gadjah Mada** Yogyakarta, Indonesia (2016–2020)

- Bachelor of Electrical Engineering
- GPA: 3.48