



ELECTRICAL ENGINEER

# AHMAD DIDIK SETIYADI

## GET IN CONTACT

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## PERSONAL PROFILE

I am an Electrical Engineer from Diponegoro University with hands-on experience in robotics especially humanoid robot. I am mastering inverse kinematics and trajectory planning of manipulator robot, control system, Robot Operating System, AVR and ESP32 based microcontroller.

I really love coding especially in Python and C++.

## AREAS OF EXPERTISE

- Robotics especially in humanoid robot kinematics
- Inverse kinematics and trajectory planning of manipulator robot
- Robot Operating System (ROS)
- C, C++, Matlab and Python experience
- Printed circuit board (PCB) design with Eagle AutoCAD
- Working knowledge of Modern Control such as Fuzzy control, Neural Network, and Machine Learning

## OTHER SKILLS

- The ability to handle and lead project especially in robotics and automation
- Excellent problem solver
- The ability to analyze complex technical problem

## WORK EXPERIENCE

### PT. ASTA BERKAH AUTONOMOUS | 2021 - NOW

- Hardware Programmer

I have been working on embedded systems such as microcontroller, sensors, actuators, and more. Now I am leading the Automatic RFID Parking Gate and Automatic Door with Face Recognition project.

### CV. REDESMA TECHNOLOGIES | 2021

- Team Support of Injector Tester PLTD Telukbetung

In this project, my team and I repair electrical wiring and image processing performance that analyze the performance of injector spray with open CV then generated it into a PDF report.

- IoT Wind Turbine PJB Rembang

In this project, I built a controller of an IoT system of wind turbine with Adafruit IO and the data sensors will be saved into micro SD memory.

- Blood Shaker Poltekkes Semarang

In this project, I built a controller of a Blood Shaker by input from users. The motor is controlled by a PID controller.

- Automatic Oil Leveling PLTD Telukbetung

In this project, I built a prototype that can measure Oil levels in a tank automatically using a lidar sensor and raspberry pi. In this prototype, the user can operate the prototype with a GUI app built with python.

## INTERNSHIP

PT. Permalat Berdikari Jaya | 2020

- Built medical assistant robot called 'Dipo-Mecaro (Medical Assistant Robot)'

In this project, I contributed to calculating the transfer function of the PG45 motor with Matlab System Identifier. with the calculated transfer function I made a PG45 motor PID controller with Matlab PID tuner then I implemented the results of the PID parameters to the motor control program on Arduino.

# EDUCATION HISTORY

## DIPONEGORO UNIVERSITY

Bachelor of Electrical Engineering | 2017 – 2021 | GPA 3.60

- **Final Project: 4 DOF Manipulator Robot with inverse kinematics and trajectory planning using Robot Operating System (ROS) | 2021**

In this final project, I built a manipulator robot that can pick and place a test tube which is used to help medical workers by reducing human physical contact at a hospital in this covid-19 outbreak

- **Grenovator ASTRA AGEN Student Community | 2020**

In this community, I contributed to two projects. In the first project, I and the team implemented 400 WP solar panel energy to light up a bridge in Muncar, Temanggung. In the second project, I and the selected team implemented solar energy to light up the entire space of Pranaraksa Astra in Cikunir

- **3rd Runner Up Winner Indonesian Humanoid Soccer Robot Competition Region 1 | 2020**

In this competition, we got 4th place in the technical challenge with a new robot algorithm that we've been building for a year

- **Humanoid Soccer Robot Team Leader | 2020**

In this team, I was the leader of building a new robot and the algorithm of the robot. We moved to ROS (Robot Operating System) for the robot environment and used YOLO for our image processing

- **4th Runner Up Winner National Paper Competition in UNNES | 2019**

In this competition, we created a prototype to detect bacteria on human fingers by image processing. from the results of image processing, we can see that our hands are clean or not from bacterias

- **3rd Runner Up Winner Indonesian Humanoid Soccer Robot Competition Region 3 | 2019**

This is the first time our team has won in this competition and I contributed to making walking gait and other movements dataset

- **Motion Programmer Humanoid Soccer Robot Team | 2019**

In this team, I contributed to making walking gait and other movements dataset using inverse kinematics and motion planning

- **Bronze Medal Thailand Invertor's Day | 2019**

In this competition, we made a prototype for cleaning up wastewater of batik industries in Pekalongan using an electrolysis mechanism

- **Internal Champion Team of Forum Study Teknik (FST) | 2019**

In this part, I and the team encouraged and guided junior members to have a competitive mindset

- **Contingent of PIMNAS (Pekan Ilmiah Mahasiswa Nasional) 31 Undip | 2018**

In this competition, I and the team made a prototype of a tool for increasing the motorcycle's security system. We made this prototype because of the problem at that time on campus that there were a lot of motorcycle thefts

- **2nd Winner of Soccer Robot Competition in UGM | 2018**

In this competition, I and the team made wheeled soccer robots that can be controlled by a joystick with BlueTooth communication

- **Junior Research Division Member of Forum Study Teknik (FST) | 2018**

In this part, I learned a lot about research and research-based organizations, I and the other member got the assignment to make a research event at the engineering faculty