



## FIRMAN SATRIA SASMITA

Bachelor of Engineering in Electrical  
Engineering  
Yogyakarta State University

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Lubuklinggau, South Sumatera



### PROFILE

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Bachelor's degree graduate in Electrical Engineering from Yogyakarta State University, specializing in Electrical Power Engineering, Control Systems, and Machine Learning. Has internship experience at PT Industri Kereta Api (Persero) in the installation of railway electrical systems. Skilled in the design and implementation of sensor- and actuator-based systems, PID control, and machine learning (CNN). Proficient in working with PLCs, microcontrollers (Arduino Uno, ESP32), and software tools such as AutoCAD, Proteus, and FluidSIM. Solution-oriented with a strong focus on technical precision and efficiency.

### EDUCATION

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**Yogyakarta State University** – Sleman, Special Region of Yogyakarta  
Teknik Elektro – S1

September 2021 –  
July 2025

- GPA: 3.75 / 4.00 (154 Course Credits)
- Relevant courses: Electronics, Internet of Things, Control System Optimization, Programmable Logic Controller (PLC), Microprocessor and Microcontroller

**Bangkit Academy led by Google, GoTo, & Traveloka** – MSIB Kampus Merdeka  
Machine Learning – Learning Path

August 2023 –  
December 2023

- Studied the fundamentals through practical applications of Machine Learning
- Developed an image classification model using MobileNet CNN
- Participated in a Machine Learning-based Capstone Project

### INTERNSHIP, ORGANIZATIONAL, & COMMITTEE EXPERIENCE

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#### Internship Experience

**PT Industri Kereta Api (Persero)** – Production Division, Electrical System Installation (Finishing)

October 2024 –  
December 2024

- Involved in the installation and finishing processes of railway cars at the Bogie, Interior, and Electrical Workshops
- Installed internal and external electrical components in compliance with occupational safety standards
- Analyzed installation procedures and conducted feasibility checks of electrical system installations

#### Organizational Experience

**Student Research Association UNY** – Staff, HRD Sub-Division

January 2023 –  
December 2023

- Involved in managing HRD work programs, including New Member Recruitment
- Supported member development through LPJTT activities and Presentation Skill Training

**Design and Development Division; Technology Innovation Club UNY** – Member

2021 – 2022

#### Committee Experience

**Event Coordinator, New Member Recruitment** – HRD Student Research Association

2023

- Led and coordinated a series of events with 426 participants (highest attendance record)

- Managed event workflows and cross-division team coordination to ensure smooth execution

**Logistics and Catering Coordinator, General Assembly (GA) Student Research Association** 2022

- Managed logistics and catering requirements to support event operations
- Successfully executed all assigned responsibilities and fulfilled all event needs

**Publication, Decoration, and Documentation Staff, LPJTT – HRD Student Research Association** 2023

- Prepared publication and event documentation materials (pamphlets, Twibbon designs, live reports, after movies)

**Publication, Decoration, and Documentation Staff, Presentation Skill Training – HRD Student Research Association** 2023

- Prepared publication and event documentation materials (pamphlets, Twibbon designs, live reports, after movies)

## **ACADEMIC PROJECT EXPERIENCE**

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**Capstone Project: Culinaryndo Application**

September 2023 – December 2023

- Developed an application for the classification and identification of traditional Indonesian foods
- Implemented a CNN using the MobileNet architecture, including data cleaning, training, and model evaluation
- The model is capable of recognizing food types and automatically displaying detailed information

**DC Motor Speed Control Using a Microcontroller**

February 2023 – May 2023

- Designed a closed-loop PID control system for DC motor speed regulation
- Utilized Arduino Uno, speed sensors, an I2C LCD, and a keypad as the user interface
- The system is able to maintain stable motor speed according to the setpoint

**IoT-Based Vehicle Speed Monitoring and Overspeed Detection System**

February 2023 – May 2023

- Designed a vehicle speed monitoring system with overspeed detection
- Utilized ESP32, IR sensors, ThingSpeak, and a buzzer for notifications
- Speed data are displayed and transmitted in real time to the IoT platform

**Automatic Plant Watering System**

September 2022 – December 2022

- Developed an automatic watering system based on soil moisture levels
- Utilized ESP8266, soil moisture sensors, a 5V relay, and a water flow sensor
- The system is capable of regulating watering precisely and transmitting real-time data to ThingSpeak

## **SKILLS**

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**Languages**

Indonesian (Fluent), English (UNY ProTEFL Score: 440)

**Soft Skills**

Problem Solving, Leadership, Decision Making, Teamwork, Critical Thinking, Time Management, Adaptability and Resilience, Project Management

**Hard Skills**

Electrical installation tools operation (multimeter, etc.), Programmable Logic Controllers (PLC), Machine Learning, Control Systems, Computer Networking

**Software Proficiency**

Microsoft Office, Visual Studio Code, Arduino IDE, PyCharm, MATLAB, AutoCAD, ZelioSoft 2, CX-Programmer, FluidSIM, Proteus