

Moh. Nurul Anwar

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SUMMARY

An experienced Electrical Engineering professional with strong hands-on expertise in embedded systems, IoT, and software-hardware integration. Skilled in C and C++ programming for microcontrollers (Arduino, Raspberry pi, ESP32, STM32, AVR) as well as desktop application development using Delphi and C#. Experienced in setting up, configuring, and troubleshooting new systems, including PCs and related hardware. Familiar with database concepts (MySQL) and proficient in integrating applications with hardware interfaces. Highly adaptable, with strong problem-solving skills and the ability to work effectively in a team.

WORK EXPERIENCE

Techno IT – PT. Armadani Permata Kusuma

Surabaya, Indonesia

Mechatronic System Engineer

Feb 2024 – Agu 2025

Worked as part of Techno IT, a division under PT Armadani Permata Kusuma, within the Defence Science and Technology Community.

- Developed innovative software solutions using Delphi and C#, enhancing integration with Arduino microcontrollers.
- Designed and built custom mechanical keyboards within 3 weeks, including a numpad (ATmega328P) and a full keyboard (ATmega32A), both designed and fabricated using KiCad PCB design.
- Implemented data communication protocols (Serial, TCP/IP) for real-time electronic control.
- Contributed to Defence Science and Technology Community projects with consistent high performance.

Torche Education

Tangerang, Indonesia

Front-end Engineer Intern

Feb 2023 – Jun 2023

Develops Torche Blog Education website.

- Developed a responsive blog platform based on UI/UX designs using Next.js and Tailwind CSS.
- Built article viewer, category filters, search feature, responsive layout, and PWA functionality to enhance user experience.
- Integrated backend API and performed unit testing using Jest.

Project-Based Intern: Front End Developer Virtual Internship Experience X Rakamin Academy Core Initiative

Nov 2022 – Des 2022

Complete various tasks related to Front End Developer activities such as.

- Developed a responsive e-commerce frontend using Vue.js and Fetch API.
- Connect the website to an API using the Fetch API and work with two categories in the API, namely "Men's Clothing" and "Women's Clothing," with a total of 20 product types.
- Implement unit testing using Jest to ensure a bug-free and seamless user.

PROJECTS

- IoT RFID Attendance System: Designed and developed an ESP8266-based RFID attendance system integrated with an I2C LCD 16x2, buzzer, button, and RFID card reader. | [Link](#)
- Custom Mechanical Keyboard: Designed a custom keyboard PCB layout using KiCad. | [Link](#)
- Arduino Button-to-Delphi Communication: Implemented serial communication between Arduino button module and Delphi GUI for controlling UI elements based on button state. | [Link](#)
- Smart Environmental Logger: Built an IoT-based environmental monitoring system using ESP32, DHT11, MQ2, and GPS. Data (temperature, humidity, gas level, and location) is sent via HTTP POST to a Flask server and displayed in real-time on a web dashboard with an interactive map. | [Link](#)

SKILLS & TOOLS

Embedded & IoT Platforms: Arduino, Raspberry pi, ESP32, ESP8266, STM32, AVR, PLC (Basic).

Programming Languages: C, C#, Delphi, Arduino IDE, JavaScript, Python.

PCB Design Tools: KiCad.

3D Design Tools: SketchUp.

Circuit Simulation Tools: Proteus.

Protocols & Integration: UART, SPI, I2C, MQTT, HTTP/HTTPS, TCP/IP, REST API.

Tools & IDEs: Arduino IDE, Visual Studio.

Tools: Git, GitHub, Visual Studio Code, Arduino IDE.

Databases & API: MySQL, SQL Server, JSON.

EDUCATION

Trunojoyo University

Bangkalan, Indonesia

Bachelor of Science | Major in Electrical Engineering

Agu 2018 – Jan 2024

Cumulative GPA 3.50/4.0

Thesis: Design and Development of Dryer Temperature Control Using Proportional-Integral-Derivative (PID) Method.

Relevant Coursework: algorithms and programming, network and data communications, organization and computer architecture, database management, digital image processing and artificial intelligence.

CERTIFICATION

- Digital Talent Scholarship | Frontend Developer (HTML, CSS, JavaScript) | [Certificate](#)
- Dicoding Indonesia | Belajar Dasar Pemrograman Web | [Certificate](#)
- Dicoding Indonesia | Belajar Dasar Pemrograman JavaScript | [Certificate](#)
- Dicoding Indonesia | Belajar Dasar Structured Query Language (SQL) | [Certificate](#)

ACHIEVEMENT

- 3rd place in the technology sub category, category of Indonesian student entrepreneurship activities by Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi. **Nov 2021**
- 1st Winner & Best Idea Scientific Research Competition by Udayana University. **Aug 2021**
- 2nd Place in National Essay Competition "LEN" by State Islamic Institute of Madura. **Jun 2021**

ORGANIZATIONAL EXPERIENCE

Trunojoyo Robotic Team – Trunojoyo University

Mar 2021 – Mar 2022

Member of Marlena Team – Indonesian SAR Robot Contest (KRSRI).

- Coded and developed embedded systems for Arduino Nano using Arduino IDE and STM32 using Coocox IDE.
- Developed and integrated various sensors and actuators, including proximity sensors, ultrasonic sensors, SHARP infrared distance sensors, flame sensors, and servo motors.
- Collaborated with the Marlena team to design, test, and enhance robotic control systems for better performance in the Indonesian SAR Robot Contest (KRSRI).

Faculty of Engineering Student Activity Unit "Inovasi" – Trunojoyo University

Mar 2020 – Mar 2021

Head of Information and Communication Department.

- Developed work plans and departmental activities for one period.
- Provided information to members through the WhatsApp group regarding scientific writing competitions, essays, and other competitions related to scientific and non-scientific writing.
- Created more than 20+ content pieces per month on Instagram and successfully gained more than 900+ followers.