TEWODROS ABERE

Full-Stack Developer | IoT Enthusiast | Drone Hobbyist | Freelancer

+251 988 97 99 09 teddyabere444@gmail.com
https://linkedin.com/in/tewodros-abere- Bahir-dar

EDUCATION

Bachelor's degree, Computer Science 06/2021 - 02/2025

Debre Tabor University

EXPERIENCE

IOT (Drone) and full-stack software development exposure in academic projects 06/2024 - 02/2025

Debre Tabor University Debre Tabor, Ethiopia

PROJECTS

Drone Delivery Service (DDS) 06/2024 - 02/2025

Debretabor University, Debre Tabor

A Fullstack Web Application built using MERN stack with Redux state management.

- **Client-Side Application**: Built with React and Tailwind CSS, allowing users to place delivery requests, view order history, track their package and more.
- **Admin & Pilot Dashboard**: Created separate interfaces for managing delivery zones, pilot assignments, and drone control integration with live video and GPS feedback.
- **Real-Time Features**: Integrated live camera feeds and drone GPS data using MQTT and Socket.io for seamless, low-latency updates.
- **Backend System**: Developed using Node.js and Express, with MongoDB as the database to store users, orders, and drone data.
- **Role-Based Access**: Admins manage the system; pilots handle drone operations; users track deliveries.
- **Tech Stack**: JavaScript, React, Node.js, Express, MongoDB, Redux, Tailwind CSS, Socket.io and MQTT.

Custom Quadcopter Development 06/2024 - 02/2025

Debretabor University, Debretabor

An Arduino based Quadcopter designed and built for item delivery in short ranges.

- **Designed and Assembled Entire Hardware System**: Built the drone using F450-compatible parts and integrated all components including ESCs, brushless motors, propellers, power distribution board, and LiPo battery.
- **Built from Scratch** using ESP32, Arduino Uno, and Arduino Nano to manage control logic, GPS data (Neo-6M), and wireless communication (NRF24L01+).
- **Implemented PID Stabilization** to ensure stable flight performance based on real-time joystick input.
- **Real-Time Data Communication**: Used NRF24L01+ modules for robust wireless control.
- **Programming & Protocols**: C/C++, Arduino IDE, PWM, I2C, UART,SoftwareSerial.
- **Hardware Components Used**: ESP32, Arduino Uno & Nano, Neo-6M GPS module, NRF24L01+ PA LNA transceivers, 30C ESCs, 1000KV brushless motors, propellers, 11.1V LiPo battery, power distribution board, joystick module, F450 frame, servo motors and potentiometers.

STRENGTHS

Fast Learner

Quickly adapt to new technologies, frameworks, and hardware environments.

Attention to Detail

From code quality to hardware assembly, I value precision and care.

SUMMARY

Motivated and adaptable Computer Science graduate (**CGPA of 3.95/4.00**) with a passion for building solutions across full-stack development, IoT systems, and Drone Technology. Experienced in crafting real-world projects from concept to deployment, with a strong foundation in software engineering principles, embedded systems, and web technologies. A fast learner who values continuous improvement, innovation, and creative problem-solving. Open to exciting freelance opportunities and collaborations.

KEY ACHIEVEMENTS

Designed and Built a Custom Quadcopter System

Developed a functional quadcopter with a custom controller architecture using ESP32, Arduino, GPS (Neo-6M), and NRF24L01+ modules with real-time data transmission.

Developed a Full-Stack MERN Drone Delivery Service (DDS) Platform with Real-Time IoT Integration

Built a scalable MERN stack application that allows clients to place delivery orders and provides real-time management dashboards for admins and pilots. Integrated live camera feeds and GPS location tracking from the quadcopter system using MQTT and Socket.io.

Graduated with High Grades (3.95 GPA)

Achieved one of the highest academic records in Computer Science at Debre Tabor University (Gafat Institute of Technology), demonstrating deep technical understanding and strong problem-solving abilities across multiple fields.

SKILLS

Programming Languages

C++, Python, Javascript, Java, HTML, CSS

Frameworks, Tools and Databases

React, Node.js, Express, Tailwind CSS, Redux, MQTT, Socket.io, Arduino IDE, Postman, VS Code, MongoDB, MySQL

INTERESTS

Embedded Systems and robotics, Hardware Automation, Software Development, Aeronautics, Space Science, Modern Physics, Religion and History.

SKILLS

Hardware

Arduino, ESP32, NRF24L01+ PA LNA, Neo-6M GPS, ESP32 CAM module

Other Technical Skills

Typing (100+ WPM), Drone (Quadcopter) development, Software Development, Git/Github, 3D Printing, API Integration