

# Firdous Rahaman

IoT Developer | Embedded Systems | ML Engineer

✉ [firdousrahaman.tfg@email.com](mailto:firdousrahaman.tfg@email.com)

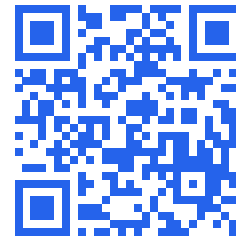
📍 West Bengal, India

🐙 [github.com/firdouscgec](https://github.com/firdouscgec)

🌐 [linkedin.com/in/firdous-rahaman](https://linkedin.com/in/firdous-rahaman)

🐦 [@Firdous\\_TFG](https://twitter.com/Firdous_TFG)

📷 [@Firdous\\_TFG](https://instagram.com/Firdous_TFG)



Scan for Portfolio

## Professional Summary

IoT developer and embedded systems enthusiast specializing in building smart connected systems using ESP32, Firebase, and machine learning. Experienced in full-stack IoT — from sensor hardware to Android dashboards. Passionate about edge AI, automation, and solving real-world problems through technology.

## Experience

### IoT Developer

*Freelance / Self-Employed*

Jun 2024 – Present

Remote

- Built 5+ complete IoT systems from sensor to dashboard
- Developed Android apps with real-time Firebase integration
- Implemented ML models on ESP32 for edge computing
- Reduced client monitoring costs by 60% through automation
- *ESP32, Firebase, Kotlin, TensorFlow Lite, Python*

### 3D Design & Prototyping Intern

*CGEC (Cooch Behar Government Engineering College)*

Jun – Sep 2024

Cooch Behar, WB

- Learned 3D modeling and design using Blender and FreeCAD
- Operated FDM 3D printers for rapid prototyping
- Designed functional parts and enclosures for engineering projects
- Earned certification in 3D Printing & Digital Design
- *Blender, FreeCAD, 3D Printing, 3D Modeling, CAD Design*

### Machine Operator & Stock Management

*WBPDS — Food & Supplies Dept., Govt. of West Bengal*

2021 – 2023

West Bengal, India

- Operated PDS distribution machinery and biometric verification systems
- Managed inventory and stock records for essential food supplies
- Ensured accurate record-keeping and timely distribution to beneficiaries
- *Machine Operation, Stock Management, Public Service, Data Entry*

## Education

### B.Tech — Electronics Communication

*Cooch Behar Government Engineering College*

2022 – 2026

Cooch Behar, India

CGPA: 7.5/10 | Coursework: Embedded Systems, DSP, ML, Computer Networks, Microprocessors, DSA

### Higher Secondary (12th) — Science

*Andaram Fulbari Harirdham High School*

2020 – 2022

Tufanang, India

Grade: 82% | Physics, Chemistry, Mathematics

Key Projects

Smart Greenhouse IoT System

Automated monitoring with ESP32, DHT22, soil sensors, Firebase & Android dashboard with real-time alerts.  
Autonomous drone with PID stabilization, obstacle avoidance & ML-based path planning on microcontroller.

Smart Energy Monitor

Real-time energy monitoring with ML-based consumption prediction using ARIMA/LSTM & cost optimization.  
Industrial equipment monitoring with vibration analysis & anomaly detection using edge AI on ESP32.

AI-Powered Drone Navigation

Predictive Maintenance System

Technical Skills

Hardware & Embedded	ESP32, Arduino, Sensors, PID Control, PCB Design
Backend & Database	Firebase, Supabase, Node.js, MQTT
Mobile & Frontend	Kotlin Android, React/Next.js, Tailwind CSS
ML & Data Science	Python, TensorFlow, ARIMA/LSTM, TFLite
Tools & Design	Blender, FreeCAD, 3D Printing, Git, Linux, VS Code, Vercel

Certifications

• 3D Printing & Digital Design — CGEC	2024	• Android Dev with Kotlin — Google	2023
• TensorFlow Developer — Google	2024	• Embedded Systems — NPTEL	2023
• IoT Specialization — Coursera	2024		