Bino J Panicker

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PROFILE

I'm a passionate Electronics and Communication Engineering student with a strong interest in IoT, embedded systems, and microcontroller-based projects. Alongside my core technical background, I'm also a skilled Web developer with experience in React.js, Tailwind CSS, JavaScript, and MongoDB focused on building clean and responsive web interfaces.

EDUCATION

Saintgits College of Engineering 2022 – 2026 | Kottayam, India
B.Tech in Electronics & Communication Engineering

PROFESSIONAL EXPERIENCE

Tessat Space Pvt LTD 2024 – 2025 | Kottayam, India
Web Developer

- Designed, developed, and maintained **TESSAT's official website** using **React.js and Tailwind CSS**, ensuring a modern, responsive, and high-performance UI.
- Led the development of a **Flight Software Application** for **real-time telemetry and data visualization** from CANSAT

Nakshatra National Level Tech Fest 2025 | Kottayam, India
Head of Web Development

- Designed and developed the **official website** for Nakshatra 2025, ensuring a **responsive, and user-friendly** interface.
- Gained over 16.3K unique visitors to the website.
- Integrated an **admin dashboard** for real-time **event analytics, participant data management, and registrations tracking**.
- Developed an **automated event pass system** with **QR codes**, enabling seamless check-ins and efficient attendee verification.

Pratitya Cultural Fest 2026 | Kottayam,Kerala
Head of Web Development

- Designed and developed the **official website** for Pratitya 2026, ensuring a **responsive, and user-friendly** interface.

SKILLS

Languages: HTML, CSS, JavaScript, Python

Frameworks & Databases: React.js, Node.js, Express.js, MongoDB, Tailwind CSS

Tools: Git,GitHub, Figma, Arduino IDE, EasyEDA

PROJECTS

Community Driven Waste Management System
Hackathon
- Developed a full-stack waste management web app with role-based access, geolocation-based reporting, media uploads, workers duty assigning and real-time admin analytics.

CanSat
Inspace CanSat Competition 2025
- Developed the hardware and software systems for a CANSAT payload in the IN-SPACe ISRO national Rocketry / CanSat competition, integrating sensors, telemetry, and a ground station for real-time data monitoring, ejection mechanism activation and recovery.

Personal Expense Tracker Web App
- Built a full-stack budgeting web app with user authentication, real-time financial tracking, category insights, and a responsive dashboard for expense management.

Restaurant Order Management Dashboard
- Developed a role-based restaurant order management system with separate Admin and Waiter dashboards, live order tracking, and responsive React-Tailwind UI integration.

Library Management Dashboard
- Built a full-stack library management system with QR/barcode-based authentication, real-time book tracking, and dual dashboards for users and admins using React and MongoDB.

Game Based Learning for Legal Literacy
Hackathon – Samvidhi 2024
- Developed a gamified web platform to educate youth on legal rights through interactive quizzes, puzzles, and story-based modules promoting social awareness.

Command Driven AI Plotter
Mini Project
- Built a command-driven AI plotter using React and Flask that converts text, voice, or image inputs into G-code for Arduino-controlled vector plotting with Gemini API integration.

Intelligent OffGrid Disaster communication Device
Hackathon - IEEE ProCom 2025
- Developed a GPS-enabled disaster communication system using MQ2 and DHT11 sensors, supporting message transmission via keypad and OLED display, with a Flask API and React-Leaflet dashboard for real-time monitoring.

Life saving Boat
- Built a life-saving boat prototype equipped with a camera and controlled remotely via Blynk IoT.
- Designed and assembled a prototype boat with onboard circuitry using the ESP32 microcontroller.
- Implemented remote navigation and control using the Blynk IoT app

Drone Based Elephant Tranquilization System
Final Project
- Developed an AI-assisted drone system for safe elephant tranquilization using YOLO-based real-time detection, live aerial monitoring, and a drone-mounted dart deployment mechanism, reducing human risk, overcoming terrain limitations, and enabling pre- and post-tranquilization animal monitoring.

Roadways – Community-Based Peer-to-Peer Delivery Platform

- Developed a MERN-stack web application enabling same-day peer-to-peer delivery by matching senders with travelers on shared routes, live tracking, OTP-secured delivery

Food-Based Expense Split Manager

- Built a full-stack expense-splitting web app with item-wise cost allocation, AI-driven bill data extraction, dynamic quantity assignment per user, configurable common charge distribution, and deterministic calculation logic with full user verification.

IoT-Based Hospital Asset Tracking & Inventory System

SOLUTIO Competition

- Developed an IoT ecosystem using Arduino Mega and ESP32 to track high-value medical equipment. Features a custom T9 multi-tap interface for data entry, RFID-based role authentication, and real-time MongoDB synchronization to prevent unauthorized equipment removal via automated alerts.

Real-time Emergency Incident Reporting & Coordination System

Hackathon - IIT Jodhpur

- Developed a full-stack emergency response platform featuring role-based access (Citizen/ Responder), geolocation-tracked incident reporting with media uploads, and a real-time WebSocket-integrated dashboard.

AI-Powered Hyper-Local Air Intelligence Platform

Hackathon - MITS

- Developed an IoT-enabled MERN platform for street-level environmental monitoring. Engineered a mobile-sensing architecture using ESP32, Bluetooth bridge, and Spatial AI to generate high-resolution city-wide heatmaps. Integrated Leaflet with a custom weighted routing algorithm to prioritize "Health-First" navigation based on real-timeCO_2 and PM2.5 levels.

PRIZES

First Prize On Prayoga'26 Hackathon

saintgits College of Engineering

First Prize On Nirman Hackathon

chinmaya viswadeepam

Second Prize on SOLUTIO Competition

IEEE RFID Chapter Kerala

Third Prize On Development Hackathon

Indian Institute of Technology (IIT), Jodhpur

Second Best Electronics Department Project

Sristhi 2026 saintgits College of Engineering