

Bino J Panicker

✉ binojohnpanicker@gmail.com ☎ 8590640433 🔗 Portfolio 🌐 LinkedIn

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 frontend developer with experience in React.js, Tailwind CSS, and JavaScript, focused on building clean and responsive web interfaces.

EDUCATION

Saintgits College of Engineering 10/2022 – 06/2026 | Kottayam, India
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.

Keltron Trivandrum, India
2 Week Internship

- Gained hands-on experience in **IoT, computer networks, microprocessors, and microcontrollers**.
- Worked with **ESP32 development boards**, learning **pinout configuration** and coding using **Arduino IDE**.
- Explored **sensor and actuator integration** for IoT applications.
- Developed a foundational understanding of **embedded systems** and **hardware and software**.

SKILLS

Languages: HTML, CSS, JavaScript

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

Tools: GitHub, Figma, Arduino IDE, EasyEDA

PROJECTS

Community Driven Waste Management System

Hackathon -iHack 2025

- Developed a full-stack web application to enable community reporting and management of waste issues, promoting environmental sustainability.
- Implemented role-based authentication (User, Admin, Superadmin) with JWT and bcrypt for secure access control.
- Built user dashboard with React and Tailwind CSS to submit reports with media uploads, track report statuses, and view admin replies.
- Designed admin dashboard for real-time analytics, report management, and media replies (before/after images) using Express and MongoDB.
- Integrated geolocation for precise issue reporting and heatmap visualization for issue tracking

Personal Expense Tracker Web App

A personal finance tracker to manage budgets, monitor spending, and visualize income-expense.

- Developed a full-stack budgeting tool with user login/registration and a real-time dashboard to track income, expenses, and transfers.
- Added features like category-based budgets, balance updates, and smart alerts when limits are exceeded.
- Designed pages for financial reports and transaction history with filters, sorting, and category insights.
- Enabled users to edit budgets, manage entries, and export transaction data with a clean and responsive UI.

Restaurant Order Management Dashboard

Web App for restaurant order placement, tracking, and staff coordination.

- Implemented secure role-based login with separate dashboards for Admin and Waiter, ensuring smooth access control and user experience.
- Admin dashboard includes live order tracking with sortable columns, date-based filtering, and paginated order listings for efficient review.
- Built a dedicated Waiter dashboard to place new orders, view live order status, and manage order lists in a responsive layout.
- Used React (Vite) for fast rendering, Tailwind CSS for styling, Axios for API integration

Library Management Dashboard

A web application for efficient library operations and user-book interaction

- Developed a dual-login system (Admin and User) with QR/barcode-based authentication for seamless access and book transactions.
- Implemented user-friendly dashboards: Users can borrow, return, or renew books via scanning or manual entry; Admins manage inventory, track transactions, and filter analytics.
- Integrated real-time book availability search, shelf location display, and automated email alerts for due dates.
- Built using React (Vite), MongoDB, and integrated webcam-based barcode scanning for seamless user experience.

Game Based Learning for Legal Literacy

Hackathon – Samvidhi 2024

- Designed and developed a web-based platform to educate youth on legal rights and laws through gamified learning experiences.
- Implemented interactive modules including a crossword puzzle, short quiz challenges, and a story-mode game with branching choices to enhance engagement.

- Focused on simplifying legal concepts into short, level-based gameplay for better retention and accessibility.
- Developed under the theme "Gamification for Social Change," addressing the lack of legal awareness among young individuals.

Command Driven AI Plotter

Mini Project

- Developed a multi-input plotter system that accepts **text, voice, and image inputs** to generate vector-based drawings.
- Integrated **Gemini API** to dynamically generate images when no local database match is found.
- Controlled stepper motors through an Arduino setup for accurate plotting, driven by processed G-code commands.
- Built using **React (frontend)** and **Python Flask (backend)**

Intelligent OffGrid Disaster communication Device

Hackathon - IEEE ProCom 2025

- Built GPS-enabled transmitter nodes with MQ2 and DHT11 sensors for location and environmental data, equipped with a keypad for composing or selecting messages and an OLED for on-site display.
- Built a long-range wireless sensor network for fast, low-latency communication between field devices and the base station.
- Implemented a Flask backend with REST API to process and serve live sensor readings.
- Designed a React + Leaflet dashboard for real-time map visualization and historical data logs.

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**, enabling live feedback and commands.