

Jophin Babu

Full-Stack Developer Specializing in React Native, React JS, Node.js, FastAPI, Python, Machine Learning

Summary

I am a developer who loves bridging the gap between raw data and seamless user experiences. My expertise lies at the intersection of full-stack engineering and artificial intelligence. Over the past year, I've taken complex problems—like digitizing critical blood bank workflows, detecting road defects using computer vision, or analyzing massive financial datasets—and turned them into live, high-performance solutions. Whether I am training a custom YOLOv8 model to map road damage in real time, building predictive ML models that yield a +17.45% profit, or developing secure React Native apps for medical staff, my goal is always the same: to architect intelligent, data-driven systems that make a tangible, real-world impact.

EXPERIENCE

Jescon Technologies *July 2025 – Present*
Software Developer *Thrissur, Kerala*

- Architected a scalable cross-platform mobile architecture using React Native, reducing app load time by 30%.
- Spearheaded the integration of secure REST APIs, ensuring 99.9% reliable data synchronization for critical healthcare modules.
- Deployed the BloodLink production app at Amala Hospital, actively used by 50+ medical staff to manage blood inventory.
- Optimized database queries for the Blood Bank Management system, improving search retrieval speeds by 40%.
- Led code reviews and mentored junior developers on React Native best practices.

Inmakes Infotech Pvt. Ltd. *May 2025 – Aug 2025*
Python Full Stack Intern *Ernakulam, Kerala*

- Engineered full-stack CRUD applications with Django and React, implementing Role-Based Access Control (RBAC).
- Optimized frontend responsiveness, increasing user retention metrics by 25% across web portals.
- Collaborated in an Agile environment to deliver 3+ major feature modules ahead of schedule.
- Conducted comprehensive code reviews, enforcing strict linting standards and improving code maintainability.

Red Team Hacker Academy *Aug 2024 – Sep 2024*
Security Intern *Remote*

- Executed rigorous vulnerability assessments and penetration testing on 5+ web applications.
- Authored detailed security audit reports providing actionable mitigation strategies to patch SQL injection and XSS vulnerabilities.
- Implemented security best practices in application development workflows.

PROJECTS

RoadGuard AI — Automated Road Defect Detection System

- Built an end-to-end **edge-to-cloud computer vision pipeline** to automate road infrastructure inspection for civic authorities — designed, trained, and deployed entirely independently.
- Tech:** YOLOv8, React Native, FastAPI, React.js, PostgreSQL (PostGIS), AWS EC2.
- Trained a custom **YOLOv8** model (Google Colab, T4 GPU) detecting 4 defect classes: potholes, longitudinal cracks, alligator cracks, and faded zebra crossings.
- Built a **React Native** Android agent that captures GPS-tagged frames at 1fps from a vehicle-mounted phone and streams them to the backend with zero user interaction.
- Engineered a **FastAPI** inference server with PostGIS spatial storage; only detections above 60% confidence are persisted for data integrity.
- Developed a live **React.js + Leaflet** command dashboard with color-coded severity markers and click-through defect imagery; validated on real roads in Thrissur, Kerala.

Tata Trading AI Engine

📞 (+91) 7356066391

✉️ jophin735@gmail.com

🌐 [linkedin.com/in/jophin-babu](https://www.linkedin.com/in/jophin-babu)

📄 github.com/jophinbabu

EDUCATION

Christ College of Engineering
B.Tech – Computer Science & Engg.
CGPA: **7.2** 2021 – 2025

St. Mary's School, Irinjalakuda
Higher Secondary (Science / +2)
Score: **94%** 2021

Don Bosco School, Irinjalakuda
SSLC (Class X)
Result: **Full A+** 2019

SKILLS

Frontend & Mobile

React.js, React Native, Redux, TailwindCSS, HTML5, CSS3, Bootstrap

Backend

Node.js, Express.js, Django, FastAPI, Socket.io, RESTful APIs

Languages

JavaScript (ES6+), TypeScript, Python, SQL

Databases

MySQL, PostgreSQL (PostGIS), MongoDB, SQLite, Firebase

Cloud & DevOps

AWS (S3, EC2, IAM, RDS), Docker, Git, GitHub, Postman

AI/ML & Data

YOLOv8, LightGBM, Scikit-learn, TensorFlow, Pandas, NumPy, OpenCV

Tools & Methods

Agile/Scrum, Jira, Figma, VS Code

DOMAINS

GovTech & Smart Cities Healthcare
Finance & Trading Communication
Education Cybersecurity

CERTIFICATIONS

Python Full Stack Development
Inmakes Infotech Pvt. Ltd.
Cert No: IN/C036639/2025 Sep 2025

PERSONAL DETAILS

Nationality: Indian
DOB: 29 May 2002
Gender: Male
Status: Single
Location: Thrissur, Kerala

- End-to-end quantitative trading system for the Indian stock market, converting a base loss into a **+17.45% profitable strategy**.
- **Tech:** React, FastAPI, Python, LightGBM, Pandas, Zerodha Kite API.
- Architected a custom Confidence Threshold Optimizer; developed LightGBM predictive model utilizing 33 technical indicators; deployed real-time dashboard.

BigChat — Real-time AI-Powered Messaging Platform

- High-performance chat application supporting real-time messaging and presence for hundreds of concurrent users.
- **Tech:** MERN Stack, Socket.io, WebRTC, Google Gemini AI.
- Developed platform architecture; integrated AI smart auto-replies; implemented secure WebRTC video calling; hardened security with JWT and AES encryption.

BloodLink — Blood Bank Management System (Live Production)

- Robust mobile solution digitizing the entire blood donation workflow for Amala Institute of Medical Sciences. Registered by more than 2000+ donors.
- **Tech:** React Native, Spring Boot, MySQL.
- Implemented QR-code donor tracking; automated expiry alerts reducing wastage by 15%; designed automated PDF certificate generation.

LANGUAGES

English Malayalam Hindi Tamil

ACHIEVEMENTS

- Built **RoadGuard AI** independently — a full-stack CV pipeline (mobile → inference → live map) tested on real roads in Thrissur, Kerala.
- Reduced app load time by **30%** through React Native architecture optimization.
- Converted a loss-making trading strategy into a **+17.45% profitable** AI-driven system.
- BloodLink deployed in **live production** at Amala Hospital, used daily by 50+ medical staff.
- Achieved **72% forecast accuracy** on a financial ML model trained on limited historical data.
- Improved search retrieval speeds by **40%** via targeted database query optimization.

INTERESTS

AI-assisted development Computer Vision
LLM API integration UI/UX Design
GovTech & Smart Cities AI & ML

Budget Management & Forecasting

- Regression-based ML application to forecast financial trends from historical spending data; achieved **72% forecast accuracy**.
- **Tech:** Python, Scikit-learn, Pandas, SQL.
- Performed end-to-end data preprocessing, feature engineering, and hyperparameter tuning on spending datasets.

Automatic Exam Seating System

- Automated system handling complex exam seating arrangements for academic institutions; reduced planning time from days to minutes.
- **Tech:** React, Node.js, MongoDB.
- Designed constraint-based algorithms handling room capacity and student branch distribution dynamically.