Shagnik Paul

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PROFILE

I am a 3rd-year Computer Science student at VIT Vellore with a focus on full-stack web development and strong foundations in core CS concepts. I actively apply Java-based OOP and data structures to build scalable web applications and solve algorithmic problems using DSA. I enjoy working in collaborative environments and contributing as a dedicated, problem-driven team member.

EDUCATION

Vellore Institute of Technology (VIT) — Vellore, India
B.Tech in Computer Science and Engineering (IoT Specialization), CGPA (5th Semester): 9.34 — *Expected Apr 2027*

St. Joan's School (CISCE) — Kolkata, India
Class XII – 95.75%   —   Class X – 96.0% — *Apr 2022*

PROJECTS

Unity Help (Full Stack Web App – React + Firebase) | Github — 2025
- Individually developed a volunteer-help platform connecting 20+ test users, allowing users to post requests and volunteers to sign up for assistance.
- Built a responsive frontend using **React**, **Chakra UI**, and **Tailwind**, achieving sub-1s average load time across devices.
- Integrated **Firebase Authentication** with Google sign-in for secure and seamless user access.
- Configured **Firebase Firestore** to manage user posts, volunteer profiles, and task records with real-time synchronization.
- Implemented email notifications via **Brevo's JavaScript SDK** to notify users upon task acceptance and send automated completion acknowledgements.

Automated Toll Collection System (Full Stack Web App) | Github — 2024
- Collaborated in a 3-member team to automate toll collection using Arduino and camera-based vehicle detection for 50+ test vehicles.
- Developed backend services using **FastAPI** and **MongoDB**, processing 500+ license plate records with **EasyOCR** at 90% accuracy.
- Built a React-based frontend with **Chakra UI** and near real-time updates using TanStack Query.
- Designed an analytics dashboard to display vehicle history, toll summaries, and QR-based billing details.

TECHNICAL SKILLS

Core CS Concepts: Data Structures and Algorithms (Java), Object-Oriented Programming, Database Management Systems
Programming Languages: Java (Intermediate, OOP, Collections, DSA), JavaScript, Typescript Python, C++, C
Frontend: React, TanStack, Shadcn Components, Chakra UI, HeroUI, Flowbite, HTML, CSS
Backend: Flask, Express.js, FastAPI, Node.js, Firebase, Supabase, MongoDB
DevOps & Containers: Docker (basic commands, containerizing web servers and databases, multi-service integration using Docker Compose)

EVENTS PARTICIPATION

Yantra Central Hackathon | *Backend Developer & UI/UX Designer (Team of 5)* | Certificate — March 2025
- Built a Flutter-based waste classification app during a 36-hour hackathon enabling recyclable exchange for rewards.
- Designed 8-screen UI/UX flow in **Figma** for core application features.
- Developed backend APIs using **Flask** and **MongoDB**, integrating an ML model and securing endpoints with **Supabase** authentication.

CERTIFICATIONS

Full Stack Web Developer Bootcamp (Udemy) | *Colt Steele* | Certificate — 2024 – 2025

LANGUAGES

English (Fluent), Hindi (Fluent), Bengali (Native)