

Sahil Kumar

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portfolio

Education

Indian Institute of Information Technology, Una
B.Tech in Electronics and Communication Engineering

2023 – Present
CGPA: 7.04

Technical Skills

Languages: C, C++, Python, JavaScript, TypeScript, SQL

Web Development: Node.js, Express.js, RESTful API, Authentication & Authorization (JWT), MongoDB, PostgreSQL, React.js, Redux, HTML, CSS, TailwindCSS

DevOps & Tools: Git, Docker, Postman, VPS Deployment, Linux CLI

Core CS: Data Structures & Algorithms, OOP, DBMS, Software Engineering

Experience

Software Development Intern — Rawyal

Node.js, Express.js, JavaScript, Python, Multer, ImageMagick, LibreOffice

- Engineered a **multi-format document processing pipeline** supporting Office, PDF, HTML, and image transformations, reducing external API dependency and improving processing speed by **35%** using local conversion engines.
- Built asynchronous job-processing workflows in Node.js to manage parallel document conversions, decreasing request blocking time by 40% during peak workloads.
- Developed **Python modules for structured PDF-to-DOCX and Excel extraction**, enabling consistent data conversion and reducing manual correction effort by 30%.
- Implemented secure file upload and format validation, reducing invalid file processing failures by 25%.
- Designed retry handling and failure isolation logic for conversion tasks, preventing system-wide crashes and improving reliability under malformed inputs.

Projects

LifeFlow – Real-Time Blood Donation Platform

GitHub | Live

MERN Stack, MongoDB Geospatial Indexing, Twilio API

- Designed a geospatial donor-matching system using **MongoDB 2dsphere indexing**, improving emergency donor search performance by 50% compared to non-indexed queries.
- Developed role-based **RESTful APIs with JWT authentication**, middleware validation, and centralized error handling to secure sensitive medical workflows.
- Implemented an **asynchronous SMS alert pipeline** with retry logic and failure handling, increasing notification reliability during network failures.
- Built real-time monitoring dashboards tracking request volume, donor engagement, and response trends to improve coordination during emergencies.

FarmFresh – AgriCommerce Platform

GitHub | Live

MERN Stack, Redux, Cloudinary, Gemini API, Recharts

- Developed a full-stack agri-commerce platform supporting buyer-seller workflows with protected routes and dynamic dashboards.
- Implemented persistent authentication and Redux state architecture, reducing session-related user issues by 30%.
- Built an AI-assisted crop advisory module using structured prompt pipelines and response parsing for context-aware recommendations.
- Created analytics dashboards visualizing order trends and sales insights to enable data-driven tracking of activity.

Achievements

- Rated 3-Star on CodeChef.
- Solved 300+ Data Structures and Algorithms problems.
- Global Rank 2200 in LeetCode Weekly Contest 372.

Positions of Responsibility

Event Coordinator, EPMOC Club – IIIT Una

Oct 2025 – Present

- Coordinated technical and cultural events for 100+ participants, managing logistics, scheduling, and coordination.