

VINAY KUMAR

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SKILLS

- **Languages:** C++, TypeScript, JavaScript, Python
- **Backend:** Node.js, Express.js, REST APIs, Socket.io (WebSockets), JWT Authentication, Mongoose, BullMQ, Redis
- **Frontend:** React, Next.js, Tailwind CSS, HTML, CSS
- **Databases:** MongoDB, PostgreSQL, Firebase
- **Cloud & DevOps:** AWS EC2, Docker, Linux, Nginx, PM2, Git, GitHub Actions, SSH

PROJECTS

VeggieMap | Hyperlocal Vendor Tracking Platform

[GitHub](#) | [Live](#)

- Fresh produce street vendors lose sales due to a reliance on routine schedules and random foot traffic, while consumers lack visibility on when local carts will arrive in their neighborhood.
- Architected a real-time, hyperlocal tracking platform using Next.js, Node.js, and MongoDB. Implemented a 30-second server-side write debounce for GPS pings and partitioned broadcast traffic into 1-degree geospatial Socket.io rooms to protect database and server bandwidth.
- Bridged the visibility gap by delivering a zero-latency live map, enforcing a strict 5km geospatial rendering limit (via native 2dsphere \$near pipelines) to guarantee consumers only see immediately actionable data.

SMS Gateway | Android-Based Telecom Infrastructure

[GitHub](#) | [Live](#)

- Traditional SMS API providers (like Twilio) are expensive, charge recurring SaaS fees, and lock developers out of utilizing unmetered, existing cellular plans.
- Engineered a distributed full-stack system featuring a React dashboard, Node.js/Express API, and a native Kotlin Android worker. Intelligently queued SMS payloads (10kb max) using BullMQ/Redis and triggered background dispatches via Firebase Cloud Messaging (FCM) to eliminate battery-draining polling.
- Achieved a highly resilient, zero-SaaS-fee telecom infrastructure capable of managing 1,000 SMS dispatches per day per user, guaranteeing zero-delay background delivery with a strict 2-minute maximum SLA.

WebPull AI | AI-Powered Documentation Scraper

[GitHub](#) | [Live](#)

- Extracting and standardizing structured data from dynamic, constantly changing documentation websites is a manual and error-prone process.
- Developed a full-stack documentation extraction platform using Next.js, Express.js, and Crawlee to scrape dynamic websites and convert content into structured Markdown for seamless integration.
- Integrated the Google Gemini API to automate URL discovery and generate AI-assisted documentation summaries, utilizing Server-Sent Events (SSE) and JSZip to package and stream results in real time.

CERTIFICATIONS

- **AWS Certified Solutions Architect – Associate** — Amazon Web Services [Link](#)
- **AWS Certified Cloud Practitioner** — Amazon Web Services [Link](#)
- **Cloud Computing** — NPTEL, IIT Madras

ACHIEVEMENTS & ACTIVITIES

- **Coding:** Solved 250+ algorithmic problems on LeetCode covering arrays, graphs, trees, dynamic programming, and binary search.
- **Leadership:** Active member of the PR and Outreach team for the university's Health-O-Tech club, managing community engagement.

EDUCATION

VIT Bhopal University, Bhopal

B.Tech in Computer Science & Engineering (AI and ML)

Sep, 2023 - Present

CGPA : 8.92 / 10.00