

# Avnish Kumar

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## Summary

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Software Engineer with experience in building scalable systems, backend APIs, and high-performance applications using **Java**, **Golang**, **TypeScript**, and **Node.js**. Strong foundation in Data Structures & Algorithms, database design, and concurrency patterns. Demonstrated ability to optimise latency, automate workflows, and architect secure multi-service systems through government projects and national hackathon wins.

## Skills

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- **Programming Languages:** Java · TypeScript · Python · Golang · SQL
- **Backend:** Node.js · SpringBoot · Microservices · REST APIs · Authentication · WebSockets
- **Databases:** PostgreSQL · MongoDB · VectorDB
- **Systems & Concepts:** DSA · Concurrency · Distributed Systems · Caching · CI/CD · Performance Optimization
- **Tools & Platforms:** Docker · Git/GitHub · Linux · Postman · Cloud (AWS basics)

## Work Experience

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### Software Developer Intern — Government of India (June 2025 – September 2025)

- Developed a **custom ENC Viewer** web application using React.js for geospatial data visualisation.
- Built **7+ GIS tools** (measurement, buffer analysis, attribute extraction, export utilities) used by **internal analysts to accelerate spatial operations by ~40%**.
- Accelerated spatial operations by designing an optimised GIS processing module with buffer and measurement algorithms in JavaScript + Turf.js

## Education

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### Guru Gobind Singh Indraprastha University - (Nov 2022 - May 2026)

B.Tech, Artificial Intelligence and Data Science

### Sarvodaya Bal Vidyalaya, R-Block Mangolpuri - (2021) - Senior Secondary(XII)

## Projects

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### Secure Multi-LLM SaaS Platform

Next.js, Express.js, FastAPI, MongoDB Atlas, FAISS, Auth0, Gemini API, Langchain |

- Built a secure **multi-tenant** multi-LLM SaaS platform with FastAPI and spaCy for data sanitisation and a FAISS-based retrieval pipeline.
- Integrated the **Gemini API** as the primary LLM and implemented role-based access using **Auth0/RBAC**.
- Developed a real-time chat UI in Next.js using Zustand and optimised data flow across services.

### Multi-Site Product Search And Benchmarking Platform

A backend-focused project that automates product searches across multiple e-commerce platforms using web crawlers.

- Created web crawlers to extract product data from multiple e-commerce websites.
- Implemented intelligent **filtering and comparison logic** to benchmark products across platforms.
- Reduced price comparison runtime from **minutes to seconds** using **parallel scraping (Promise.all)**.

### SDI2025.in – Smart Delhi Ideathon 2025 Web Portal

Official event portal facilitating registrations, event details, and real-time updates.

- Developed the official event portal for registrations, event updates, and announcements.
- Built a secure SQL backend for handling registrations and optimised UI for SEO and performance.

## Accomplishments

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- **Smart India Hackathon 2024 Finalist** (Problem Statement: PS-1682)
- **Hackcbs 8.0 MLH Track Winner**
- Recognised as **Top 5** in various national hackathons