

KARAN GUPTA

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LinkedIn

Github

Leetcode

Portfolio

EDUCATION

University Institute of Technology RGPV

B.Tech - Computer Science and Engineering

2022 – 2026

Bhopal, Madhya Pradesh

EXPERIENCE

Accra Tequipment ↗

June - August 2025

Role - Full Stack Developer Intern

Bangalore

- Contributed to a multi-tenant academic platform with **Next.js** and **Express.js**, implementing **30+ RESTful API endpoints** with **MongoDB** aggregation pipelines.
- Built an **AI-powered** question paper generation system using **Llama-8b** and **Mistral-7B**, supporting **5+ question formats** with automated answer key creation.
- Developed a results processing module with **real-time analytics dashboards** and automated grade card generation using **React-PDF renderer**.
- Implemented **policy-based authentication** with digital answer sheet workflow, enabling **PDF upload**, student mapping, and online evaluation.
- Collaborated with cross-functional teams to **gather requirements**, **design system architecture**, and deliver **scalable solutions** for academic institution workflows.

D4X Technology

December 2024 - March 2025

Role - Frontend Developer Intern

Bangalore

- Built a CSV analysis platform with **React.js** enabling users to upload files, answer dynamic queries, and receive automated insights, reducing dependency on data analysts.
- Developed a multi-step form interface with dynamic question rendering based on CSV structure and **optimized state management** for seamless navigation.
- Collaborated with backend teams to design **RESTful APIs** for CSV processing and analytics generation, ensuring seamless frontend-backend integration.

Freelance Experience ↗

Role - Frontend Developer

Remote

- Developed a high-performance landing page with **GSAP animations** and **Lenis smooth scrolling**, improving user engagement metrics.
- Implemented responsive design across **10+ breakpoints**, ensuring optimal viewing experience from mobile to **4K displays**.
- Optimized **component architecture** and asset loading for **fast page performance** across all device types.

TECHNICAL SKILLS

Languages: Python, C++, JavaScript, SQL

Technologies: HTML, React.js, Next.js, Tailwind CSS, MongoDB, MySql, Node.js, Express.js

Cloud & DevOps: GitHub, Docker, GitHub Actions, Kubernetes, AWS EC2, Linux, CI/CD

PROJECTS

Scalable URL Shortener ↗ | Node.js, MongoDB, Cassandra, Redis, Docker, Minikube, ZooKeeper

- Architected a **distributed URL Shortener** with **independent Auth, URL, Redirect, and API Gateway microservices** for **horizontal scalability**.
- Implemented **Snowflake algorithm** with **ZooKeeper** coordination for collision-free distributed ID generation across service instances.
- Integrated **MongoDB for authentication**, **Cassandra (Astra DB)** for **high-throughput URL storage**, and **Redis** for sub-millisecond caching with TTL-based expiry.
- Built a React.js dashboard with JWT authentication and **API Gateway routing** for seamless URL management across distributed services.

Online Learning Platform ↗ | React.js, Node.js, MongoDB, Express.js, Docker, Kubernetes Live Link

- Built a full-stack platform with role-based dashboards, secured using **JWT authentication**, and integrated **Razorpay payments** for seamless course enrollments.
- Developed scalable **RESTful APIs** with optimized database queries and implemented **Redux state management**, reducing page load time by 45% and improving API response performance.
- Containerized & deployed the platform on **AWS EC2** with **Kubernetes** (k3s), automating **CI/CD** pipelines via **GitHub Actions** and Docker Hub.

Synapse - AI-Powered Second Brain ↗ | Semantic Search, Transformers.js, Chrome Extension

- Built an **intelligent bookmark alternative** capturing web content with context, solving forgotten ideas scattered across 1000+ browser bookmarks using AI-powered semantic search.
- Implemented **vector embeddings with Transformers.js** enabling natural queries like "AI articles from last month", understanding meaning beyond keyword matching with high relevance.
- Developed **domain-based memory recall** with floating icons **automatically surfacing** saved content when revisiting websites, creating context-aware browsing.
- Architected full-stack system with **Chrome extension and Express backend**, featuring **offline-first sync**, vector similarity search (sub-200ms for 1000+ items), and auto-tagging.
- Designed intelligent capture with **auto-context extraction**, storing rich metadata in MongoDB with **384-dimensional embeddings** for semantic retrieval.

Predictcare AI ↗ | ML Models, Medical Chatbot, React.js, Node.js, Docker, CI/CD

[Live Link](#)

- Trained and validated **ML-powered** disease prediction models with 88%+ accuracy for **heart, diabetes**, and **Parkinson's detection**, trained on 20,000+ records.
- Reduced diagnosis waiting time by 90% using **AI Health Assessment & Medical Chatbot** with instant responses under 2 seconds.
- Designed responsive React dashboard for **medical history tracking** with real-time reports.

Insureflow ↗ | Python, Scikit-learn, MongoDB, Docker, React.js, GitHub Actions

[Live Link](#)

- Built an end-to-end **MLOps pipeline** predicting insurance purchase likelihood with 92% accuracy.
- Architected containerized microservices with Docker, and **automated deployments** via **GitHub Actions**, reducing model update time from 2 hours to 5 minutes.
- Pipeline enables **higher accuracy in identifying potential insurance customers** compared to traditional targeting methods.

Smart Event Booking System ↗ | React.js, Node.js, MySQL, Socket.IO, JWT

[Live Link](#)

- Developed a real-time event booking platform with **Socket.IO** for instant **seat availability updates**, preventing overselling through **MySQL** row-level locking and transactional operations.
- Built RESTful APIs with JWT authentication, role-based access control, and **admin dashboards** for comprehensive event and booking management.
- Implemented **WebSocket event rooms** with atomic database operations, reducing booking conflicts and ensuring **data consistency** across concurrent users.

AWS Resource Usage Tracker ↗ | Bash, AWS CLI, Node.js, GitHub Actions, Nodemailer

- Developed an automated AWS resource tracker using **Bash, AWS CLI**, and **Node.js**, monitoring EC2, S3, Lambda, and IAM with daily email reports.
- Implemented **CI/CD automation** with **GitHub Actions cron jobs**, enabling **scheduled resource monitoring** and **automated email delivery** via **Nodemailer**.
- Secured **AWS credentials** using **GitHub Secrets** and configured multi-region resource tracking with instance state and IP monitoring.

ACCOMPLISHMENTS

- Achieved a Global Rank of 894 in LeetCode Weekly Contest 466 ↗.
- Achieved a maximum rating of 1711 on LeetCode ↗.
- Solved 950+ problems on LeetCode, Codeforces ↗, GeeksForGeeks ↗.