

Avesh Pathak

Software Developer · DSA, OOP, Backend APIs & Production Systems

Hyderabad, Telangana, India

linkedin.com/in/avesh-pathak
github.com/avesh-pathak
iamaveshpathak@gmail.com
+91 86888 59027

Professional Summary

B.Tech Computer Science graduate with strong **programming fundamentals**, solid **Data Structures and Algorithms (DSA)**, and a working command of **Object-Oriented Programming (OOP)**, **debugging**, and **code optimization**. As Founding Software Engineer at NextGen-CTO, I develop, test, debug, and maintain **live production systems**, **backend APIs**, and services (**3 platforms**, **2M+ requests per month**, **100% uptime**), writing **clean, efficient, reusable, and maintainable code** backed by **5000+ automated tests**. Comfortable with **Git and version control**, **code reviews**, and the full **software development lifecycle**. Strong **analytical and problem-solving skills**, and eager to learn industry-standard practices through mentorship from senior developers in a **collaborative engineering environment**.

Skills

Languages	C, TypeScript, JavaScript (ES6+), Python, SQL
CS Fundamentals	Data Structures and Algorithms (DSA), Object-Oriented Programming (OOP), Problem Solving, Analytical & Logical Reasoning, Debugging, Code Optimization, Software Development Fundamentals
Backend & APIs	Node.js, FastAPI, Flask, REST APIs, Backend Services, Authentication, RBAC, Rate Limiting, Caching, Third-party Integrations
Frontend	React.js, Next.js, Tailwind CSS, shadcn/ui, Performance Tuning
Data & Infra	PostgreSQL, MySQL, Supabase, MongoDB, Firebase, Schema Design, Indexing, Pagination, Query Optimization, Monitoring, Vercel
Engineering Practice	Git/GitHub, Version Control, Unit Testing, Pre-commit Hooks, Code Reviews, Troubleshooting, Scalability & Reliability, System Design, Technical Hiring, Mentoring
AI & Analytics	Gemini API & LLM integration, prompt design, voice AI (Vapi), custom analytics/event tracking, AI coding assistants

Work Experience

- NextGen-CTO (Bengaluru) | SDE Intern to Founding Software Engineer** [Live Demo](#) | Feb 2026 – Present
- Develop, test, debug, and maintain **3 live production applications (React/Next.js, Node.js, PostgreSQL)** end to end: design, schema, development, testing, deployment, and support. Scaled them to **2M+ requests per month** at **100% uptime** with **zero API failures or critical incidents**.
 - Improved **performance, reliability, and scalability** using **caching, database indexing, pagination, API rate limiting, and production monitoring**; with query **code optimization**, cut API response times by **~40%**.
 - Built **backend APIs** and services: **PostgreSQL (Supabase) schemas, REST APIs, RBAC, authentication, payments, transactional email, and third-party integrations**.
 - Wrote **clean, reusable, and maintainable code** with **5000+ test cases** enforced by a **pre-commit hook**, so every commit is validated and regressions are caught before they reach the repository (**Git workflow**).
 - Troubleshoot application issues and debug to root cause** across the frontend, API, and database layers; use **AI coding assistants** across the SDLC, validating every suggestion before it ships.
 - Built a **custom analytics engine** that records user activity across the platforms, giving the team first-party usage data.
 - Conduct **code reviews**, lead **technical hiring**, and **mentor interns**; set infrastructure and tooling spend and run **student and college workshops**.
- Hexagon Consultancy Services | AI Intern | Remote** Jul 2025 – Aug 2025
- Built a **real-time AI voice bot using Vapi** to automate hotel bookings, customer queries, and reservations, with **backend services, APIs, and dashboards** for call logs, bookings, and bot performance.
 - Iterated on conversational flows and integrations using performance data, supporting **production-oriented** automation.

Projects

- Algorithm Laboratory | Data Structures & Algorithms, Visualization**
- Built an interactive visualizer covering **18 algorithm topics** (sorting and more), animating each as a factory machine moving numbered boxes on a belt, with live counters for **comparisons, swaps, and passes** to make **algorithm complexity and optimization** visible.
- LMS Platform | React, Node.js, MongoDB, Razorpay** [Live Demo](#)
- Built a multi-role learning platform with **Student and Mentor workflows**, protected routing, and **role-based access control** across dashboards and **REST APIs**.
 - Shipped **meeting sessions, squads, dashboards, and tracking sheets**, plus an **Excel/CSV ingestion engine**; added **Firebase Cloud Messaging** notifications and **Razorpay** payments.
 - Handled **8,000+ page visits** on Vercel, using **indexing, pagination, and caching** (with **MongoDB schema design**) to keep dashboards fast under load.
- LegalEase AI | HTML, CSS, JavaScript, Gemini API** [Live Demo](#)
- Built an **AI legal assistant** where users upload **PDFs** and ask questions about them, powered by the **Gemini API** with plain-language answers.
 - Added **clause extraction, risk highlighting, and summarization**; asynchronous workflows improved review efficiency by **40%** and response accuracy by **35%**.
 - Built an **audio diarization and role-labeling pipeline** that turns courtroom recordings into structured, speaker-wise insights.

Education

GITAM University B.Tech, Computer Science and Engineering CGPA: 8.24/10.0	Hyderabad, India Aug 2022 – May 2026
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Leadership & Achievements

- Selected for **Amazon ML Summer School 2025**.
- Secured **3rd place** in an online YouTube hackathon among **80+ teams** as a solo participant (**Jan 2025**) | [Hackathon Video](#).
- Led the team to secure **Top 5** in the college-level **SIH Hackathon (Sep 2024)** | [SIH Proof](#).