Sanskriti Tyagi

📍 Delhi, India ✉ Gmail 📞 +91-9560297606 💼 LinkedIn GitHub 🌐 Portfolio

Final-year CSE student with hands-on experience building backend and full-stack applications using Python, C++, Node.js, and AWS. Worked on performance-focused systems including caching and search, with exposure to load testing, CI/CD, and cloud deployments. Strong fundamentals in DSA, databases, and core computer science.

Education

Vellore Institute of Technology, India   **2022 – 2026**
B.Tech in Computer Science & Engineering (CSE) | **CGPA: 8.48/10**
Relevant Coursework: DSA, OS, DBMS, OOP, Computer Networks, Distributed Systems, Cloud Computing

Kendriya Vidyalaya, Kamla Nehru Nagar Ghaziabad   **2019 – 2020**
AISSCE (Class XII) | **88.2%**

Key Skills

Programming: Python, C++, JavaScript
Backend: Node.js, Express, REST APIs
Databases: PostgreSQL, MongoDB, SQL, SQLAlchemy
Cloud: AWS (EC2, S3), Docker, Git Actions(CI/CD)
AI & Search: OpenAI API, embeddings-based semantic search
Tools: Git, VS Code, Streamlit, Load Testing (k6, JMeter)

Selected Projects

Distributed Cache System | **Node.js, Docker, AWS EC2, k6**   **Nov 2025**

- Designed and implemented a distributed in-memory cache to reduce database reads under concurrent traffic, using request sharding with LRU and TTL-based eviction.
- Load-tested the system using k6, identified routing and async request-handling bottlenecks, and sustained ∼**6K requests/sec** on an EC2 instance with stable latency under load.
- Simulated cache node failures and analyzed basic health checks and traffic rerouting to evaluate system behavior and minimize request loss during failure scenarios.

Time Travelers Archive | **React, Node.js, MongoDB, AWS EC2, OpenAI API, GitHub Actions**   **Jan 2025**

- Built a document search service to explore semantic retrieval using vector embeddings, indexing **5K+ documents** and supporting keyword and similarity-based queries.
- Identified slow query paths during search requests and improved average API latency by ∼**20%** through schema restructuring and query-level optimizations.
- Added authentication and automated backend deployment using JWT and GitHub Actions, deploying updates to AWS EC2 to reduce manual release errors.

LeetCode Practice Tracker | **Python, SQLAlchemy, PostgreSQL, Streamlit**   **Oct 2024**

- Built a personal analytics dashboard to track problem-solving attempts, accuracy trends, and difficulty distribution over time.
- Optimized database queries and indexing during migration to **AWS RDS PostgreSQL**, achieving ∼**30%** lower query latency.
- Directed rule-based insights to identify weak topics using historical attempt data.

Achievements

- Secured **2nd place** among **50+ teams** in a hackathon for an ML-based rockfall prediction project.
- Solved **250+ DSA problems** across LeetCode, GFG, and CodeChef.

Certifications

- SMARTBRIDGE: MERN Full Stack Developer
- IBM: GenAI using Watsonx
- IIT Kharagpur (NPTEL): Cloud Computing (Elite, Top 5%)
- Google: Computer Networking (Coursera)

Leadership & Extracurricular

Fintech Club | **Social Media Team Lead**   **Jan 2024 – Present**

- Increased engagement by **50%** by tracking post-level metrics and iterating on content strategy.
- Led university events with **150–200+ participants** and secured **Rs. 50,000** in sponsorships.