Athrv Mittal

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Education

VIT Bhopal University **Aug. 2022 – May 2026**
B.Tech in Computer Science - CGPA:8.73 *Bhopal, India*

Technical Skills

Languages & Tools: C++, Python, Java, JavaScript, HTML, CSS, SQL, Git, VS Code, Excel
Data Analysis Libraries: NumPy, Pandas
Frameworks & Technologies: React, Node.js, Express.js, Spring Boot, Jira
Databases & CS Fundamentals: MongoDB, PostgreSQL, Spring Data JPA, Data Structures and Algorithms
Cloud: Basic AWS (S3, SQS, DynamoDB), Apache Kafka, REST APIs, JUnit

Experience

Escorts Kubota Ltd. **June 2025**
Industrial Trainee *Faridabad, Haryana*

- Analyzed a 3,600-row vehicle dataset using Excel and Python (Pandas, NumPy) to identify performance patterns.
- Applied data cleansing methodologies to identify and document data quality issues, including outliers and null values.
- Presented data-driven insights on vehicle efficiency, focusing on the analytical process and data storytelling.

IgniteU Learning Ventures Pvt. Ltd. **Mar 2025 – Apr 2025**
Software Development Intern *Noida, Uttar Pradesh (Hybrid)*

- Enhanced a Java/Spring Boot microservice by implementing metric logic and refactoring a critical N+1 query issue.
- Accelerated Kafka consumer bug resolution by isolating, reproducing a critical JSON parsing error in the data pipeline.
- Developed comprehensive unit tests with JUnit Mockito, mocking JPA repositories to validate new business logic.

Projects

Vercel-Style Cloud Deployment Platform | *AWS SQS, S3, Node.js, Express, DynamoDB, React* **May 2025**

- Implemented cloud deployment platform with 3 core services: Upload, Deployment, and Request Handler.
- Engineered async workflows via AWS SQS & S3 storage for GitHub cloning, secure builds and static hosting.
- Established Node.js backend in Express, simple-git, Dynamo DB for deployment lifecycle and status tracking.
- Built React frontend for repo submission, deployment status polling, and post-build URL generation.
- Reduced build-trigger times to under 10s by optimizing repo cloning, builds, and static asset delivery.

Efficient Flight Itinerary Optimizer | *Graph Algorithms, Data Structures* **Aug 2024 – Nov 2024**

- Developed multi-criteria flight planner using BFS & Dijkstra for streamlined routes by connections, cost and time.
- Modeled real-world constraints (20-min layovers, ≤ 100 flights/city) with $O(m)$ & $O(m\log m)$ efficiency.
- Attained less than 50ms latency via calibrated graph adjacency lists and heap queues for instant route generation.
- Orchestrated scalable solution handling 10k+ flights for real-time travel planning rivaling commercial systems.

High-Performance Task Scheduler for Trading Systems | *System Design, Data Structures* **Dec 2024**

- Built a heap-based task manager achieving $O(\log W + \log T)$ scheduling complexity for real-time trade execution.
- Designed worker-to-strategy mapping achieving sub-millisecond routing for 1000+ concurrent trading signals.
- Implemented priority-based signal routing based on expected alpha, ensuring highest-edge trades execute first.
- Built auto-balancing system redistributing workload across 10+ strategy engines by throughput optimization.

Achievements

- **Competitive Programming:** Achieved a 1400+ rating on Codeforces (Specialist) and 1750+ on LeetCode (Top 10%), solving over 1000 DSA problems.

- **AWS Certifications:** Earned AWS Academy Graduate badges for Cloud Foundations and Cloud Architecting.

Leadership and Extracurricular Activities

Google Summer of Code Club – VIT Bhopal **Jan 2025 – Present**
Founding Member and Technical Lead *VIT Bhopal*

- Spearheaded the establishment of the GSoc Club at VIT Bhopal, mentoring over 50 members in competitive programming, enhancing technical capabilities for future contributions.