

# Athrv Mittal

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## Education

### VIT Bhopal

Bachelor of Technology in Computer Science (GPA: 8.69)

Expected May 2026

Bhopal, Madhya Pradesh

- **Relevant Coursework:** Data Structures and Algorithms (C++), Prob & Stat in CS (Python), Intro to CS II (C++), Linear Algebra w/Computational Applications (Python)

## Experience

### GSoc Club – VIT Bhopal

Founding Member and Technical Lead

Jan 2025 – Present

Hybrid

- Led technical initiatives, mentoring 50+ members in competitive programming, resulting in a 30% increase in active participation.
- Organized 3+ large-scale hackathons with 200+ participants, strengthening the club's presence in the technical community.
- Formulated structured training programs, improving members' coding performance by 40% in university-level contests.

## Projects

### Flight Planner | Python, Graph Algorithms, Object-Oriented Design

- Engineered an advanced flight planning system optimizing routes for minimum flights and cost efficiency, reducing travel time by 30% on average.
- Implemented graph-based algorithms with  $O(m \log m)$  complexity, ensuring optimal route calculations for real-world flight connections.
- Enhanced system scalability and efficiency, supporting thousands of flight connections with real-time updates.

### Digital Library System | Python, Hash Tables, Custom Hash Functions

- Engineered a high-speed digital library indexing tool using custom-built HashMap and HashSet, enabling 50% faster keyword searches.
- Instituted adaptive data structure management for high-traffic network nodes, trimming average latency by 18 milliseconds and reducing server resource consumption by 22% during peak hours.

### Treasure Quest: The Straw Hat Crew | Python, Heap Data Structures, Scheduling Algorithms

- Developed a priority-based scheduling system using custom heap structures, enhancing task allocation by 35%.
- Implemented priority queue algorithms, ensuring optimal workload balancing and faster task execution.
- Increased system throughput by 25% through optimized scheduling and resource management techniques.

## Technical Skills

**Languages:** C, C++, Python, JavaScript, SQL

**Technologies:** Flask, Flask-SocketIO, Git, Docker, HTML, CSS, Bootstrap, Firebase, Figma (UI/UX)

**Concepts:** Data Structures, Algorithms, Dynamic Programming, Graphs, Object-Oriented Programming, RESTful APIs, Database Design, Multithreading, Machine Learning, Scheduling Algorithms

## Achievements

**NPTEL Elite+Silver Certification:** Cloud Computing with top 5% rank globally

**Specialist rank on Codeforces:** Rating of 1400+

**Ranked in top 11% globally on LeetCode:** 1700+ rating

## Social Engagements

**Founding-Member:** Of the GSoc Club at VIT Bhopal

**Sports-Engagements:** Marathons, Badminton