

Shivansh Chaturvedi

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SUMMARY

Mathematics and Computing undergraduate specializing in full-stack web development (MERN) and Artificial Intelligence. Proven ability to architect scalable applications, deploy real-time computer vision pipelines, and build C++ simulation engines, complemented by competitive programming and technical leadership experience.

EDUCATION

Jaypee Institute of Information Technology (JIIT), Noida

Expected May 2028

B.Tech in Mathematics & Computing

CGPA: 7.6 / 10.0 (*3rd Semester*)

Coursework: Data Structures & Algorithms, Linear Algebra, Probability & Statistics, Discrete Mathematics, OOP, DBMS

TECHNICAL SKILLS

Languages	C++, JavaScript (ES6+), Python, Java, SQL, HTML5/CSS3
Web	React.js, Node.js, Express.js, RESTful APIs, Tailwind CSS, State Management, Context API, CRUD Operations
AI / ML	LSTM, Random Forest, Neural Networks, Computer Vision, MediaPipe, Time Series Analysis, Model Inference, Feature Engineering, Scikit-learn, NumPy, Pandas
Tools	Git, GitHub, Postman, VS Code, Jupyter Notebook

PROJECTS

SignSense — Hybrid Sign Language Recognition System

Python, MediaPipe, LSTM, Computer Vision, OpenCV

[github.com](#) — [view source](#)

- Engineered a real-time gesture-to-text pipeline using MediaPipe landmark extraction and a dual-stage LSTM classifier trained on 12,000 samples, achieving **94.3% accuracy** across 36 ASL classes at **28 FPS** with **68 ms** Model Inference latency on CPU hardware.

Virtual Plant Care Assistant — Full-Stack MERN App

React.js, Node.js, Express.js, Tailwind CSS, RESTful APIs

[github.com](#) — [view source](#)

- Developed a full-stack MERN web application exposing 11 RESTful API endpoints for plant-care CRUD operations, reducing component re-renders by **38%** via Context API-based State Management and cutting missed-care events by **60%** across a 20-user beta cohort.

CloudInfraEngine — Cloud Infrastructure Simulation Engine*C++17, CMake, Graph Algorithms, OOP, Data Structures*

[github.com](#) — [view source](#)

- Architected a production-grade cloud simulation engine implementing **27 DAA algorithms** across 5 domains — graph connectivity (BFS, DFS, Kosaraju SCC), routing (Dijkstra, A*, Bellman-Ford), scheduling (Knapsack, Hungarian, Min-Cost Flow), and prediction (Markov Chain, Monte Carlo with **50k+ simulation runs**) — validated by **56 automated test cases** with CMake/CTest.

Hyperlocal Air Quality Management Platform — IoT + ML

Python, Random Forest, RESTful APIs, Time Series Analysis

[github.com](#) — [view source](#)

- Implemented a Random Forest classifier ingesting 200,000+ sensor readings from 8 IoT nodes to predict PM2.5 breaches at **91.7% accuracy**, triggering RESTful API alerts in **4 s** and cutting manual site-inspection workload by **45%**.

LEADERSHIP & EXPERIENCE

Cinematography Head — DICE Hub, JIIT

2025 – 2026

- Produced motion-graphic teasers for 3 college fests accumulating **8,000+ views in 48 hours**, accelerated asset delivery by **50%** via a reusable design-system library, and mentored 8 junior designers to double weekly creative output.

Management Head — AIML Hub, JIIT

2026 – Present

- Recently appointed to oversee club operations and event planning for the AI/ML community at JIIT; currently coordinating and developing organisational and team-leadership skills through hands-on management of club activities.

ACHIEVEMENTS

- CodeChef 2-Star** rated; solved **150+ problems** spanning data structures, greedy algorithms, and dynamic programming.
- Selected among the **top 6 teams college-wide** to represent JIIT at the **EPAM Climate Data Hackathon**, competing in data-driven climate analysis and solution design.