

Sumit Joshi

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EDUCATION

Graphic Era Hill University, Dehradun
B.Tech - Computer Science & Engineering (AI & ML) – CGPA: 7.63/10

2023 – 2027
Dehradun, Uttarakhand

EXPERIENCE

Freelance Software Developer
Full-Stack Developer & Automation Engineer

Dec 2023 – Mar 2024
Dehradun, Uttarakhand

- Automated end-to-end browser testing workflows using **Playwright** and **Selenium**, reducing manual QA effort by 60% across 3 client projects
- Developed RESTful web applications with **FastAPI** and **React**, integrating **Redis** caching that improved average API response times by 40%
- Grew from single-client projects to managing 4 client engagements end-to-end – requirements gathering, feature development, deployment, and post-launch support

PROJECTS

ChessHero – Multiplayer Chess Platform | Next.js, TypeScript, PostgreSQL, Socket.io GitHub
Feb 2025

- Architected a multiplayer chess platform using **Next.js** and **Socket.io**, building on prior real-time experience to enable game creation, matchmaking, and live board state synchronization
- Designed a **PostgreSQL** schema with indexed queries for game history and leaderboard rankings; created a web scraper aggregating chess resources from 7+ external sources

Hellum – Autonomous Campus Tour Robot | Python, Raspberry Pi, Pinecone, Gemini API, RAG GitHub
Jan 2025

- Designed and assembled an autonomous robot on **Raspberry Pi**, programming sensor fusion with ultrasonic sensors and a camera module to navigate campus with 95% obstacle avoidance accuracy
- Implemented a **Retrieval-Augmented Generation** pipeline using **Pinecone** vector database and **Gemini API**, enabling the robot to answer location-specific queries in under 2 seconds

AI-Powered Gesture Control System | Python, TensorFlow, MediaPipe, OpenCV GitHub
Aug 2024

- Trained a hand gesture recognition model using **TensorFlow** and **MediaPipe**, achieving 90% classification accuracy at 24 FPS on live video
- Optimized inference latency by 35% through model quantization, enabling deployment on a **Raspberry Pi** for real-time home automation control

Lavender – Real-Time Chat Application | MongoDB, Express.js, React, Node.js, Socket.io, JWT GitHub
Oct 2023

- Developed a full-stack real-time messaging app on the **MERN stack**, implementing **Socket.io** for instant bidirectional communication – first hands-on project with WebSockets
- Secured user sessions with **JWT**-based authentication and persisted chat history in **MongoDB**, supporting 50+ concurrent connections with live notification delivery

TECHNICAL SKILLS

Languages: Python, C/C++, Java, JavaScript, TypeScript, SQL
Frameworks & Libraries: React, Next.js, Express.js, FastAPI, Django, Node.js, Socket.io, TensorFlow, PyTorch, Scikit-learn
Databases & Cloud: PostgreSQL, MongoDB, Redis, Pinecone, AWS (EC2)
Developer Tools: Git, GitHub, Docker, CI/CD, Linux, REST APIs, WebSockets, Postman
Concepts: Data Structures & Algorithms, System Design, OOP, RAG Pipelines, Agile/Scrum

CERTIFICATIONS

- Machine Learning Specialization** – Stanford University / Coursera
- AWS Cloud Essentials** – Amazon Web Services
- Introduction to DevOps** – IBM / Coursera
- Programming with JavaScript** – Meta / Coursera

ACHIEVEMENTS & EXTRACURRICULAR

- Published Research Paper** (2025) – “V-IPDS: A Vision-based Insect Predator Detection System for Beehive Monitoring Using YOLOv11n”; applied deep learning for agricultural pest detection
- IEEE Matrix Hackathon Finalist** (2025) – Led a 4-member team to the finals, presenting a working prototype to a panel of industry judges
- Graphethon 2.0 Finalist** (2024) – Advanced to finals in a national-level hackathon by GEU, competing against 500+ participants across India
- NSS GEHU Volunteer** (2023 – Present) – Progressed from participant to coordinator, organizing community service drives and social outreach programs