

Suveer Kartik Upasani

Pune, India | +91-94230 43271 | suveerupasani@gmail.com

<https://www.linkedin.com/in/suveer-k-upasani/>

<https://github.com/Suveer-Upasani>

Computer Science Student | Full-Stack AI & Backend Systems Engineer

Professional Summary

Computer Science student focused on backend systems, AI-driven applications, and scalable cloud architectures. Experienced in building real-time computer vision pipelines, ML inference systems, and API-based backend services using FastAPI and cloud infrastructure. Strong interest in distributed learning systems and production-grade AI deployment.

Research Publication

- **Federated Machine Learning for Skin Lesion Diagnosis** 2025
• *Privacy-Preserving Medical AI Framework (ConvNeXt + Vision Transformers)*
 - Proposed hybrid ConvNeXt + Vision Transformer architecture for multi-class skin lesion classification in a federated learning setting
 - Achieved **89.2% test accuracy** and **0.886 Macro F1-score** on distributed medical imaging datasets
 - Integrated FedAvg, Differential Privacy, and Secure Aggregation enabling HIPAA/GDPR-compliant decentralized training

Experience

- **AI/ML Research & Development Intern** Dec 2025 – Present
• *Reticulo Sport Technology Pvt. Ltd.* Remote
 - Built FastAPI-based inference services for real-time sports analytics and computer vision pipelines
 - Designed low-latency video processing system for frame-wise inference and athlete tracking
 - Worked on backend architecture for scalable AI-driven analytics platforms
- **DevOps Intern** Jan 2025 – Jun 2025
• *Cloudbury Tech* Remote
 - Implemented AWS-based deployment pipelines with CI/CD automation using GitLab
 - Built Docker-based containerized deployment workflows for scalable backend services
 - Supported backend infrastructure optimization and cloud resource management
- **Computer Vision Intern** May 2025 – July 2025
• *Instajoy* Remote
 - Developed real-time virtual try-on system using OpenCV and MediaPipe-based pose estimation
 - Integrated ML pipelines with backend services for real-time inference workflows
 - Optimized system performance for low-latency execution in production-like environments

Education

- **B.Tech in Computer Science (Expected)** 2025 – 2028
• *DES Pune University* Pune, India
- **Diploma in Computer Engineering** 2022 – 2025
• *MIT World Peace University* Pune, India

Technical Skills

- **Programming:** Python, Java, C++, JavaScript, SQL
- **Backend Systems:** FastAPI, Flask, REST APIs, System Design Basics
- **AI/ML:** PyTorch, TensorFlow, Scikit-learn, Computer Vision
- **Advanced ML:** Federated Learning, Differential Privacy (research experience)
- **Computer Vision:** OpenCV, YOLOv8, MediaPipe
- **Cloud & DevOps:** AWS (EC2, S3, Lambda), Docker, Git, GitLab CI/CD
- **Databases:** PostgreSQL, MySQL, SQLite
- **Systems:** Real-time inference pipelines, ML API deployment

Selected Projects

- **PosePro Movement Intelligence System (Flagship Project):** Real-time biomechanics analysis system using pose estimation for movement scoring and injury risk detection. Designed modular FastAPI backend handling real-time video inference pipelines with low-latency constraints.
- **Real-Time Football Tracking System:** Built YOLOv8 + SORT based multi-player tracking system processing live video streams with modular CV pipeline architecture.
- **Industrial Defect Detection Platform:** Developed anomaly detection system with FastAPI backend and real-time visualization dashboard for inference results.
- **Assistive AI System:** Designed object detection pipeline integrated with backend API for real-time assistive applications.

Achievements & Certifications

- **Winner:** MIT-WPU Hackathon (among 500+ teams)
- **Showcase:** COEP MindSpark Project Selection
- **Hackathons:** Smart India Hackathon, NASA Space Apps Challenge
- **Certifications:** AWS Technical Essentials, GitLab CI/CD, DataDog Monitoring

Leadership & Activities

- **AWS Cloud Club Captain** – Leading cloud initiatives and mentoring peers in AWS and system design
- **Technical Member** – AWS Cloud Club MIT-WPU, conducted workshops on cloud and backend systems