Aarav Mehta

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Summary

AI/ML engineering student with hands-on experience in computer vision, deep learning, and building end-to-end ML pipelines. Built CNN-based medical image classifiers, real-time gesture recognition applications, and model explainability workflows (Grad-CAM). Comfortable with Python, TensorFlow/Keras, OpenCV, and scikit-learn.

Education

B.Tech — Computer Science (AI/ML) — XYZ Institute of Technology, Pune (2022 – 2026)
Relevant coursework: Machine Learning, Deep Learning, Data Structures, Probability & Statistics

Technical Skills

Programming: Python, C++ (basics), SQL (basics)
AI/ML: Supervised learning, CNNs, transfer learning, model evaluation (precision/recall/F1, ROC-AUC)
Computer Vision: OpenCV, MediaPipe, image preprocessing, real-time video pipelines
Frameworks/Tools: TensorFlow, Keras, scikit-learn, Git/GitHub, Jupyter

Projects

Chest X-ray Pneumonia Detection (CNN + Grad-CAM) | Python, TensorFlow/Keras (Oct 2025)

- Trained a CNN classifier to detect pneumonia from chest X-ray images with systematic preprocessing and augmentation.
- Evaluated performance using precision, recall, F1-score, confusion matrix, and ROC-AUC; documented error cases.
- Implemented Grad-CAM heatmaps to visualize regions influencing predictions and improved interpretability for demo.

Hand Gesture Media Controller | Python, OpenCV, MediaPipe (Aug 2025)

- Built a real-time gesture recognition pipeline using MediaPipe hand landmarks and an OpenCV webcam stream.
- Mapped gestures to playback controls (play/pause, next/previous, volume) with debounce logic for stability.
- Optimized for low latency by resizing frames and reducing unnecessary computations.

Resume Screening & Skill Matching Engine (NLP) | Python, spaCy, scikit-learn (Dec 2025)

- Developed a text-processing pipeline to parse job descriptions and resumes to extract skills and keywords.
- Implemented similarity scoring (TF-IDF + cosine similarity) to rank candidates and generate match explanations.
- Added preprocessing steps: stopwords removal, lemmatization, and custom skill dictionary expansion.

Experience

ML Intern (Remote) — VisionLabs (Startup) (Jun 2025 – Aug 2025)

- Assisted in training and evaluating image classifiers using transfer learning (MobileNet/VGG).
- Created experiment logs and compared model versions using metrics and validation curves.
- Contributed to dataset cleanup scripts and basic automation using Python.

Achievements

- Finalist (Top 20) — College-level Hackathon 2025 for building a real-time computer vision prototype.
- Solved 200+ problems on coding platforms (DSA basics: arrays, strings, recursion).