Prayag Ravindra Adage

Computer Vision & AI/ML Engineer
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Summary

Computer Vision Engineer with hands-on experience developing and deploying deep-learning and image-processing systems for industrial inspection and real-time applications. Experienced in Python, PyTorch, OpenCV, YOLO, object detection, image segmentation, image preprocessing, and embedded deployment. Experienced across the computer vision pipeline from data collection and image acquisition to model development, evaluation, and hardware integration. Interested in applying computer vision and AI to robotics, automation, and real-world perception systems.

Education

Bachelor of Engineering – Artificial Intelligence & Data Science 2022 – 2026
Marathwada Mitra Mandal's College of Engineering, Pune | Savitribai Phule Pune University *CGPA:* 8.59

Experience

Machine Learning Engineer Jan 2025 – Jul 2025
Codeflow Studios

- Engineered and deployed a MobileNetV3-based deep learning model for automated crack detection and severity grading on construction walls, enabling real-time assessment on embedded hardware.
- Automated manual structural-inspection workflows end-to-end (data collection, augmentation, training, evaluation, deployment), reducing client inspection costs by 25% and time-on-site per assessment.

Computer Vision Engineer Aug 2025 – Feb 2026
Global Infinite Green Power (GIGP), Solapur — R&D Team

- Automated the segregation of coconut shells from mixed waste using computer vision; collected and preprocessed an image dataset covering four types of coconut.
- Trained the vision model, achieving 99% accuracy, 99% precision, and 98% recall.
- Developed the segregation software, deployed it on an edge AI device, and integrated the model with the conveyor and rejection hardware to automate the system.

Machine Vision Engineer — Industrial Inspection Jun 2026 – Sep 2026
Bisleri — Research & Industry Collaboration

- Spearheaded an automated bottle-inspection system for real-time particle and external-defect detection on a moving conveyor, achieving ∼98% detection accuracy at 1–2% false-alarm rate.
- Evaluated and integrated industrial NIR/monochrome cameras, optics, and illumination; delivered a production-ready Python/OpenCV pipeline integrated with conveyor sensing hardware.

Research & Projects

Eye Disease Detection System – Affordable Diagnostic Tool for Rural India GitHub
Python, PyTorch, MobileNetV3, OpenCV, Albumentations *Research Project*

- Led a 6-person interdisciplinary research team; engineered a MobileNetV3-Large image-classification pipeline trained on 85,000 retinal images, improving accuracy from 60% to 93%.
- Designed the pipeline for deployment on low-cost hardware, enabling affordable computer vision-based retinal screening.

Virtual Fitness Assistant – AI Posture Correction for Mobile GitHub
Python, TensorFlow Lite, YOLO, OpenCV, MediaPipe *Patent Filed (2022)*

- Developed a YOLO-based real-time object-detection and posture-correction pipeline for mobile deployment, improving accuracy from 68% to 94.45% across 12 posture classes.
- Resolved class imbalance through targeted data augmentation and loss-weighting techniques.

Technical Skills

Programming & Data	Python, SQL, Pandas, NumPy, Data Analysis, Predictive Modeling, Statistical Analysis
Computer Vision & DL	OpenCV, PyTorch, YOLO, MobileNetV3, Object Detection, Image Segmentation, MediaPipe, Pose Estimation
Machine Learning	Scikit-learn, XGBoost, LightGBM, Model Evaluation, Feature Engineering
Engineering & Deployment	Git, Docker, REST APIs, Flask, Process Automation

Achievements & Leadership

- **1st Place, HackFusion 1.0 International Hackathon** (Healthcare & Fitness) and **1st Place, PICT International Hackathon**, Pune; **2nd Place**, State-Level Hackathon, MIT College of Railway Engineering.
- **Research Team Lead:** Directed technical execution across interdisciplinary research collaborations in computer vision and drug discovery with teams of 6–7 members.
- **AI & Data Science Club:** Delivered workshops and mentoring sessions on AI/ML fundamentals for peer students.