Vedant Sanjay Chavan

Computer Vision & AI Engineer

Profile

Computer Vision & AI Engineer with deep expertise in machine vision, image processing, and model deployment. Experienced in object detection, segmentation, and inspection using OpenCV, PyTorch, and YOLO. Skilled in real-time implementation with FastAPI, ONNX, and Docker. Strong foundation in algorithm development and cross-functional collaboration for automation and quality control systems.

Employment History

Research Intern at HELLA GmbH & Co. KGaA, Lippstadt

August 2023 — February 2024

- Developed and deployed YOLOv8-based models achieving 90% mAP for nighttime object detection.
- Collaborated with a cross-functional team to annotate over 7,000 images, elevating dataset quality by 25% .
- Engineered stereo-vision algorithms that increased object localization accuracy by 30% compared to baseline methods.
- Optimized AI models for ONNX conversion and deployment, reducing inference time and improving real-time perception.

Projects

Master Thesis- Deep Stereo Vision for Nighttime Driving Scenes, Lippstadt

April 2024 — November 2024

- Designed a lightweight CNN-based depth estimation model using PyTorch framework achieving 85% accuracy in nighttime scenarios.
- Generated synthetic training data using Unreal Engine 5, simulating diverse driving conditions.
- Integrated model enhancements that outperformed conventional methods by 30% in detection accuracy.

PaDiM-based Anomaly Detection using ONNX, Lippstadt

March 2025

- Extracted multi-level features from MobileNetV3 and computed Mahalanobis-based anomaly scores at pixel level.
- Exported the feature extractor to ONNX and performed inference using ONNX Runtime for cross-platform compatibility.
- Visualized anomalies with heatmaps and binary masks using images from the MVTec AD dataset.

Details

Lippstadt
Germany
vedantchavan097@gmail.com

Date of birth
27.01.1997

Nationality
Indian

Links

ChatBot
LinkedIn
Portfolio

Skills

Python, MATLAB, C++ (Basic)

Object Detection, Segmentation & Tracking

PyTorch, TensorFlow

Stereo Vision, LiDAR, Depth Estimation

ONNX Runtime

Docker, AWS, CI/CD Pipelines

Unreal Engine 5

Languages

Hindi

English

German

Hobbies

Chess, Drawing

Predictive Maintenance Using XGBoost, Lippstadt

December 2024 — January 2025

- Developed an XGBoost-based classifier using sensor data for equipment failure prediction.
- Preprocessed features, trained the model, and achieved ~98% accuracy.
- Visualized confusion matrix and feature importances to analyze model insights.

Education

M.Eng. in Engineering Sciences, Technische Hochschule Rosenheim, Rosenheim

October 2021 — November 2024

Diploma in Advanced Computing, Centre for Development of Advanced Computing (C-DAC), Pune

September 2020 — April 2021

B.Tech. in Mechanical Engineering, Vellore Institute of Technology, Vellore

July 2015 — June 2019