



Vedant Sanjay Chavan

AI and Computer Vision Engineer

vedantchavan097@gmail.com | 59555 Lippstadt, Germany

vedantsanjaychavan.de | linkedin.com/in/vedant-chavan-97ml

PROFILE

AI & Computer Vision Engineer with hands-on experience developing image-based perception systems, optimized deep learning pipelines, and robust stereo vision solutions. Proven track record in object detection, semantic segmentation, 3D localization, and deploying scalable models on edge platforms. Adept at bridging the gap between research and deployment in automotive and industrial domains.

EMPLOYMENT HISTORY

Forvia HELLA

Master Thesis Researcher

Apr 2024 – Nov 2024 | Lippstadt

- Designed and implemented a stereo vision model using autoencoders and cost volume fusion, resulting in a 3% depth error and 95% accuracy in 3D object localization.
- Generated synthetic training data with Unreal Engine 5 to account for camera/environmental variations.
- Developed modular Python pipelines for data preprocessing, trained PyTorch models, and deployed optimized ONNX models for real-time application.

Computer Vision Intern (AHEAD Project)

Aug 2023 – Feb 2024 | Lippstadt

- Managed and annotated over 5,000 images using Roboflow, ensuring high-quality data for model training.
- Deployed YOLOv8 for object detection, reducing errors by 20% and boosting real-time accuracy to 90% in difficult settings.
- Fine-tuned stereo cameras for precise vehicle coordinate mapping via homography.
- Enhanced model performance with ONNX Runtime, achieving below 70ms latency; ensured model robustness through testing with adversarial augmentations.

EDUCATION

M.Eng. in Engineering Sciences - Mechatronics


Oct 2021 – Nov 2024 | Rosenheim

Technische Hochschule Rosenheim 

Thesis in collaboration with Forvia HELLA on stereo vision

B.Tech. in Mechanical Engineering

Jul 2015 – May 2019 | Vellore

Vellore Institute of Technology 

TECHNICAL SKILLS

Programming & Frameworks

Python, PyTorch, TensorFlow, OpenCV, ONNX Runtime

ML Ops & Deployment

Docker, FastAPI, REST APIs, ONNX export, Git, CI/CD (GitHub Actions), AWS

Computer Vision

Object detection, segmentation, stereo depth estimation, anomaly detection

Data & Simulation

Pandas, NumPy, Roboflow, LabelImg, Unreal Engine 5 (synthetic data)

LANGUAGES

English

C1

Marathi, Hindi

Native

German

B1

PROJECTS

Pixel-Wise Defect Segmentation Using U-Net

- Developed a custom U-Net-style segmentation model for pixel-wise defect detection in high-resolution print images; achieved ~98% precision.
- Dockerized pipeline for fast QA inspection deployment and reproducibility.
- Integrated basic visualization tools for operators.

Industrial Anomaly Detection with PaDiM

- Implemented PaDiM using MobileNetV3 feature extraction and Mahalanobis distance-based scoring.
- Trained on MVTec AD dataset; achieved localized pixel-wise detection of anomalies.
- Exported model to ONNX for accelerated inference and compatibility with runtime environments.

Cloud-Hosted Real-Time Detection & Segmentation Pipeline

- Built an instance segmentation system using YOLOv11 and FastAPI for REST-based inference.
- Containerized the application with Docker, deployed on AWS EC2 via ECR.
- Automated deployment using GitHub Actions and CI/CD best practices.

COURSES

Diploma in Advanced Computing [↗](#)

Centre for Development of Advanced Computing (C-DAC)

Machine Learning Specialization [↗](#)

Coursera

ADDITIONAL INFORMATION

Immediate availability

Open to relocation across Europe