Vedant Sanjay Chavan

AI ENGINEER

Details

Lippstadt
Germany
vedantchavan097@gmail.com

NATIONALITY

Indian

DATE OF BIRTH

27.01.1997

Links

vedantsanjaychavan.de

Linkedin

ChatBot

Languages

German- B1

English- C1

Hindi, Marathi- Native

Hobbies

Chess, Drawing

Profile

AI Engineer with expertise in machine learning, computer vision (object detection, segmentation, depth estimation) and deep learning. Proven record in developing and deploying AI models using Python (PyTorch/TensorFlow) and cloud platforms (Google Cloud, Azure) for scalable solutions. Experienced in building stereo vision systems for autonomous applications and NLP-driven chatbots, consistently achieving 90%+ accuracy and driving significant performance improvements.

Skills

- **Programming & Tools:** Python, C++, TensorFlow, PyTorch, ONNX, FastAPI, Docker, Git
- **AI & Machine Learning:** Deep Learning (CNNs, Vision Transformers), Computer Vision (Image Segmentation, Object Detection, Stereo Depth Estimation), NLP & LLMs, Data Analytics
- **Cloud & MLOps:** Google Cloud Platform, AWS, Azure; Model Deployment (Docker, ONNX Runtime); CI/CD for ML, Data Pipelines
- **Data Science Techniques:** Data Preprocessing, Data Augmentation, Model Evaluation, Adversarial Testing, Benchmarking

Employment History

AI Research Engineer (Intern), HELLA GmbH & Co. KGaA, Lippstadt

AUGUST 2023 — FEBRUARY 2024

- Developed AI-driven object localization models for autonomous lighting systems, working closely with hardware and software teams.
- Designed and deployed ONNX runtime models to improve AI integration into real-time vehicle systems.
- Built cross-functional workflows between the hardware team (camera rigs, LED headlamps) and software team (control modules) to optimize object detection for adaptive lighting.

Master Thesis – Deep Stereo Vision for Nighttime Driving, HELLA GmbH & Co. KGaA, Lippstadt

APRIL 2024 — NOVEMBER 2024

- Designed a CNN-based depth estimation model using PyTorch, achieving 90% accuracy in low-light scenarios.
- Implemented synthetic data generation using Unreal Engine 5, enhancing training data diversity.
- Contributed to research and development, providing data-driven insights for improved model performance.

Projects

Conversational AI Chatbot with RAG & LLM Fine-Tuning

FEBRUARY 2025

- Built DeepSeek-based conversational AI using LangChain & FAISS for retrieval-augmented responses.
- Deployed the system on Hugging Face Spaces, integrating FastAPI & Docker for scalable inference.
- Optimized search & retrieval, reducing response latency by 40%.

Defect Detection in Prints using U-Net CNN, Rosenheim

FEBRUARY 2023 — MAY 2023

- Designed and trained a U-Net convolutional neural network to detect printing defects from images, achieving ~95% accuracy in classifying defects vs. normal prints.
- Built an end-to-end pipeline processing over 1,000 images/day, including image preprocessing and batch inference, which improved quality inspection efficiency by 25%.
- Implemented real-time dashboards for the manufacturing line, providing instant feedback on detected defects and ensuring compliance with quality standards.

Education

M.Eng. in Engineering Sciences, Technische Hochschule Rosenheim

OCTOBER 2021 — JANUARY 2024

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

JULY 2015 — JANUARY 2019

Certifications

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

SEPTEMBER 2020 — APRIL 2021

Machine Learning- Stanford University, Coursera