

Abhinesh V

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Summary

Machine Learning Engineer with hands-on experience in ML, Deep Learning, NLP, and Computer Vision. Built real-world projects like self-driving simulations, medical image diagnosis, semantic search, and speech-enabled PDF summarizer apps. Skilled in PyTorch, TensorFlow, AWS, and end-to-end system design

Experience

Software Engineer <i>Freelance</i>	<i>Bengaluru, India</i> <i>Jan 2024 – present</i>
Web Developer Intern <i>MotionCut Pvt Lmt</i>	<i>Bengaluru, India</i> <i>Nov 2023 – Dec 2023</i>

◦ Integrated speech recognition feature to allow users to ask questions orally.
◦ Initiated transition from frontend development to ML applications with Python-based data pipelines.

◦ Created an e-commerce web app with real-time product updates using MongoDB and asynchronous APIs.
◦ Gained hands-on experience with scalable backend integration and real-time data handling.

Projects

Self-Driving Car Simulation with YOLO Object Detection (CARLA Simulator)	github ↗
◦ Built an autonomous driving system using CARLA simulator and YOLOv5 for real-time object detection. ◦ Deployed YOLOv5 to detect vehicles, pedestrians, and traffic signals in real-time. ◦ Used OpenCV and PyTorch to handle real-time video processing and model inference.	
Pneumonia Detection from Chest X-rays using CNN	github ↗
◦ Developed a deep learning model to detect pneumonia from chest X-ray images with high accuracy. ◦ Built and trained a Convolutional Neural Network using PyTorch. ◦ Preprocessed and augmented image data from the NIH Chest X-ray dataset. ◦ Achieved over 90% validation accuracy and implemented Grad-CAM for explainability.	
Semantic Search Engine using NLP and Sentence Embeddings	github ↗
◦ Implemented a semantic search system that retrieves relevant results based on meaning, not keywords. ◦ Used transformer-based models to convert queries and documents into embeddings. ◦ Built a FAISS-based similarity index for efficient nearest-neighbor retrieval. ◦ Supports contextual and fuzzy matching, outperforming traditional keyword search.	

Technologies

Languages: Python, JavaScript, C/C++.

ML Frameworks: TensorFlow, PyTorch, scikit-learn, Keras, XGBoost, LightGBM

Tools & Libraries: NumPy, Pandas, OpenCV, Matplotlib, HuggingFace

Others: MongoDB, PostgreSQL, SQLite, Streamlit, Git, GitHub, Docker, AWS

Certifications

Deep Learning Specialization - [coursera](#) ↗

Machine Learning Specialization - [coursera](#) ↗

Education

East Point College of Higher Education	<i>BCA</i>
◦ Coursework: Data Structures and Algorithms, Operating Systems, DBMS, Computer Networks	