

Animeshkumar Nayak

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Summary

- Experienced Machine Learning and Computer Vision Engineer with more than 5 years of expertise in developing and deploying intelligent vision-based solutions.
- Proven track record in end-to-end pipeline development, including data training, model building, and API services, leveraging advanced algorithms and frameworks like PyTorch and TensorFlow.
- Recognized for exceptional performance with multiple awards, demonstrating proficiency in real-time object detection and image processing across diverse domains.

EXPERIENCE

Senior Engineer

L&T Technology services

October 2022 – Present, Vadodara

- Worked for a US-based client on Major aspects of a production machine learning system like **data training, building models and deploying** models, building **API services** for exposing these models, maintaining them in production, and more.
- Spearheaded end-to-end pipeline development for intelligent vision-based solutions on large construction sites, involving **multi-camera streams** and **real-time object detection** (Video Analytics) reporting on **Power-BI** using **Azure** services.
- Proficiently utilized data science toolkits including **Jupyter Lab/Notebooks, pandas, and bash scripting**, alongside substantial expertise in Linux environments.
- Applied practical solutions in diverse domains such as **structured information extraction, object detection, Image Classification, Image segmentation, and pose estimation**.
- Demonstrated adeptness with image-processing libraries such as Python, Scipy, Spacy, Pandas, Numpy OpenCV, PIL, and OCR engines, enhancing image analysis accuracy.
- Expertly navigated **computer vision and deep learning** frameworks and libraries, including **PyTorch, TensorFlow, Keras, Scikit-Learn**, and **ONNX**, facilitating innovative model development.
- Leveraged cutting-edge algorithms such as **YOLO** and **Faster R-CNN**, elevating precision in object detection and scene understanding.
- Collaborated within L&T Technology Services GenAI team, actively contributing to a pioneering Large-scale Machine Learning (LLM) application, working alongside Business Vertical Heads.
- Played a pivotal role in designing and developing **Image Enrichment microservices** for client which was consolidated solution of **image classification, ROI Cropping, Barcode detection, OCR, Word processing** etc., **Containerizing(Docker)** the solution and making it accessible using REST API.

Consultant (FTC)

L&T Technology services

October 2021 – October 2022, Vadodara

- Collaborated with a prominent global microcontroller leader, specializing in deploying machine learning models onto their SoC, with a focus on microcontroller-based implementation (TinyML).
- Executed successful deployment of **TFlite micro** models onto microcontrollers, including esp32cam, employing advanced pruning techniques for precise object detection. Conducted comprehensive AI model benchmarking.
- Championed **image processing** techniques in the manufacturing domain, harnessing **Basler cameras** for expedited image processing. This resulted in enhanced image analysis efficiency, contributing to streamlined operations.

Embedded Assembly Engineer

Cogent Controls

October 2018 – October 2021, Mumbai

- Conducted electronic circuit embedded testing and Python simulations, ensuring optimal performance and reliability.
- Contributed to the PCB Component Fault Detection team, employing **computer vision techniques for efficient and accurate fault detection** in electronic components.
- Led data collection efforts for diverse PCBs and engaged industry experts to identify critical detection points and faults.
- Successfully developed an application capable of comprehensive component detection within PCBs, bolstering quality control measures.
- Implemented deployment through Heroku as an API, complemented by a user-friendly front-end dashboard for enhanced accessibility.

EDUCATION

B Tech — Electrical & Electronics Engineering

Jawaharlal Nehru Technological University • Hyderabad • 2018 • 72.32%

CERTIFICATIONS

Specialization Machine Learning

Coursera (Stanford University & DeepLearning.AI) • 2022

SKILLS

- Deep expertise in Classical Machine learning, **Deep learning, Image processing architecture such as (CNN, Resnet)**.
- Strong background in Data Science algorithms like **Regression, Classification** etc Must have Skills
- Experience in developing or using deep learning frameworks (e.g. **TensorFlow, Keras, PyTorch, ONNX**, etc.)
- Configuring **Nvidia Deepstream** on edge device for multi-camera object detection

ACHIEVEMENTS

During my tenure at LTTS, I have received.

- **3 spot award** for my work and client satisfaction.
- **2 reveries award for For outstanding performance, and dedication towards our organization.**
- **1 Pi-Award 2023 for Video Analytics** solution for Manufacturing Industry.
- **Acquired 21 GCP skill batches**, showcasing an eagerness for continuous learning and upskilling.