PRIYADHARSHINI

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Brief Summary

Engineer with **3+ years of experience in Python**, specializing in **computer vision** Passionate about developing innovative **CV/ML** systems that bridge research and real-world applications. Skilled in **deep learning**, **model optimization, and deployment**, Focused on developing innovative CV/ML systems that research and real-world applications. Continuously exploring emerging technologies to solve complex challenges and deliver impactful results.

EXPERIENCE

Doers Tech Enterprise Solutions Pvt Ltd (Oct 2024 – Aug 2025)
Computer vision specialist

I. Contributed to **30% company growth** and **50% team expansion** by driving high-impact CV/ML projects in a cross-functional Python & ML team.
II. **Improved pipeline efficiency by 30%** by designing and deploying scalable ML/DL workflows for **segmentation, object detection, and classification** into production-ready systems.
III. **Delivered 15+ POCs** and **10+ client use cases**, and built a **custom annotation tool** for specific classes, reducing manual effort and boosting **accuracy & manpower efficiency by 30%**.
IV. Deployed ML/DL models using **Flask**, **Postman** ensuring scalable inference on **SSH servers**.
V. Built interactive dashboards & reports in MS Office tools for client project reporting, team task tracking, and performance monitoring.

Skills used: Applied state-of-the-art CV/DL techniques using architectures such as VGG16, ResNet, EfficientNet, 2D/3D CNN, OSNet, KNN, and frameworks including YOLO (v5, v8, YOLOe, YOLO-World), PyTorch, and TensorFlow for model development, optimization, and deployment.

Tata Elxsi (Sep 2022 - Sep 2024)
Associate ML engineer

I. Designed and implemented **innovative data synthesis tools** for breakage detection, preventing data leakage and improving dataset reliability.
II. Applied advanced ML models with strong adaptability, achieving **model accuracy above 85%** through diverse scenario testing and advanced augmentation techniques.
III. Integrated **active learning workflows** to iteratively improve training efficiency and dataset quality.
IV. Contributed to **customer billing projects** and enhanced **4 POC**, driving continuous progress and refinement.
V. Supported **big data analysis** using **Tableau** and **MySQL** for data-driven insights.

Skills used: bi-tools for reporting (Tableau and Excel), for synthetic creation (Photoshop and Gimp),analytical tools, and deep learning algorithms: CNN, Faster R-CNN, YOLOv5 and YOLOv8, SSD, Slowfast, VGG 16, Pytorch, and Tensorflow.

Tata Elxsi (Jan 2022 - Sep 2022)
Computer Vision Trainee

I. Elevated technical proficiency in **computer vision** through dedicated efforts and continuous learning.
II. Demonstrated excellence in project support, including **data analysi**s, **mining**, **synthetic data creation**,**ground truth analysis** and **model preprocessing**.
III. Played a pivotal role in executing internal projects, contributing innovative solutions and leveraging expertise to drive project objectives.
IV. Spearheaded synthetic data creation for high-quality datasets, enhancing **model trainin**g and **evaluation.**
V. Executed effective model preprocessing strategies, **optimizing computer vision model performance** through meticulous data preparation and manipulation.

Skills used: computer vision, Python, bi-tools for reporting (Excel, Pandas), analytical tools, and Object Detection & Tracking.

Education

Bsc.Information technology specialized in Data science, Rathinam college of arts and science(2019- 2022)

Key Skills

Languages: Python
Operating System: Windows
Skills: Pytorch, Tensorflow, Faster RCNN, SSD, YoloV8. **BI**
Tools: MS Excel, Tableau, MS Office,
Python: Matplotlib, NumPy, Pandas, OpenCV
Database management : SQL, PG admin.
Professionalism: presentation, reporting, White paper, collaboration, and consulting
Model Optimization & Deployment:
ONNX, TensorRT (.engine), Quantization, Model

Pruning, slim.onnx, Triton Inference Server (basic), GPU.
Tools & Platforms:
Flask, Postman, WinSCP, Tableau, MS Excel, MS Office, Git
Communication skills: the ability to work well with diverse groups through effective written and verbal communication

Projects

a) Pose Estimate: Real-time Bicep Curl Counter
Overview: Proficient in real-time pose estimation using OpenCV and Mediapipe, with expertise in processing video streams and calculating joint angles for fitness tracking and motion analysis. Demonstrated ability to seamlessly integrate multiple technologies to enhance system performance and deliver innovative solutions.
Skills used: OpenCV | Mediapipe | NumPy | Video Stream Processing | Landmark Data Extraction | Joint Angle Calculation | Pose Estimation | Real-Time | Video Analysis

b) Violence detection
Overview: Proficient Computer Vision Engineer adept at seamlessly integrating advanced technologies to enhance the accuracy and efficiency of action classification in video content. Skillfully combines methodologies such as Slow Fast and YOLOv5 to achieve precise action detection in real-time, even within dynamic environments. Demonstrated ability to leverage this synergistic integration for diverse applications including surveillance, sports analysis, and human-computer interaction.
Skills used: |Python: OpenCV | NumPy | Matplotlib| Data Preprocessing| Model Training | YOLOv5 | Slow Fast|

c) Accident Detection System
Overview: Implemented an accident detection system that uses computer vision and machine learning techniques to quickly identify various accident scenarios on roads, utilising the Faster R-CNN architecture to monitor and classify incidents in real-time accurately.
Skills Used: |Python: OpenCV | Pytorch |NumPy |Matplotlib| Machine Learning | Data Preprocessing| Model Training | Faster R-CNN|SSD|

EXTRA-CURRICULAR ACTIVITIES

Mentored juniors in the computer vision domain, guiding them in completing projects, developing tools, and performing data annotation and dataset creation tasks.

Actively engaging with attendees at events to discuss emerging technologies such as **GenAI, LLM and AI Agents**. Utilized **Gemini API** and **OpenAI API** keys to develop chatbots aimed at enhancing learning experiences.