PRIYADHARSHINI

Valparai,Coimbatore | 📞+91 83002 29337 | 📧 priyadharshinikalidass2912@gmail.com
🔗/www.linkedin.com/in/priyadharshini-kalidass | 🖥 https://github.com/priyadharshini114

Brief Summary

Engineer with 3+ years of experience in **Python development** for **ADAS & AD** systems, specializing in **computer vision** and **machine learning**. Proficient in **deep learning techniques** with hands-on expertise in **CNN architectures (2D/3D CNN, VGG, ResNet, EfficientNet)**, and frameworks like **YOLO, TensorFlow, and PyTorch**. Skilled in delivering end-to-end ML projects including **image processing, object detection, tracking**, predictive analysis, model optimization (**ONNX,slim.onnx, TensorRT Quantization**), and deployment using **Flask**, **Postman**, and Triton Inference Server (basic). Experienced with tools like **OpenCV**, **Matplotlib**, **SQL**, **PGAdmin**, **Git**, **WinSCP**, **Tableau, and MS Office**. Adept at leading cross-functional teams and driving innovation. Eager to contribute to impactful projects in CV/ML, and automation while continuously advancing my skills and knowledge in a dynamic environment.

EXPERIENCE

1. Doers Tech Enterprise Solutions Pvt Ltd (Oct 2024 – Present)
Computer vision specialist

I. Led a 10-member cross-functional team (Python & ML), contributing to 30% company growth and 50% team expansion through strategic execution.
II. Delivered 15+ POCs and 10+ client projects in CV/ML domains, leveraging models like YOLO, Faster R-CNN, OSNet, ResNet, YOLO-World, YOLO-E, and optimized with ONNX, TensorRT, Quantization, and Slim.ONNX.
III. Deployed models via Flask and Postman; utilized basic Triton Inference Server for scalable inference.
IV. Managed databases using SQL and PGAdmin, streamlined workflows with Git and WinSCP.
V. Proficient in reporting and visualization using Tableau and MS Office tools.

Here, led ML and Python teams to solve real-world challenges using CV and DL techniques. Utilized architectures like, VGG, 2D/3D CNN, EfficientNet, ResNet, osnet, KNN, and frameworks such as YOLO, PyTorch, YOLO world, YOLOe and TensorFlow for model development and optimization.

2. Tata Elxsi (sep 2022 - sep 2024)
Associate ML engineer

I. Developed innovative tools for synthesizing data tailored for breakage detection, addressing unique challenges in a dynamic environment.
II. Conducted precise data labeling, enhancing machine comprehension and overall dataset quality.
III. Applied advanced models showcasing adaptability and proficiency in machine learning techniques.
IV. Played a key role in dataset creation through meticulous collection, preprocessing, and organization, ensuring readiness for machine learning applications.
V. Contributed to customer billing projects and actively participated in enhancing three internal projects, fostering continuous progress and refinement.
VI. Contributed to big data analysis support using Tableau and showcasing proficiency in MySQL.

Here, we are focusing on combining computer vision and machine learning, or deep learning, to address current issues in the ADAS and AD competencies. bi-tools for reporting (Tableau and Excel), for synthetic creation (Photoshop and Gimp),analytical tools, and deep learning algorithms: CNN, Faster R-CNN, YOLOv5, SSD, Slowfast, Pytorch, and Tensorflow.

2. 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 analysis, mining, synthetic data creation, 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 training 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), analytical tools, and object detection.

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 managemnet : 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 (2024)
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 (2024)
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(2024)
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

I possess good leadership qualities, evident in my experience mentoring juniors within the computer vision domain to complete projects and develop tools, as well as perform data annotation and data creation tasks.

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