PRIYADHARSHINI

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Brief Summary

Engineer with 2+ years in Python development for ADAS & AD, specializing in **computer vision** and **machine learning**. Skilled in **deep learning**, **image processing**, and **CNN architectures**. Proficient in **OpenCV, PyTorch, Matplotlib**, and **TensorFlow**. Seeking a challenging role to contribute to innovative projects in computer vision and machine learning.

EXPERIENCE

1.Tata Elxsi (sep 2022 - present)

I. Successfully completed 5 projects, achieving 10% company growth in the ADAS competency within the computer vision and machine learning domain with **NLP**.
II. Developed tools for breakage detection, contributed to customer billing, and supported **data analysis** with **Tableau** in computer vision and machine learning projects.
III. Utilized skills in data visualization (**NumPy, Pandas, Matplotlib**) and **ML/DL frameworks** (**YOLO, SSD, SlowFast, Faster R-CNN**) for enhancing project outcomes. Earned a 5/5 performance review and received Tata Innovista and 2 internal awards.

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)

I. Demonstrated excellence in **project support**, including data analysis, **Dataset Creation**, **mining**, **synthetic data creation**, and **model preprocessing**.
II. Elevated technical proficiency in computer vision through dedicated efforts and continuous learning. Played a pivotal role in executing internal projects, contributing innovative solutions. Spearheaded synthetic data creation for **high-quality datasets**, enhancing model training, evaluation and **Fine tuning**.
III. Utilized skills in data visualization (**NumPy, Pandas, Matplotlib**) and predictive analytics (**Pytorch,TensorFlow, Tableau for Data Visualization, Machine Learning frameworks, Analysis**.)

Here, we are focusing on combining computer vision to address current issues in the rail competency. 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)

10th & 12th, Sacred Heart Girls Hr.Sec.school, Valparai.Coimbatore.

Key Skills

Languages: Python
Operating System: Windows, Linux
Framework: Pytorch, Tensorflow, Faster RCNN, SSD, Yolo, Mediapipe,Keras
Python: Matplotlib, NumPy, Pandas, OpenCV
Data Stores: Intermediate in Working with SQL
Packages: NumPy, Pandas, Matplotlib, OpenCV, Scikit-learn, Seaborn

Algorithms: YOLO, SlowFast, Faster R-CNN, SSD, Pose Estimation,VGG
BI Tools: Ms excel, Tableau, MS Office.
Professionalism: presentation, reporting, White paper, collaboration, and consulting
Ability to work well with diverse groups through effective 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 (2023)

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(2023)

Overview: Implemented an accident detection system that uses computer vision and machine learning techniques to quickly identify various accident scenarios on roads, utilizing 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.