LILARAM SHARMA

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Skills

Languages: Python, HTML, SQL
Machine Learning: Supervised and unsupervised Machine Learning, Regression, Confusion Matrix, SKLearn, XGBoost, PyCaret
Data Analysis & Visualization: Pandas, Numpy, Matplotlib, Seaborn
Deep Learning: TensorFlow, Keras, Pytorch, Transfer Learning, YOLO Models, RNN, CNN
Computer Vision: OpenCV, OCR, Roboflow, Image Processing
Natural Language Processing(NLP): NLTK, SpaCy, Text Classification, Sentiment Analysis
Technologies & Tools: AWS (EC2, S3, Lambda, RDS), Flask, Django, Jupyter Notebooks, Vs Code, Google Colab

Work Experience

Capermint Technologies Pvt. Ltd, Ahmedabad   **Feb 2025 -Present**
AI/ML Intern.

Projects & Responsibilities
Computer Vision & Deep Learning

- Developed object detection, image processing, and segmentation pipelines (YOLOv8, DeepLab V3, CNN) for diverse applications: surveillance, automotive analysis (car reflection removal, number plate, and mirror detection), weapon detection, and sports analytics (soccer).
- Supported data collection, annotation, model training, and iterative error analysis for performance optimization.
- Integrated real-time dashboards (Flask, Streamlit, Django) for visualization and live analysis of model outputs.
- Applied advanced techniques: multithreading, model optimization, and GPU acceleration for robust and fast inference.

Natural Language Processing & LLMs

- Fine-tuned Large Language Models (LLMs) for multilingual chatbots using Google AI Studio and Gemini API.
- Integrated LLMs with MongoDB for dynamic query generation and conversational Retrieval-Augmented Generation (RAG).
- Developed speech-to-text, text-to-speech modules, and integrated voice assistant features for robotics and web applications.
- Added support for Indic languages (Hindi, Gujarati) using dedicated APIs.

Robotics & Embedded Systems

- Assembled and programmed the COCO Robot: controlling servo motors, integrating sensors (ultrasonic), and managing gesture/voice interaction.
- Deployed computer vision models and voice-enabled AI on embedded hardware (Orange Pi 5 Max), handling system-level troubleshooting.
- Built wake-word detection and custom gesture functions, enabling responsive robotic avatars in real-world scenarios.

Smart Systems

- Built smart parking and AI surveillance systems leveraging computer vision and deep learning for automation and security.
- Automated attendance systems using face recognition and anti-spoofing (EAR), including end-to-end integration of backend and dynamic frontend dashboards.

Additional Activities

- Completed certification courses in PyTorch, TensorFlow, Reinforcement Learning, Convolutional and Recurrent Neural Networks.
- Engaged in ongoing R&D to evaluate and benchmark models, APIs, and edge/cloud deployment strategies.

Skills & Achievements

- **Deep Learning Model Development:** Detection, Classification, Segmentation.
- **Real-time Video and Image Analytics:** Proficient with OpenCV, YOLO, PyTorch, and TensorFlow.
- **Robotic Integration:** Experienced with sensors, actuators, speech, and embedded devices.
- **Multilingual NLP Systems & LLM Fine-Tuning.**
- **Backend–Frontend Integration for AI and Robotics.**
- **Model Optimization & Debugging (hardware/software).**
- **Cloud & Edge Deployment of AI Applications.**
- **Practical Knowledge:** Gained deep insights into ML & AI models by developing and optimizing them for real-time applications.
- **Collaboration & Problem-Solving:** Analyzed complex problems and collaborated effectively with development teams to integrate AI solutions.

Axisray Pvt Ltd, Ahmedabad **Jan 2024 – April 2024**

AI Intern

- Gained practical knowledge about ML & AI Models.
- Built and trained custom AI models using YOLO.
- Transfer Learning, Tensorflow, Flask, Pytorch, Roboflow, YOLO models

Softvan Pvt Ltd, Ahmedabad **June 2023 - June 2023**

Machine Learning and AWS intern

- Analyzed problems and collaborated with teams to develop solutions.
- Organized and input information into digital database.
- Gained knowledge about Amazon AWS Cloud Services.

Projects

Pothole, Garbage, Cattle detection Models

- Description: Developed a model to detect potholes, garbage and cattle detection using Machine Learning and Deep Learning Algorithms
- Technologies Used: OpenCV, YOLO, Roboflow, Tensorflow, Pytorch, Python

All Country Currency Detection Model

- Description: Created a model to detect currencies from different countries using deep learning, transfer learning and YOLO.
- Technologies Used: OpenCV, Python, OCR, Roboflow, YOLO

Education

Silver Oak University , Ahmedabad **Sep 2020 - Sep 2024**

Bachelor of Technology in Computer Science & Engineering (ML-AI) *CGPA:- 9.18*