CHRIS AARON RODRIGUES

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Skills

C++ | C | Java | Python | Machine Learning |Tensorflow| Pytorch | OpenCV | Data Visualization| Data Preprocessing | Sk-learn | Git| Github | Flask| Data Structures | Algorithms |SeaBorn | Matplotlib | Keras | WebScrapping|

Education

Rajarajeswari College Of Engineering , Visvesvaraya Technological University, India **2021-2025**
- Branch : Artificial Intelligence and Machine Learning | CGPA: 7.5

Pace PU College **2019-2020**
- *AISSCE (Class XII), Aggregate:91*

Holy Redeemer Higher Primary School **2017-2018**
- *AISSE (Class X), CGPA: 90*

Work Experience

Dev Minds | Intern **30/10/23-30/11/23**
- Conducted comprehensive sensory evaluations of wines, leveraging industry-standard techniques and protocols to objectively assess and describe the wines.
- Utilized advanced analytical methods to measure and interpret key chemical components of the wines, such as alcohol content, acidity, tannins, and other factors.
- Implemented various **data preprocessing** techniques, including feature engineering, encoding, and **outlier detection**, to enhance the predictive performance of the regression models.
- Acheived a robust and scalable data processing pipeline, integrating state-of-the-art machine learning libraries and frameworks, to streamline the wine testing workflow.
- Demonstrated proficiency in utilizing a wide range of industry-standard tools and software, such as **Numpy**, **Pandas**, **Scikit-learn** ,**Seaborn** and **Matplotlib**, to conduct data analysis, model development, and visualization tasks.

Projects

Project 1
Predictive Modeling of Bird Species using a Custom-Built Neural Network
- Developed a **custom-built Neural Network** model using pure **NumPy** for efficient matrix operations, **without** relying on any neural network frameworks like **TensorFlow**, **PyTorch**, or **Keras**.
- Launched data preprocessing techniques, including image **resizing**, **normalization**, and **flattening**, to prepare the bird image data for model input.
- Tailored a Neural Network model using scikit-learn for data splitting and model evaluation, demonstrating proficiency in traditional machine learning techniques.
- Utilized **Pickle** to serialize and persist the trained model and label encoder, ensuring the application's ability to load and use the pre-trained model for efficient bird species prediction.
- Designed and deployed a **Flask** based web application that allows user to upload bird images and receive real-time prediction of bird species, showcasing the practical application of the Fine-tuned model

Project 2
Real-Time Object Detection using YOLO/SSD
- Introduced **real-time** object detection using **Tensorflow** and **Pytorch**,employing **YOLO** and **SSD** models for high speed accuracy
- Applied data preprocessing techniques, such as resizing and augmentation, to enhance model performance on diverse datasets
- Optimized models using **TensorFlow Lite** and **TensorRT** for efficient inference on edge devices and used **OpenCV** for live video processing.
- Built a **Flask** interface for users to upload video files or stream live feeds, delivering real-time object detection and analytics