P INDHIRAJITH

+91 9995518096

stolenstoneme@gmail.com

https://www.linkedin.com/in/p-indhirajith-218467274/

PROFILE SUMMARY

Hello! I have completed my degree in Artificial Intelligence and Data Science from Ramco Institute of Technology. I am passionate about data analytics and machine learning, and I aspire to work in a collaborative environment that fosters continuous learning and professional growth.

SKILLS

JAVA
Python
SQL
Machine Learning
Deep Learning
Data visualization
Software Testing and Automation

LANGUAGES

English
Malayalam
Tamil
Hindi

INTERN EXPERIENCE

Internship at ISRO Inertial Systems Unit (IISU)

As part of my internship at ISRO's Inertial Systems Unit, I had the unique opportunity to work on cutting-edge AI projects focused on computer vision and deep learning. One of my major contributions was developing and deploying an SSD MobileNet-based model for detecting two custom objects in real-time. The project involved the following:

- Object Detection: Trained and optimized an SSD (Single Shot Detector) model using the MobileNet architecture for efficient object detection, tailored to detect two custom objects.
- Data Preparation and Augmentation: Worked on collecting and preparing datasets, implementing data augmentation techniques to improve model robustness and accuracy.
- Model Training and Optimization: Tuned hyperparameters to improve the performance of the object detection model, ensuring high precision and recall.
- Deployment and Testing: Integrated the trained model into an application for real-time inference and tested it in simulated environments.

Internship at ISRO's Structural Engineering Entity

As part of my internship at ISRO's Structural Engineering Entity (STR), VSSC, I had the opportunity to work on AI-driven structural analysis projects, applying machine learning and data analytics to real-world aerospace challenges. My primary contribution was in "Data Analysis of Preload Bolt Joint using AI Tools," where I developed AI-based solutions to assess and optimize the performance of critical structural components.

- Structural Data Analysis: Processed and analyzed real-world experimental and simulation data to study the behavior of preload bolt joints under varying conditions.
- Machine Learning for Predictive Modeling: Developed AI models to predict joint performance, stress distribution, and potential failure points, improving structural reliability.
- Optimization Techniques: Applied optimization methods to refine preload values, enhancing joint durability and performance in aerospace applications.
- Finite Element Analysis (FEA) Integration: Explored FEA concepts to validate AI-driven predictions and support data-driven decision-making.

Internship at Dhatchan

During my 6-week internship at Dhatchan, I had the opportunity to work on a variety of projects and gain hands-on experience with both foundational and advanced technical topics. The key areas of focus included:

- Web Development: Gained practical experience in building and deploying web applications, learning front-end and back-end development techniques.
- Advanced Python: Strengthened my proficiency in Python by exploring more advanced concepts such as data manipulation, automation, and algorithm optimization.
- Time Series Analysis: Developed skills in analyzing time-dependent data using statistical models and machine learning techniques.
- Computer Vision: Worked with tools like OpenCV and YOLO v7 for image processing and real-time object detection, applying them in real-world scenarios.

EDUCATION

SSLC - Vssc Central School,Thiruvananthapuram. **60% (2018 - 2019)**

HSC -Vssc Central School,Thiruvananthapuram. **75% (2020 - 2021)**

BTECH (AI & DS) -Ramco Institute of Technology **CGPA 7.7 (2021 - 2025)**

REAL TIME PROJECTS

AI-Driven Support System for Autism Spectrum Disorder (ASD): In this project, I developed an AI-powered assistive system integrating real-time facial and voice emotion recognition, a chatbot, and IoT-based health monitoring to support individuals with Autism Spectrum Disorder. Using deep learning and natural language processing, I built a full-stack web application (React.js + Flask) that provides personalized support and early intervention. The system achieved 92.3% accuracy in face emotion recognition and 89.1% in voice classification.

Object Detection using SSD MobileNet: In this project, I developed a custom object detection model using the SSD MobileNet architecture, specifically designed to detect two custom objects in real-time. This was a hands-on project where I worked with deep learning techniques to create an efficient, lightweight model capable of running on mobile or edge devices for real-time inference.

LLM-Powered Research Paper Search & Semantic Recommendation System: Developed an AI-powered research paper search system that uses Large Language Models (LLMs) to retrieve, rank, and summarize academic papers based on semantic meaning, not just keyword matching.The system allows users to search research papers using natural language queries and returns highly relevant papers with concise summaries.

LLLM-Based Document & PDF Classification and Intelligent Summarization System: Developed an AI-powered document processing system that automatically classifies PDFs and documents into predefined categories and generates concise, human-readable summaries using Large Language Models (LLMs).The system handles unstructured documents such as research papers, resumes, invoices, reports, and articles.

Data Analysis of Preload Bolt Joint using AI Tools: In this project i have applied machine learning and data analytics to assess stress distribution, predict failures, and optimize aerospace component reliability. Processed experimental & simulation data using Python, NumPy, Pandas, SciPy, TensorFlow/PyTorch and gained exposure to Finite Element Analysis (FEA). Collaborated with aerospace engineers to integrate AI solutions into structural engineering research.

Diabetes Prediction Using Machine Learning: I have Developed a predictive model for diabetes diagnosis using a dataset of health-related features. Implemented machine learning techniques to classify individuals based on their likelihood of having diabetes.

Brain Tumor Prediction using Machine Learning: In this project, I developed a machine learning model to predict brain tumors from medical imaging data, specifically using MRI scans. The project aimed to classify images into two categories: tumor (benign or malignant) and non-tumor.

User-Interactive E-Commerce Website: In this project, I Developed a dynamic e-commerce website with interactive features to enhance user experience and facilitate online transactions.

Supermarket Billing System: In this project, I have developed a system that manages billing for a supermarket, including product inventory, pricing, and generating invoices for customers at checkout.
