ARCHITANAND

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EDUCATION

- **PES University**

  B-Tech in Computer Science and Engineering 2021–Current

- **Rajendra Vidyalaya**

  ISC 2021 – 93 percent secured
  ICSE 2019 -96.4 percent secured

PROJECTS

BOWL BUDDY |COMPUTER VISION|DEEP LEARNING|REVERSE IMAGE SEARCH|

A sophisticated deep learning model for bowler performance enhancement. The model, focused on predicting injury susceptibility, thoroughly analysed bowlers' actions, considering factors such as joint angles, force distribution, and historical injury data. At the landing stage, it applied pose estimation principles, classifying actions as injury-prone. Leveraging a vast training dataset, the model provided actionable insights by suggesting subtle adjustments via a suggested action which was really similar to their original action but less prone to an injury to minimize injury risk while preserving the bowler's unique skill set. The model incorporated CNN for image classification, YOLO for object identification, and Mediapipe for precise pose estimation. A reverse image search mechanism was implemented to offer personalized action recommendations.

EL CLASSIFY |DEEP LEARNING|ENSEMBLE LEARNING|

Implementation and comparison of different classifiers, along with the ensemble combinations in order to make a robust music reccomendor system. The goal was compare and understand the all the working of various machine learning architectures. This project was carried out as a part of a Kaggle competition and was able to achieve a maximum accuracy of 93% through an ensemble combination of gd-boost and cat- boost architectures. XG-Boost, Random Forest, CNN, RNN, KNN, LGBM and their ensemble combinations were some of the other architectures explored.

PEREGRINE: HIGH-ALTITUDE STOCK MARKET INSIGHTS | FEATURE ENGINEERING |TIME SERIES FORECASTING |REGRESSIONANALYSIS |

This system helps High Net Worth Individuals (HNIs) make better investment decisions using data science and machine learning. It focuses on two primary areas: First, it predicts future stock closing prices using historical data and time series forecasting. Second, it recommends the best actions (buy, hold, or sell) for a particular stock each day. The goal is to maximize profit potential for HNIs by combining these price predictions with additional financial indicators.

ALPHABET |COMPUTER VISION|

An innovative real-time text and speech analyzer leveraging computer vision and machine learning to identify and correct writing and pronunciation errors in specific alphabets. This project aimed at automating primary education processes, enabling children to grasp basic alphabets and perfect pronunciation through interactive trial and error.

SKILLS

- **LANGUAGES**: Python, C, C++, JAVA
- **ML Tools**: Tensorflow, Pytorch, Scikit-learn
- **Computer Vision**: OpenCv, YOLO, Mediapipe
- **Architectures**: Deep Neural Networks, VAE, RAG, GAN, Diffusion
- **Web Dev**: React, Next.js, TailwindCSS, MongoDB, MYSQL

EXPERIENCES

- Summer Research Intern | Sports Technology and Analytics Research Centre (STARC)

June 2023 - August 2023

As a Research Intern at STARC, I spearheaded the development of "Bowl Buddy," a pioneering deep learning model that analyzed cricket bowling techniques. My role involved training the model using extensive datasets of optimal and injury-prone actions, enabling bowlers to refine their technique by comparing their actions with the model's recommendations, minimizing modifications for improved performance and injury prevention.

- Centre for Innovation and Entrepreneurship, PES University

August 2022 -November 2022

As a team lead, I initiated and developed a startup from scratch, overseeing feasibility analysis (social, economic, and technical), workflow management, and marketing. This role expanded my understanding beyond technical aspects, providing a holistic perspective on the dynamics of running an institution.