RAHIL PARIKH

Kaggle Notebooks Master | α-MLSA | Open Source Contributor at scikit-learn
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EDUCATION

K. J. Somaiya College of Engineering *Jul 2020 – Jun 2024*
BTech – Computer Engineering (Honors Data Science and Analytics). CGPA: 9.64/10

WORK EXPERIENCE

Team Captain *Aug 2021– Aug 2022*
The Marine Robotics Team (TMRT)

- **Managed** a team of **25+ undergraduate students** focused on building an Autonomous Underwater Vehicle (AUV).
- Achieved a **mean average precision of 96.27%** using YOLOv5 models for detection of underwater objects.
- Prepared simulations for the robot using ROS Melodic, Ubuntu 18.04 and Gazebo.

K. J. Somaiya College of Engineering *Jan 2022 – May 2022*
Research Intern

- Identified Knee Osteoarthritis from X-ray images using Deep Learning. Curated a custom dataset containing 5,478 images for the binary classification task and corrected the class imbalance present in the dataset.
- Utilized the concept of Transfer Learning, using DenseNet201 to achieve a **precision of 97.62%** and an **accuracy of 82.48%**.

The Tann Mann Gaadi *Sep 2021 – Dec 2021*
Machine Learning Intern

- Extracted **500+ frames** from videos and manually labelled them using LabelImg and Roboflow's online annotation tools. Detected **80 different classes** of objects in images and videos using OpenCV and YOLOv3 models.
- Automatically saved the results of the object detection in excel spreadsheets containing the name of the class, the accuracy of the detection and the coordinates of the bounding boxes.

Verzeo *Feb 2021 – Mar 2021*
Machine Learning Intern

- **Downloaded 600 images** from the internet using web scraping, for training a deep learning model. Created a neural network to classify an image as 'Human' or 'Non-Human' with an **accuracy of 94.2%**.
- Compared the performance and results of 10 different architectures of Convolutional Neural Networks (CNNs).

PROJECTS

Music Genre Recommender | Python, LGBM, Optuna, Flask, HTML5, CSS3, JavaScript |

- Deployed a machine learning model using Flask to recognize 10 different genres of music, with an **F1 score of 0.9**.
- Optimized the performance of the LGBM model on the test set by 8% using **Optuna** for hyperparameter tuning.
- Generated **top 3 song recommendations** for the user using cosine similarity and the classified genre of the song.

Bird Classification App | Python**,** TensorFlow, Keras, Dart, Flutter |

- Built a Flutter app capable of classifying 400 different species of birds using MobileNetV2 trained on approximately 60,000 images. The model achieves an **accuracy of 93.99%** on the test set.
- Images can be uploaded from the phone camera, gallery or Google Drive to determine the species of the bird.

Discord Stock Bot | Python, Heroku, Beautiful Soup, Matplotlib, NumPy, pandas, Plotly |

- Hosted a bot on Heroku that **extracts** historical **stock prices** and company financials of **S&P500 companies**.
- Generates custom graphs for data visualization as per input commands entered by the user.

SKILLS

- **Languages:** Python, C, JavaScript, R, Dart, SQL
- **Databases:** MySQL, PostgreSQL
- **Technologies/Frameworks:** TensorFlow, Keras, PyTorch, OpenCV, scikit-learn, Flask, Optuna
- **Web Technologies:** HTML5, CSS3, JavaScript, Bootstrap
- **App Technologies:** Dart, Flutter
- **Tools/Platforms:** Tableau, Git, Github, Heroku