my work

PORTFOLIO

BY THILAK CEBOLU MOHAN

introduce ABOUT ME

I am a quick learner with no trepidation when new tasks are thrown at me. My innate gregarious nature only bolsters my work in team situations. I aim to expand my career prospects through a Master's in Artificial Intelligence.

THILAK
MOHAN

VISION

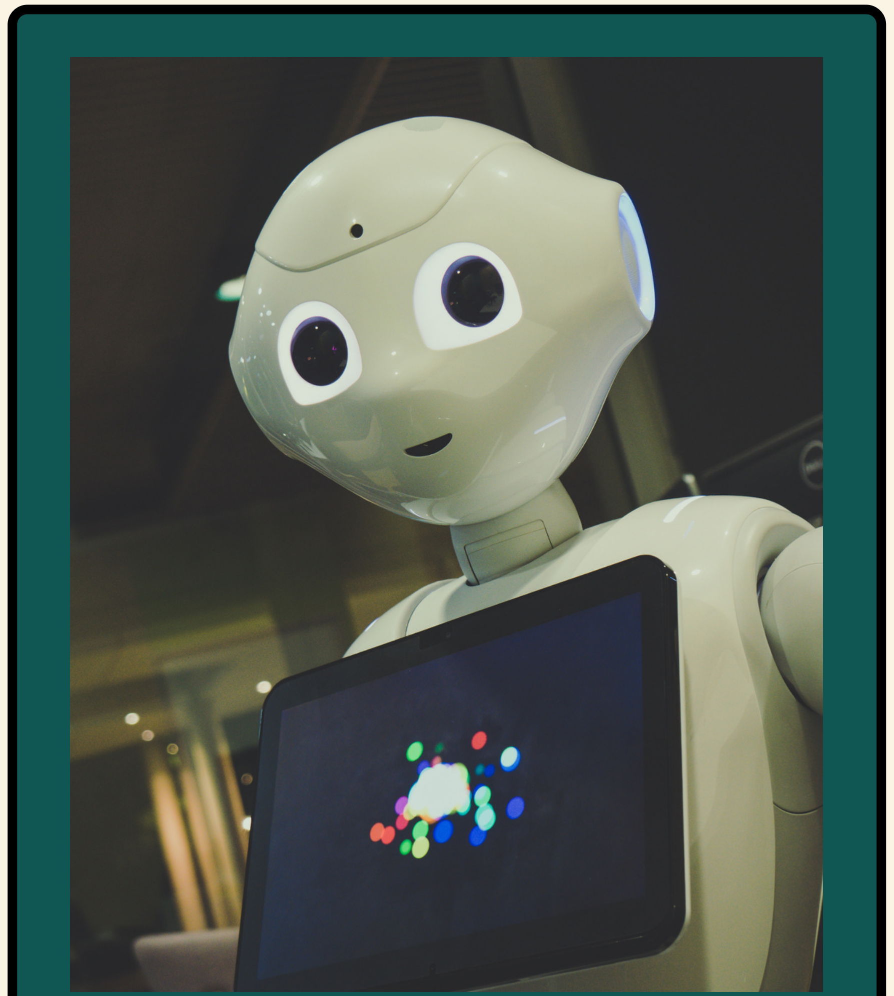
To help the class of people that are overlooked, unappreciated, and disinterested through innovation and technology.

MISSION

To create advancements in AI algorithms and techniques that ease the lives of people.

personal SKILLS

Tools and Technologies: Python, Machine Learning, Deep Learning, NLP using nltk and spaCy, Scikit Learn, Tensorflow, PyTorch, Keras, Spark ML, fastai, HuggingFace, C, C++



ML ENGINEER

PHOTOGRAPHER

Unsplash Profile

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EDUCATION BACKGROUND

2019

HIGH SCHOOL :

AMAATRA ACADEMY

Finished 10th with 10CGPA

Finished 12th with 89%

2023

UNDERGRADUATE DEGREE:

VELLORE INSTITUTE OF TECHNOLOGY

Graduation date: 6/2023

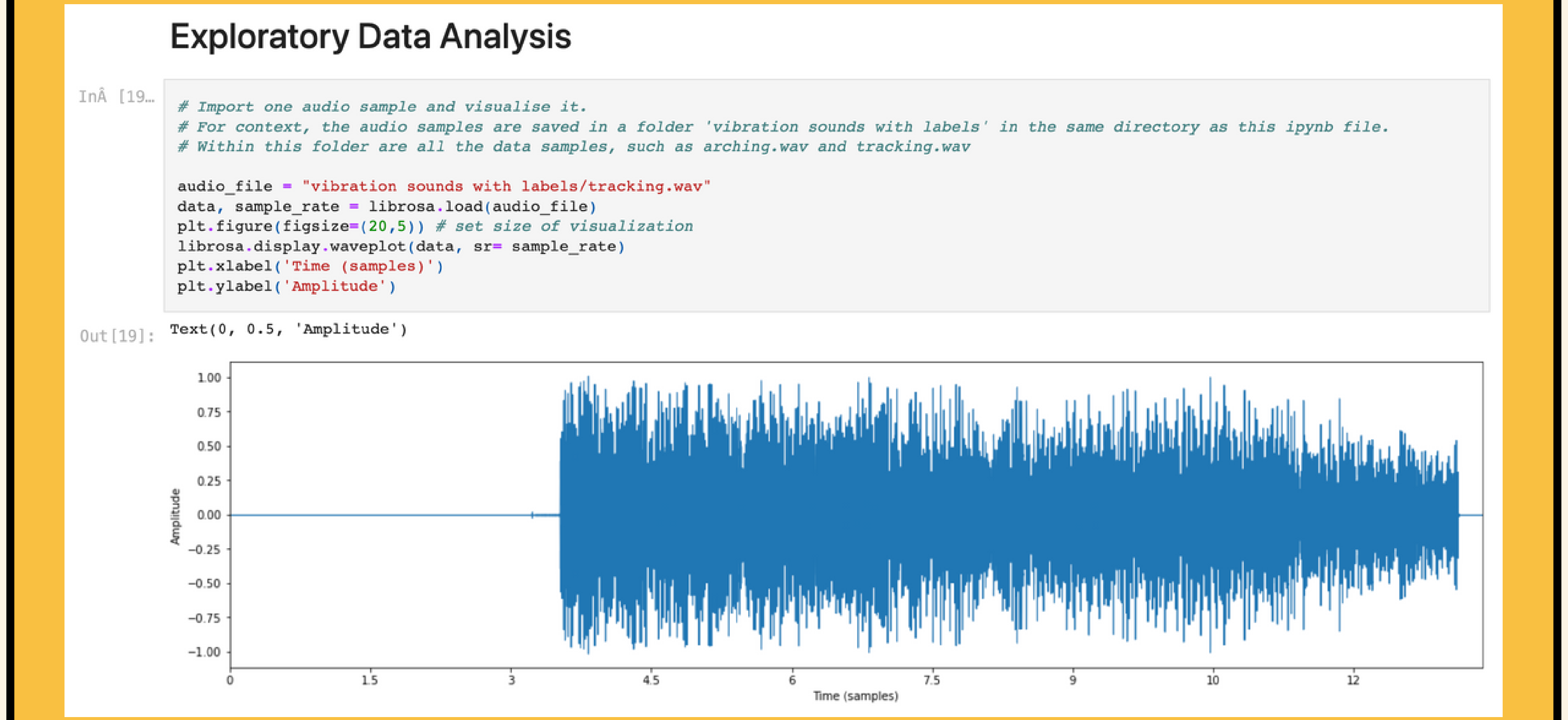
8.9 CGPA

work EXPERIENCE

Company: **KFX Labs, Bangalore**

Role: **Machine Learning Intern**

I designed a Machine Bearing Fault Detection system employing Vibrational Acoustic Data.



Exploratory Data Analysis

```
InÂ [19…

# Import one audio sample and visualise it.
# For context, the audio samples are saved in a folder 'vibration sounds with labels' in the same directory as this ipynb file.
# Within this folder are all the data samples, such as arching.wav and tracking.wav

audio_file = "vibration sounds with labels/tracking.wav"
data, sample_rate = librosa.load(audio_file)
plt.figure(figsize=(20,5)) # set size of visualization
librosa.display.waveplot(data, sr= sample_rate)
plt.xlabel('Time (samples)')
plt.ylabel('Amplitude')
```

```
Out[19]: Text(0, 0.5, 'Amplitude')
```

project PORTFOLIO

Here is a summary of the projects that best represent my work. For more information, check out my github account.

ROAD TRAFFIC ACCIDENT SEVERITY PREDICTION

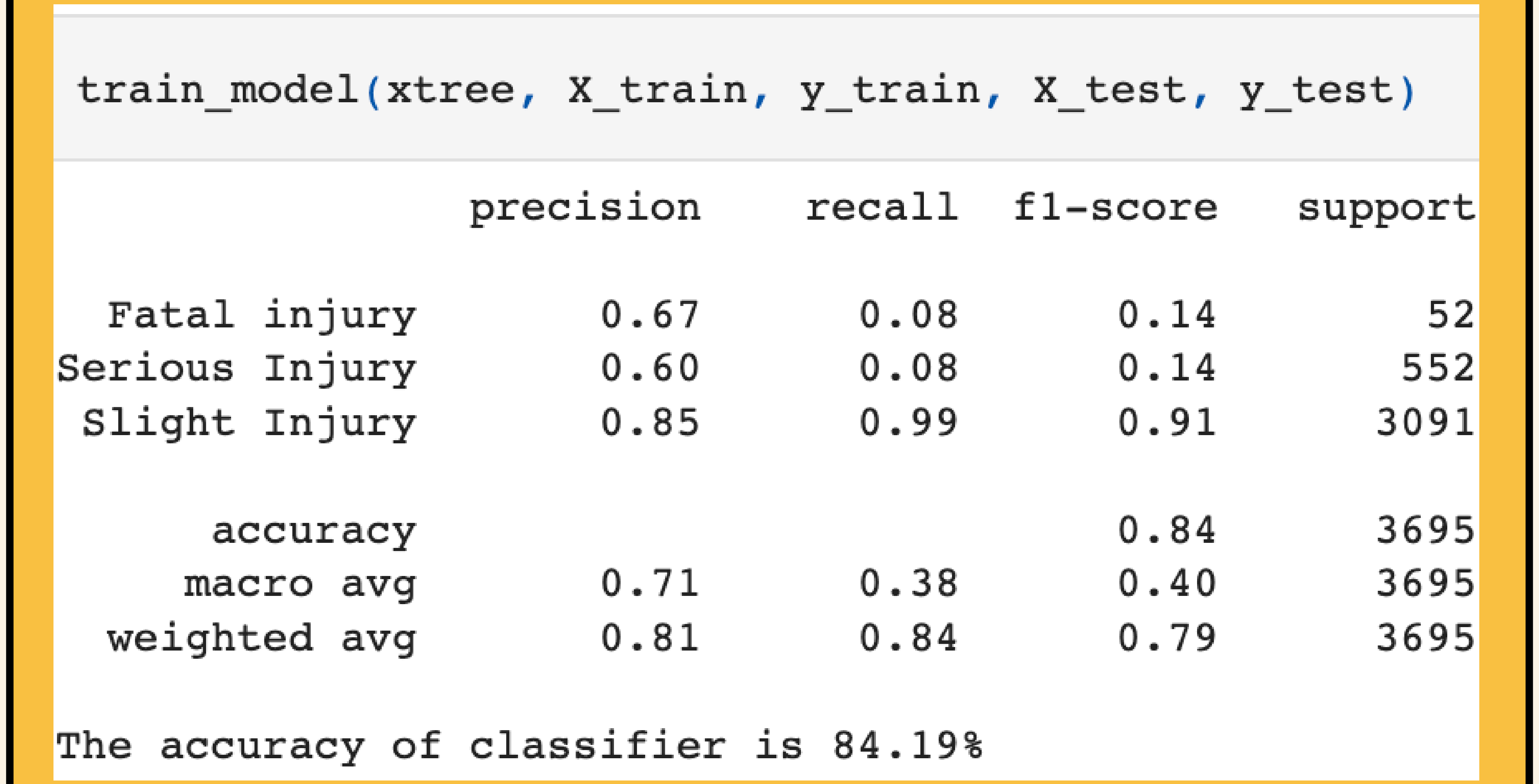
AUDIO CLASSIFICATION

PATIENT SURVIVAL DETECTION

ROAD TRAFFIC ACCIDENT SEVERITY PREDICTION

Aim: To classify the target feature 'accident severity'.

Libraries used: Pandas, Numpy, Matplotlib, SMOTE, Seaborn, K-Fold Cross Validation



```
train_model(xtree, X_train, y_train, X_test, y_test)
```

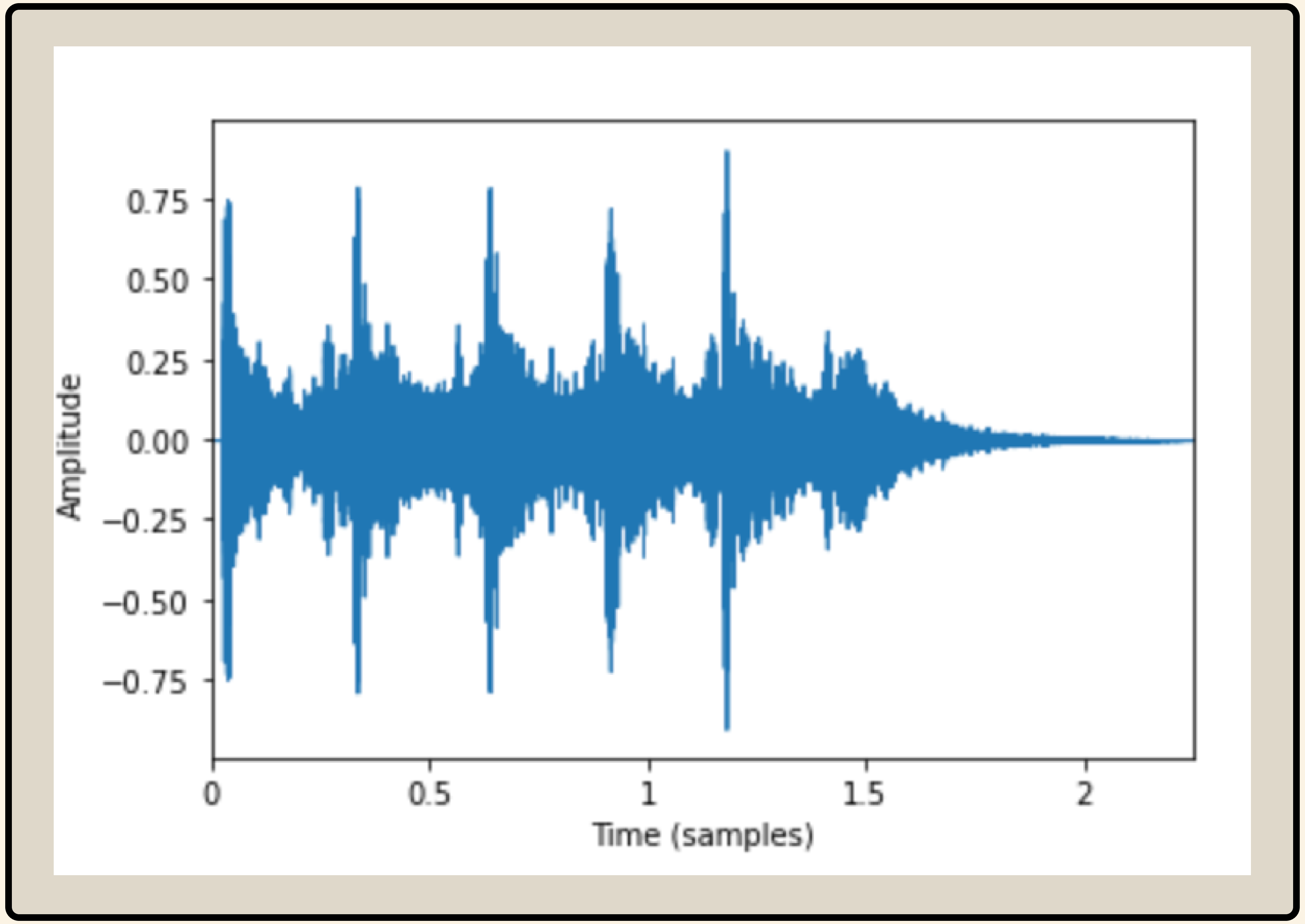
```
                precision    recall  f1-score   support

  Fatal injury       0.67      0.08      0.14        52
Serious Injury       0.60      0.08      0.14       552
 Slight Injury       0.85      0.99      0.91      3091

      accuracy                           0.84      3695
     macro avg       0.71      0.38      0.40      3695
  weighted avg       0.81      0.84      0.79      3695

The accuracy of classifier is 84.19%
```

https://github.com/Thilak-cm/RTA-severity-prediction



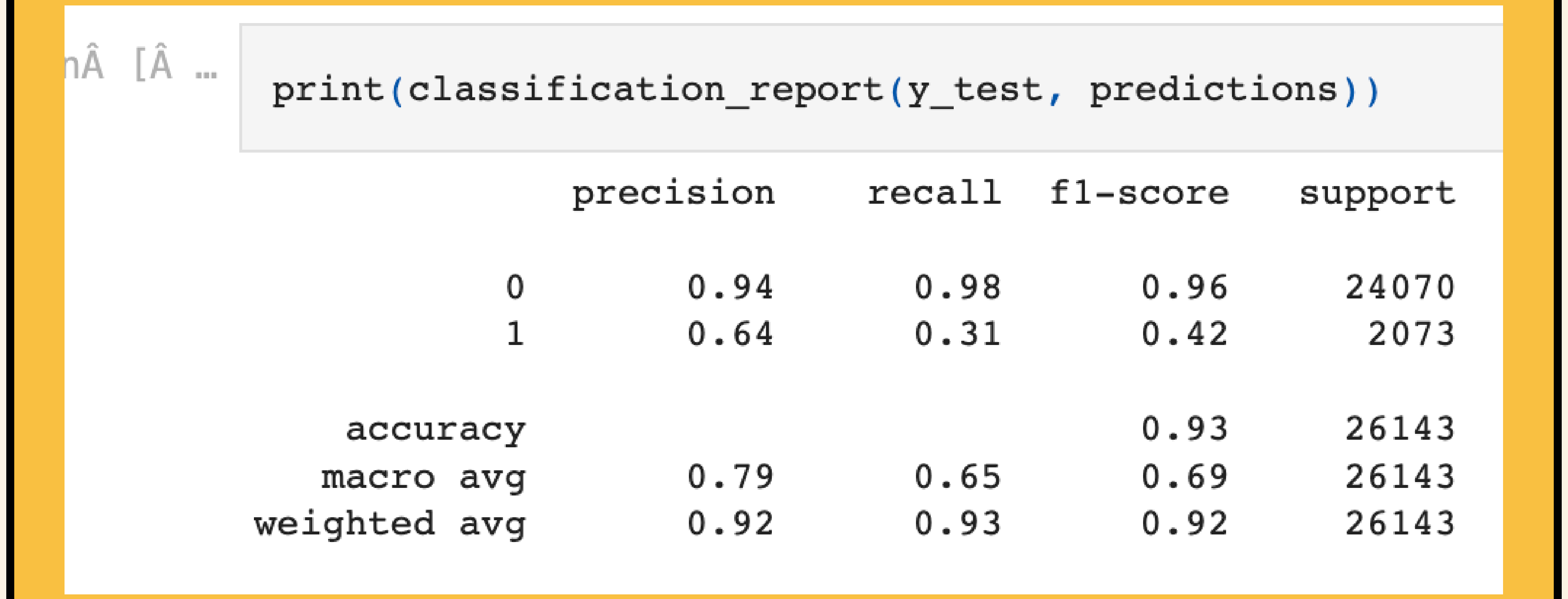
AUDIO CLASSIFICATION

Aim: To classify audio signals
Libraries used: Librosa, Scipy, Pandas, NumPy, Matplotlib, TensorFlow

I used the Mel-Frequency Cepstrum Coefficients method to extract features from audio files that were then fed to the feedforward neural network model.

https://github.com/Thilak-cm/Audio-Classification

PATIENT SURVIVAL DETECTION

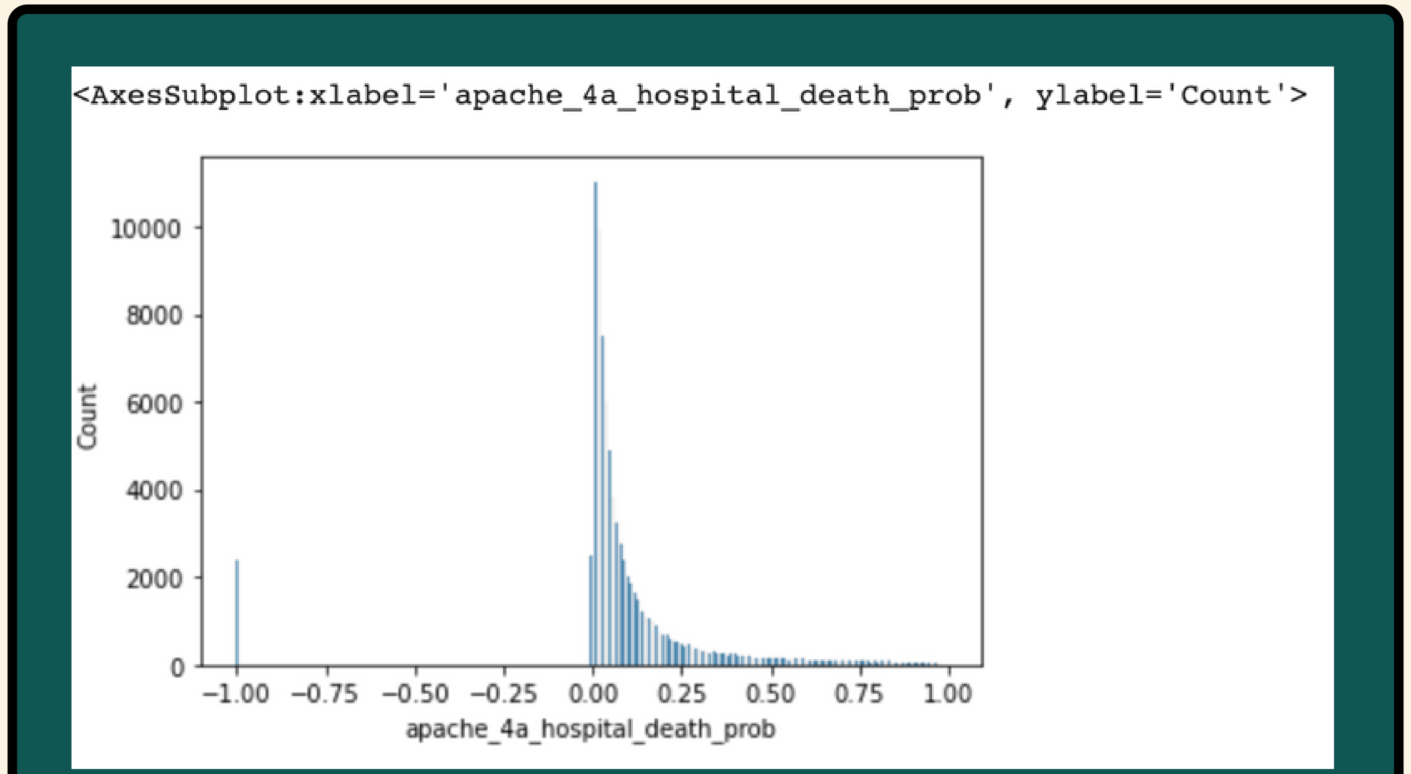


```
print(classification_report(y_test, predictions))
```

```
              precision    recall  f1-score   support

           0       0.94      0.98      0.96     24070
           1       0.64      0.31      0.42      2073

    accuracy                           0.93     26143
   macro avg       0.79      0.65      0.69     26143
weighted avg       0.92      0.93      0.92     26143
```



```
<AxesSubplot:xlabel='apache_4a_hospital_death_prob', ylabel='Count'>
```

Aim: To classify the target variable 'hospital death'.

Libraries Used: Pandas, Numpy, Matplotlib, Seaborn, TensorFlow, SHAP, shapely

https://github.com/Thilak-cm/patient-survival-detection

let's work TOGETHER

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