INTERNSHIP PROJECT

PROJECT ON VOICE CLASSIFICATION USING MACHINE LEARNING

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BREAKDOWN OF PROJECT STATEMENT

PROBLEM STATEMENT

Built a python application that analyses the sentiment behind the tone of the voice and predicts the sentiment involved.

INTRODUCTION

- **Speech is the most natural way of expressing ourselves as humans.**
- **It is only natural then to extend this communication medium to computer applications.**
- **We define speech emotion recognition (SER) systems as a collection of methodologies that process and classify speech signals to detect the embedded emotions.**
- **These novel studies make use of the advances in all fields of computing and technology, making it necessary to have an update on the current methodologies and techniques that make SER possible.**

OBJECTIVES OF THIS PROJECT

- We are developing a model for the recognition and classification of different voice and different sentiments of the voices.
- For this we have a set of data that is provided to the machine model.
- That dataset is categorised into different forms of expressions or sentiments.
- The dataset is then provided to the machine model and that is trained accordingly.
- There are few steps that is being followed while developing this machine model.
- Those steps are mentioned in the next slide.

STEPS:-

1. Including the libraries
2. Including the Datasets
3. Data Analyze

    Audio Augmentation

        Original Audio

        Noised Audio

        Stretched Audio

        Shifted Audio

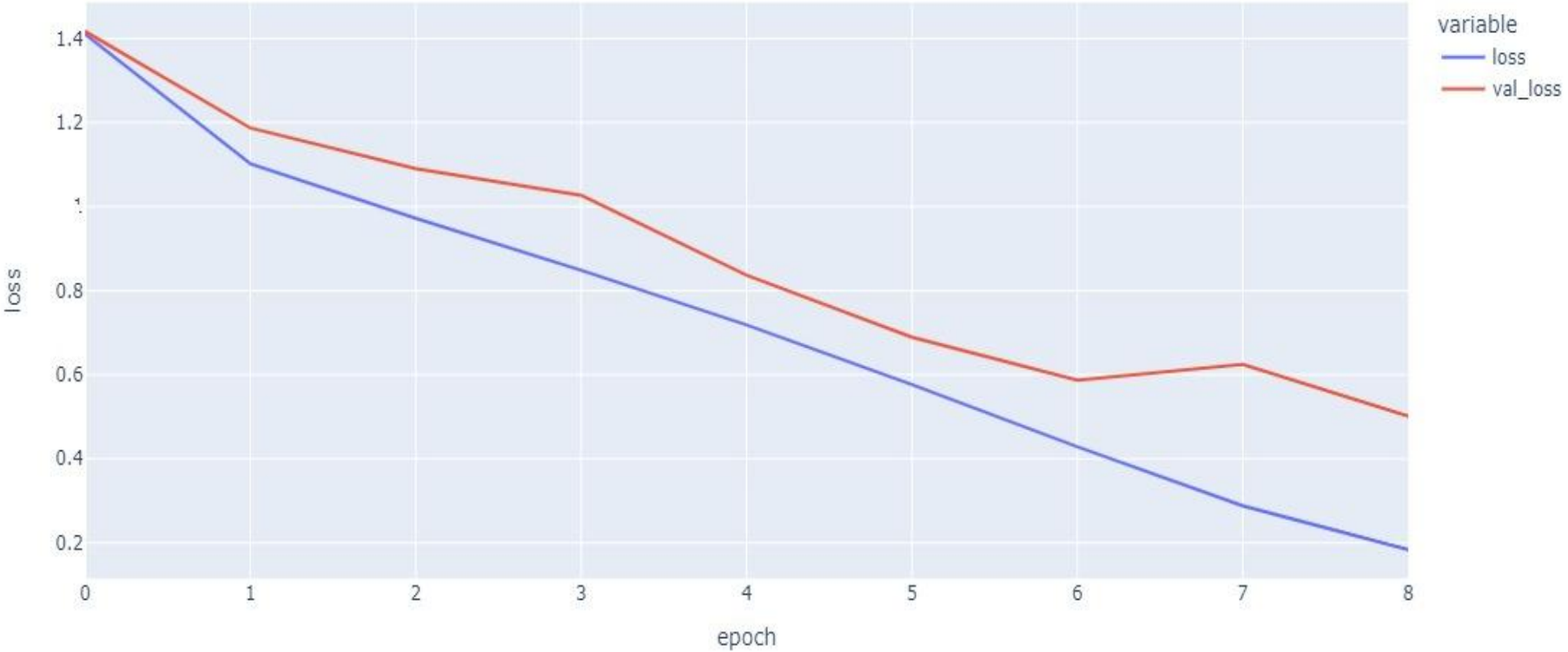
        Pitched Audio

    Feature Extraction

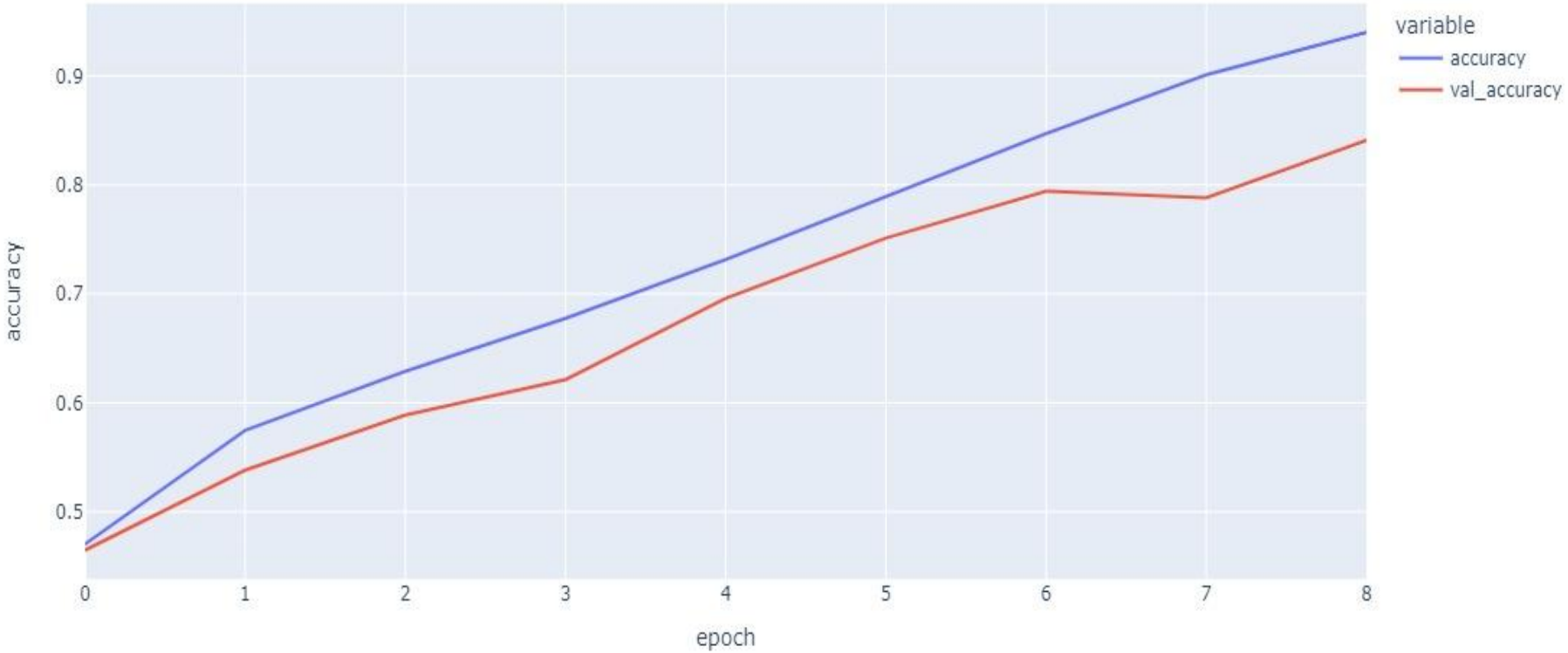
    Processing

4. Including Analyzed Audio Features
5. Processing Analyzed Data for Training
    - Training, Test and Validation Splitting
    - Tuning and Training
6. Begin Training
7. Drawing Charts
    - Accuracy Charts
    - Losses Charts
8. Training Model and Test Results
    - Confusion Matrix

According to the epoch loss and validation loss chart for the model



According to the epoch accuracy and validation accuracy chart for the model



THANK YOU