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GENDER RECOGNITION USING VOICE

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ABSTRACT: Gender recognition is main problems in the society. Analyzing the gender from sound properties such as mean, wavelength, frequencies, skewers etc.Machine learning is the advanced method in
IT field which helps in identifying the gender.We use SVM algorithm to classify the gender whether it is male or female. This paper is helpful to transgender because to enhance voice therapy.

Index Terms- Gender recognition,SVM

i. INTRODUCTION

Human ear can detect the difference between male and female sound. We are develop a computer program To do this task it is considered as a big task. In this paper we use more accurate gender predection using SVM machine learning algorithm. It is helpful in many fields such as automatic recognition using voice.It helps in increasing the performance of these system.

ii. METHODOLOGY

Gender recognition is a very important task in the society. In this paper these are the following steps behind the gender identification through voice they are

Dataset is prepared
The model is building
The model is trained
The model is testing
The model is tested by your own sound

Data set is prepared

We can't use the raw audio data it is very much length .so we using the feature extraction steps then we pass to neural network. Feature extraction methods are MFCC and spectrogram.

The model is building

There are many neuron and signal function for gender prediction and then there output is 1 when we considered speaker as male and whether it is 0 it is considered as female.

The model is trained

Training the model means provides machine algorithm to train the data. In this paper we use SVM algorithm to train the system.SVM is a support vector machine algorithm used as a classification mainly in regression problems. The thing is to create the best line or domain boundary we can easily use new data in the future.

The model is testing

The testing model is for getting the accuracy when the model is train when we perform the testing

Model testing with your own voice

The testing model with your own voice is for providing better accuracy to the system.

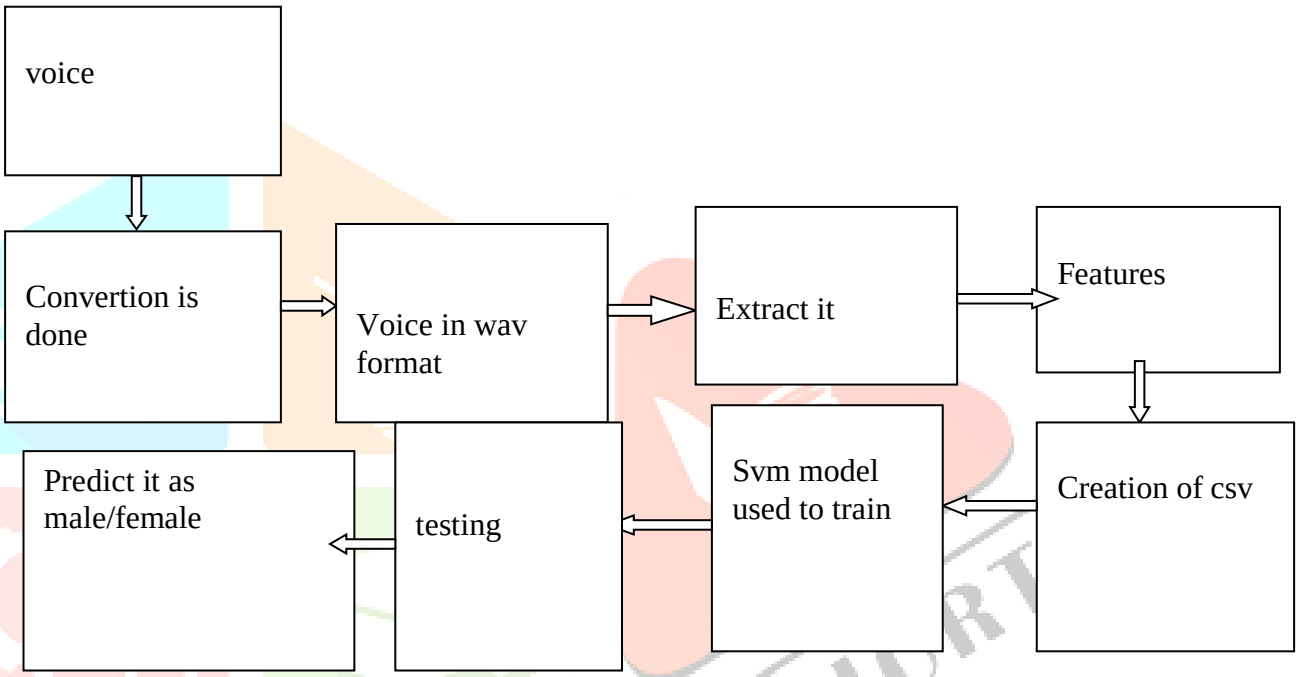


Fig2.1 architecture of entire system

iii. RELATED WORKS

In overall research paper they use several techniques for the accuracy of the project. They use CART, Random forest ,XGBOOST MODEL machine algorithms. In this paper we use SVM for getting more accuracy compared to other algorithms.

iv. EXISTING SYSTEM

In the existing system use gender classification by image using machine learning techniques. A opencv is used to capture the image and the geometric measurement are stored in database for comparison. The second method take more complex .Different emotion cause different facial expression it is very difficult to handle it because of large database .it produce inaccurate result.

v. PROPOSED SYSTEM

The main advantage of this project is audio based gender prediction Existing model is widely used .It can be used in various application like For detecting feelings, Helping personal assistants to answer questions with gender specific result.SVM algorithm is used in this paper. We use SVM algorithm to

train the system.SVM is a support vector machine algorithm used as a classification mainly in regression problems. The thing is to create the best line or domain boundary we can easily use new data in the future.

Libraries

- Tenser flow

It is a library for computating numerical. It is used for determining machine learning and deep learning applications.

- Pyaudio

It is used for audio determining. It depends on portaudio have to be installed on it.

- Numpy

It is used for work with arrays and it provides high performance on arrays.

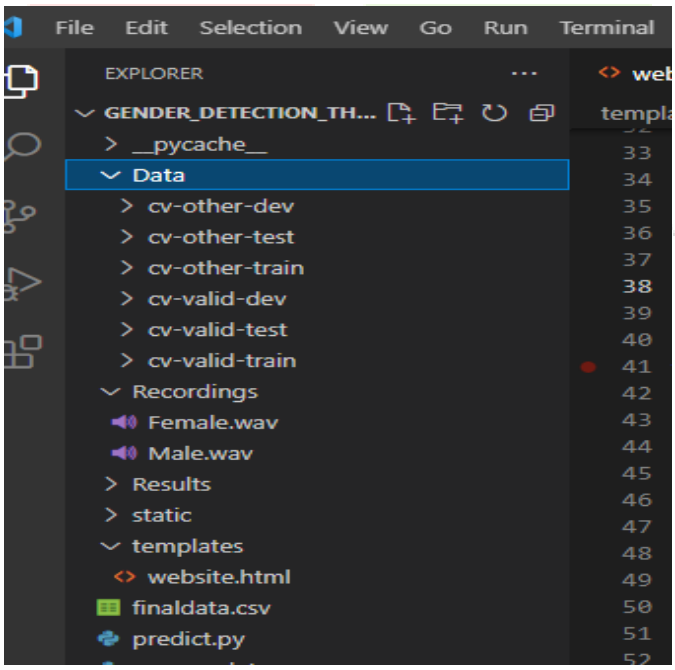
- Librosa

It is used for audio anlaysis and building blocks for audio . it is used in automatic speech recognition

- Pandas

It is used for analyse the data. It has high performance of users

Dataset structure look like



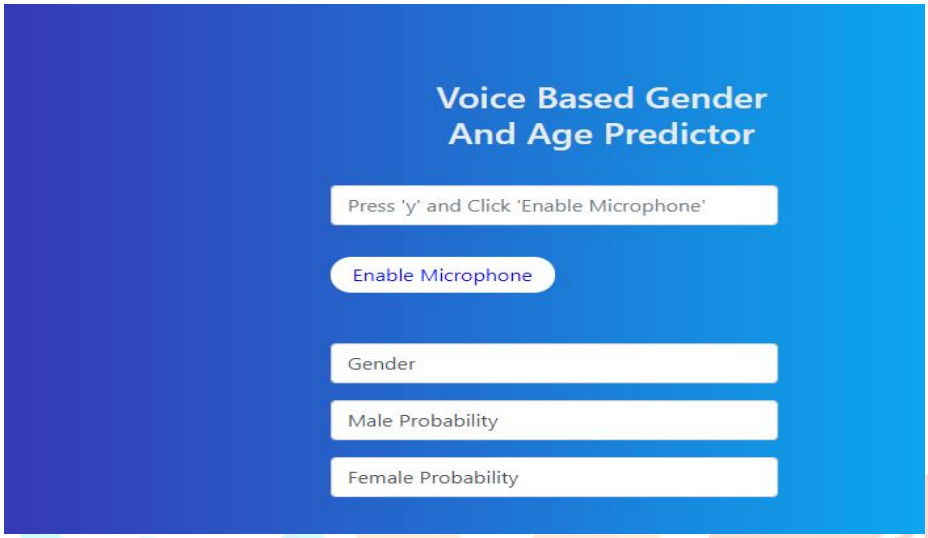
Feature extraction

Machine learning algorithms works on features extraction. Labels as x and features as y. in this paper feature extraction is a big task so machine learning algorithm may unable to predict it. We use MFCC that means mel frequency cepstral coefficient it gives high accuracy

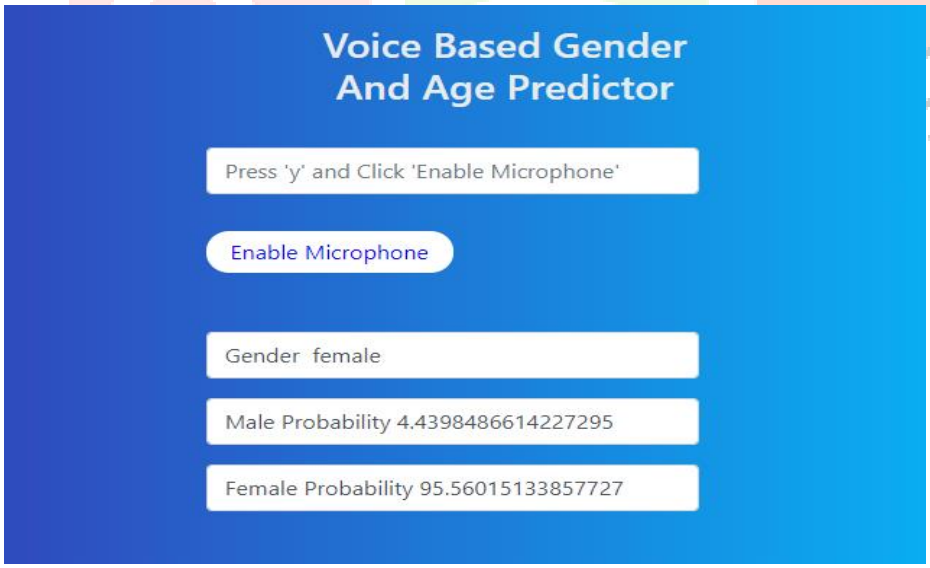
SVM

We used SVM model as the voice classifier. It is able to achieve higher accuracy. This method become very popular

User interface



Output



vi. Analysis

In this project svm alogorithm is used for gender recognition for getting more accurately . in most papers they donot follow this method, in this project svm algorithm is for getting higher accurate result.

vii. Comparison of both systems

Proposed system is highly accurate than existing system. An Opencv is an old technique to recognize the male and female. This is an advanced technique this project is mainly helpful to transgender to enhance the voice therapy.

viii. ACKNOWLEDGEMENT

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ix. CHALLENGES

This section discusses possible challenges that can occur while making the gender prediction. While registration what data is needed is necessary. Collecting the data and troublesome task it is important to bind accurate data. It is important to have a database to handle it.

x. CONCLUSION

The main aim of this project to builds a gender prediction system based on voice. the set of selected features seem to be enough for the tested models to achieve good accuracy. For getting the best accuracy we using these algorithm.gender recognition is used in various applications

xi.REFERENCES

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