

EMOSIC: EMOTION-DRIVEN MUSIC SELECTION

DEEP LEARNING FINAL PROJECT

TEAM MEMBERS

0120200245

NEHAAL PANDEY

0120200200

SUNIT TRIVEDI

INTRODUCTION



Emotion plays a major role in expressing or communicating human feelings and thoughts.

This project might help them to check his/her mood in real-time.

Also, a music recommended based on emotions can entertain and uplift the mood of a person.

The aim of our project is based on a web application designed specifically to capture the human face, identify the emotion and suggest music according to it.

PROBLEM STATEMENT



To Design and Develop a Web based Application for Human Facial Emotion Recognition and provide generalised Music Recommendation to the user.

OBJECTIVES

- Accurate Identification of Human facial region
- Precise Detection of Human Emotions
- Suitable Generalised Music Recommendation
- User-Friendly Application

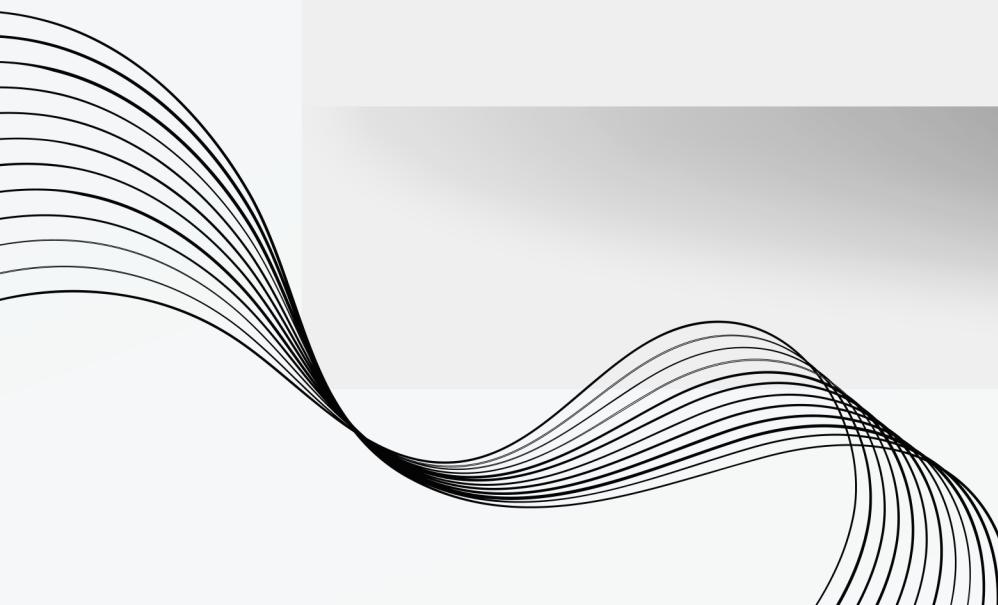
ABOUT DATASET



- This Dataset contains 28709 images for training with 3 columns. The feature columns include the pixels of human faces of an image and the target column contains the class of emotion.
 - Following are the Emotion Classes in the dataset:
 - Angry
 - Sad
 - Happy
 - Digust
- Fear
Neutral
Surprise

PART 1: HUMAN FACE DETECTION

- The first phase of the project is to identify the facial region of humans in an image.
- We harnessed the power of openCV and image processing for the same.
- We used the HAAR classifier, a functionality provided by openCV to detect the facial regions of Humans in the image.

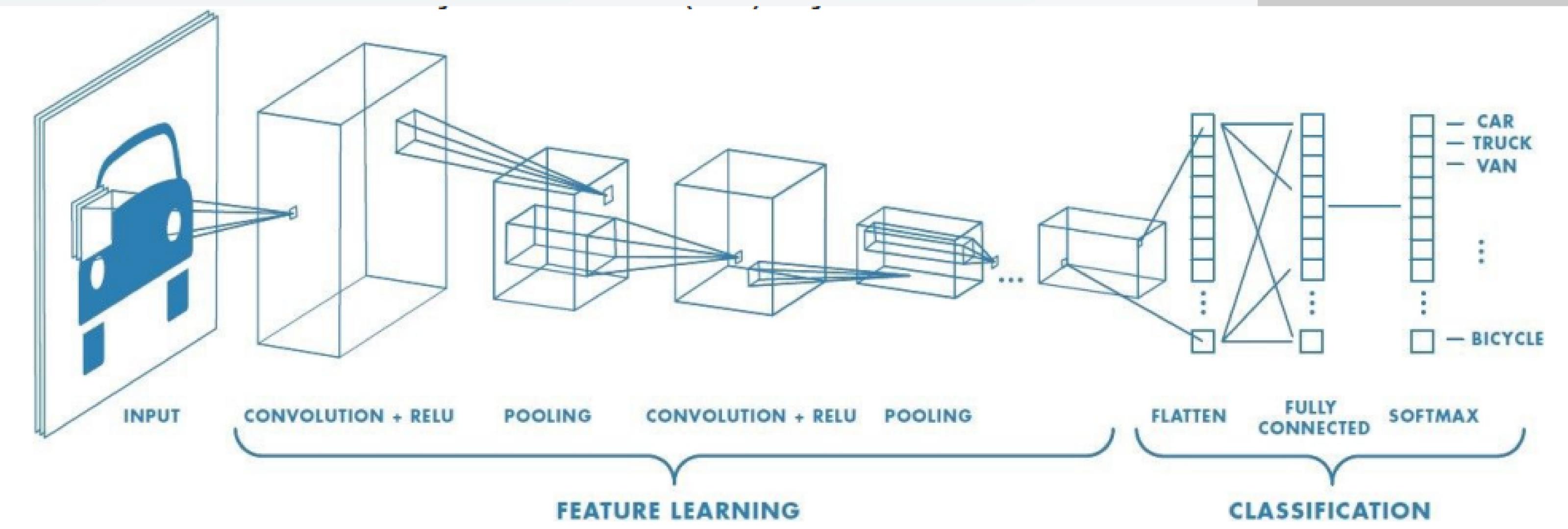


PART 2: CNN ARCHITECTURE FOR EMOTION DETECTION

- The second phase of the project is to detect the emotion from the identified facial region of the Human.
- Convolutional neural networks use principles from linear algebra, notably matrix multiplication, to discover patterns inside an image, making them more scalable for image classification and object recognition tasks.
- They have three main types of layers, which are: - Convolutional layer - Pooling layer - Fully-connected (FC) layer



PART 2: CNN ARCHITECTURE FOR EMOTION DETECTION

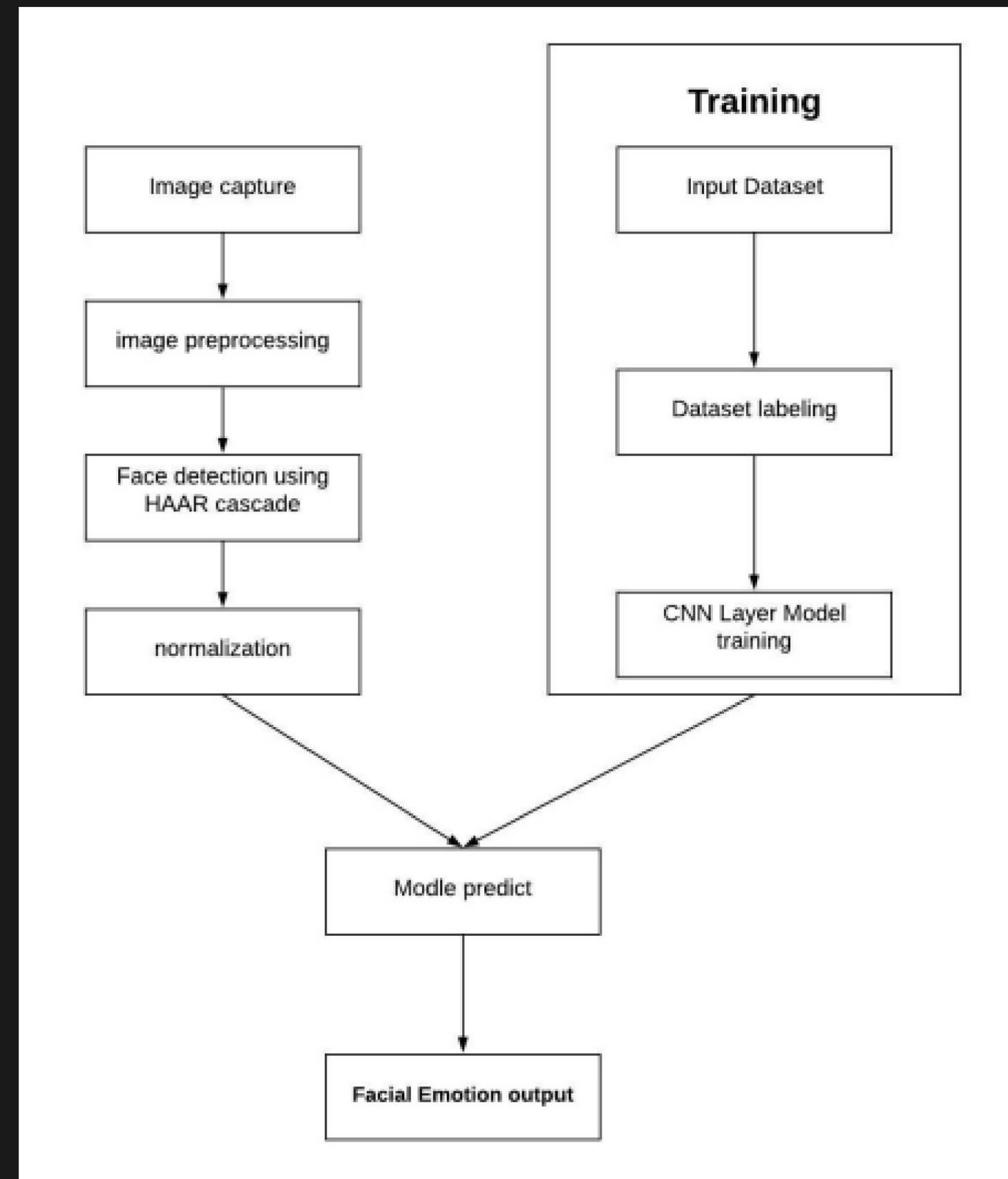


PART 3: SONG RECOMENDATION

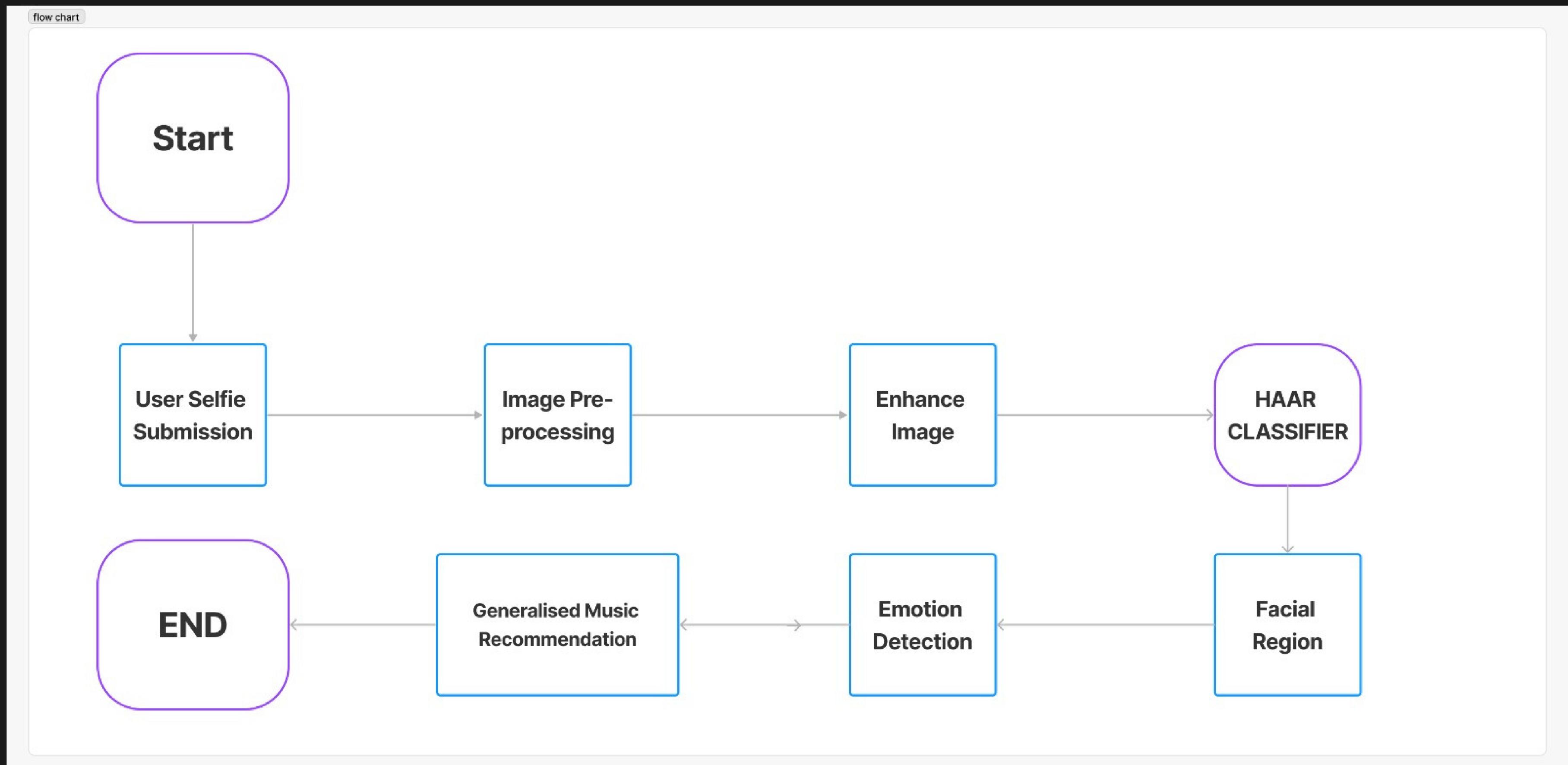


- The third phase of the project is to recommend a generalized song based on the emotion from the identified facial region of the Human.
- Used Spotify dataset for music recommendation.
- Used conditions to specify a particular emotion class.

FLOW CHART FOR EMOTION DETECTION



FLOW CHART



THANK YOU

