

APHELION MUSIC



MUSIC GENRE CLASSIFICATION SYSTEM

We are a Mumbai based startup in the music industry aiming to redefine the music classification in India, enabling recommendation and discovery engines to be optimized and personalized for each individual user



Who are we?

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What & How?!

THE STARTUP DILEMMA

Understanding the problem

OUR PROCESS

Utilizing a data-driven approach

MULTI-MODEL IMPLEMENTATION

Final product

Understanding The Problem



ANY GENERIC MUSIC STREAMING PLATFORM IS ESTIMATED TO HAVE ABOUT 70 M+ SONGS. THERE IS NEED TO AUTOMATE THE SYSTEM.

Market Analysis

COMPETITORS

Youtube Music, Spotify, Amazon Prime Music, Deezer

MARKET SIZE

USD 17.10 Billion in 2017, expected to reach USD 37.61 Billion by 2027, CAGR of 8.2% over the forecast period.



Utilizing a data-driven approach

Our software classifies the given music tracks into their respective music genres. We also engineered mood classification into our product. This enables recommender systems to group similar music and makes the musical journey of every user extraordinary!

DATA INPUT
USING RELEVANT AND INDUSTRY-STANDARD DATASET FOR PRODUCT IMPLEMENTATION

FEATURE ANALYSIS
USING ESTABLISHED AUDIO BASED TECHNIQUES TO EXTRACT THE MOST USABLE FEATURES

MULTI-MODEL APPROACH
CHECKING DIFFERENT MODELS AND SELECT THE MOST EFFECTIVE

PREDICTION
USING THE TRAINED MODEL TO PREDICT MUSIC GENRES

PREDICTION MODELS

ML (MACHINE LEARNING)

Machine learning algorithms like SVM, Random forest,etc are used with the optimal parameters for them,

CNN (CONVOLUTIONAL NEURAL NETWORK)

CNNs are regularized versions of multilayer perceptrons where each neuron in one layer is connected to all neurons in the next layer

ANN (ARTIFICIAL NEURAL NETWORK)

Collection of connected nodes called artificial neurons, which loosely model the neurons in a biological brain

LSTM (LONG SHORT TERM MEMORY)

Artificial recurrent neural network (RNN) architecture with feedback connections

DATA



TAGGED DATASETS

GTZAN Dataset

DISTINCT GENRES

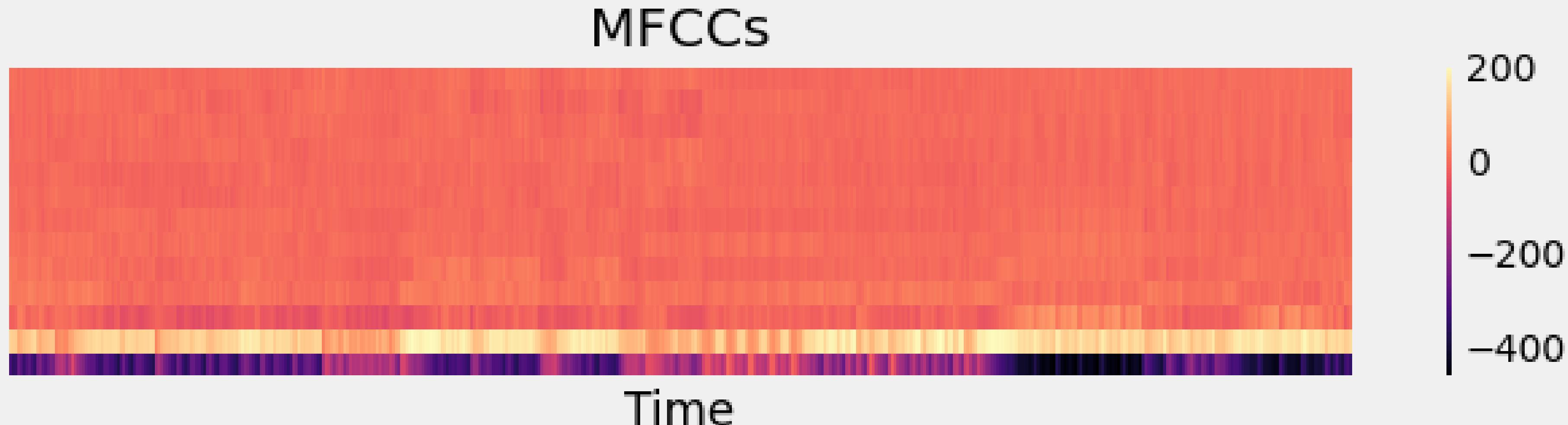
10 distinct genres

MFCC & FEATURES
EXTRACTED

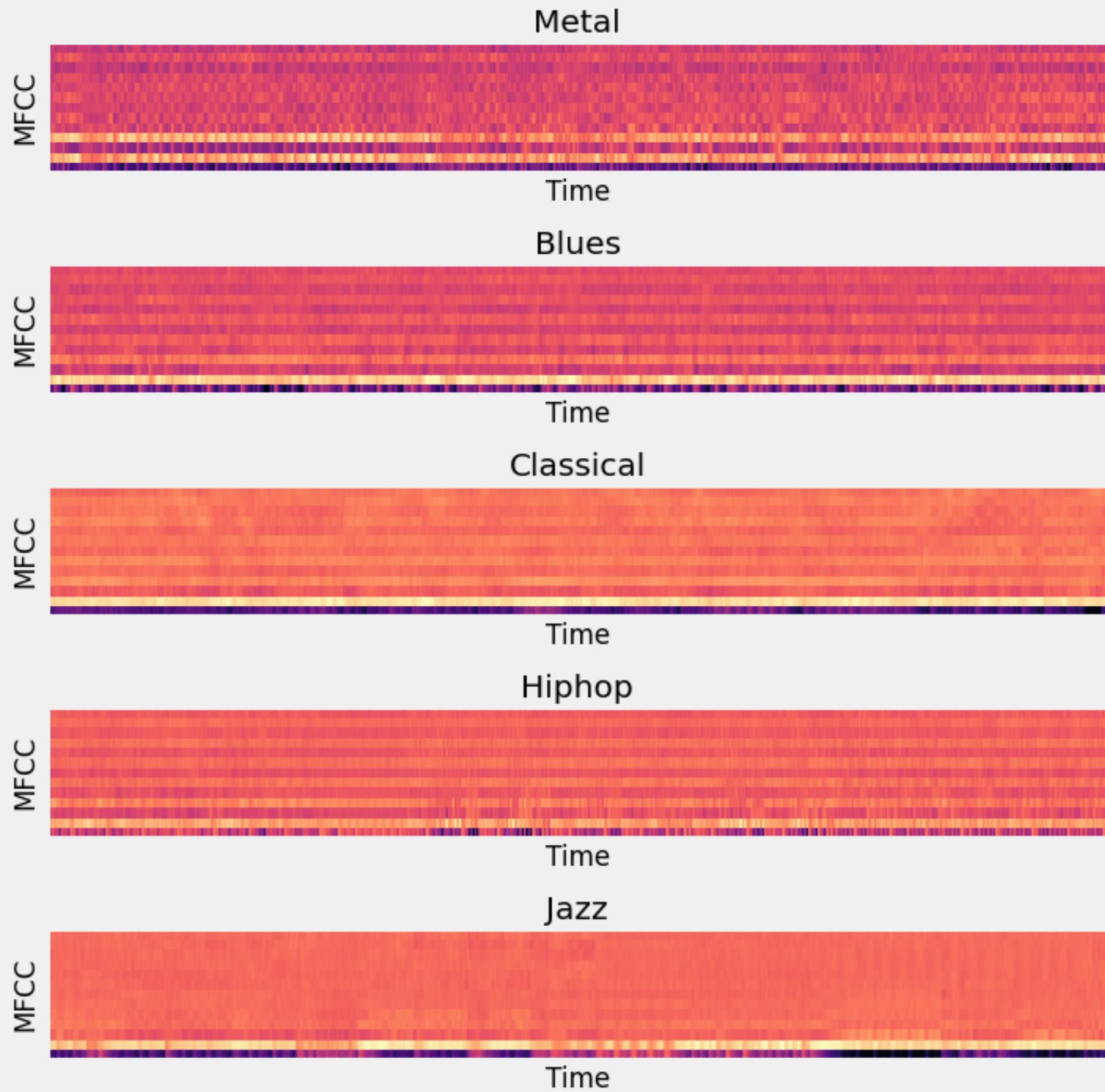
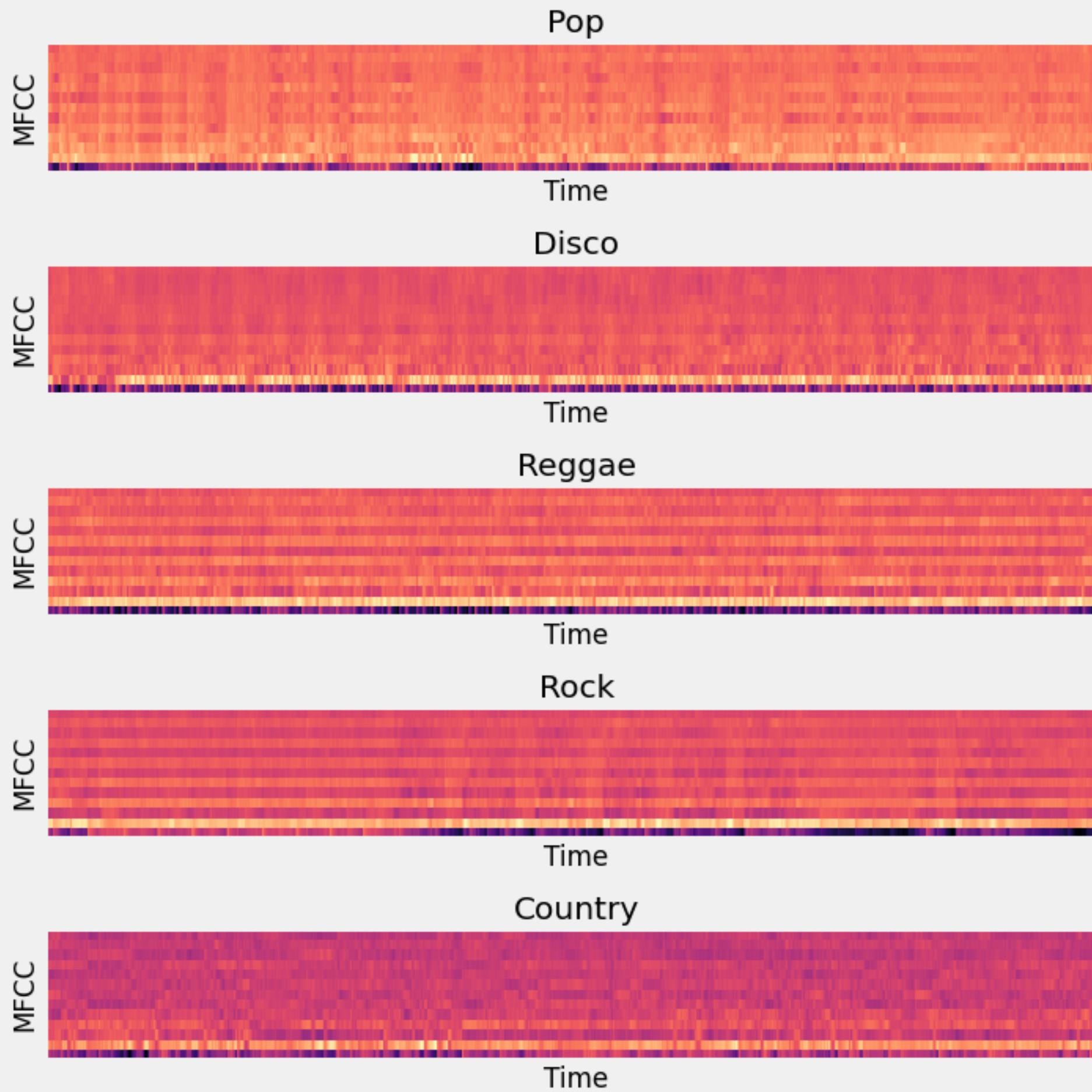
200+ Features

MFCC Features

MFCC coefficients



MFCC Features (for each genre)



We "predict" gooood!

ML	CNN	ANN	LSTM
85.10	90.10	71.80	88.20

*Accuracy might change in different iterations

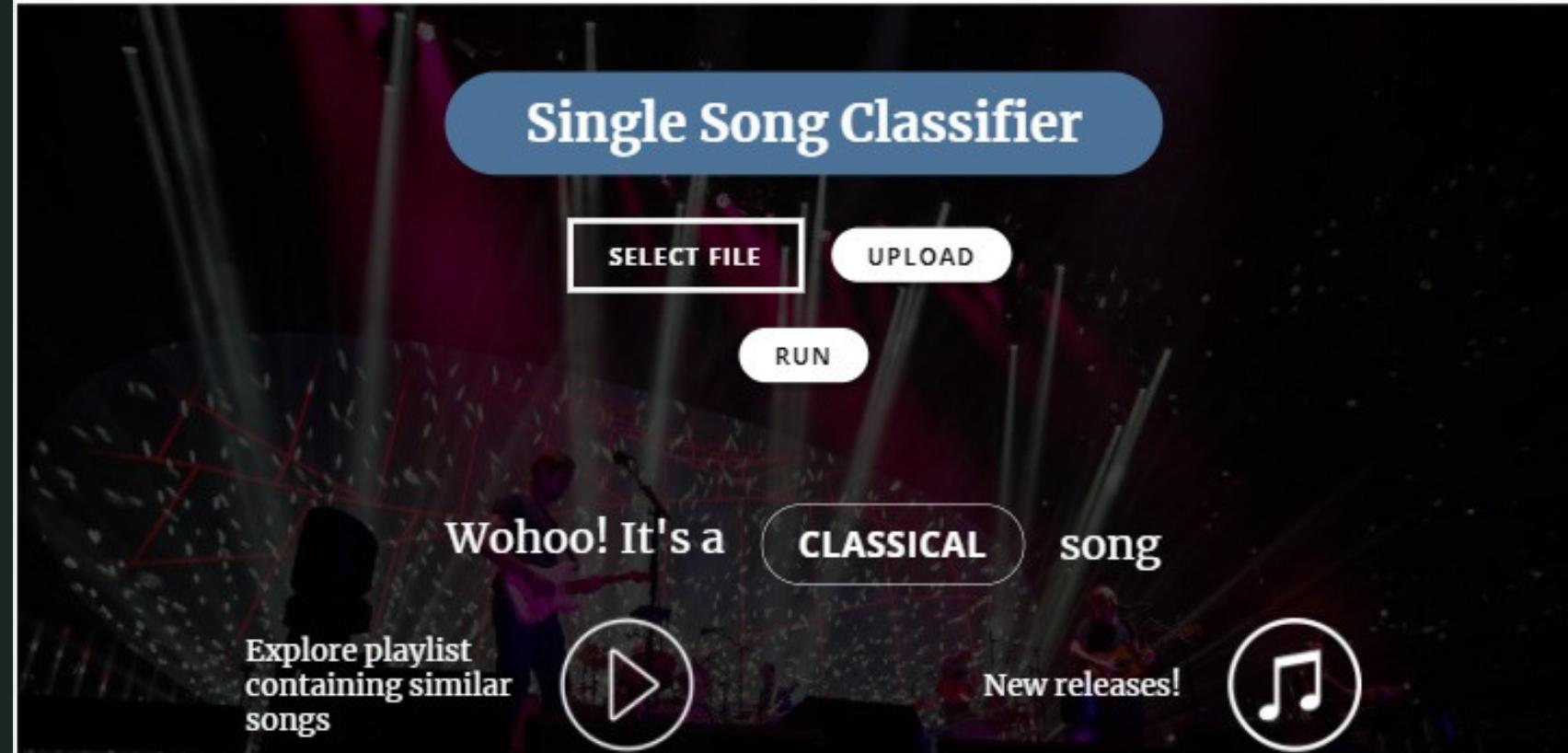
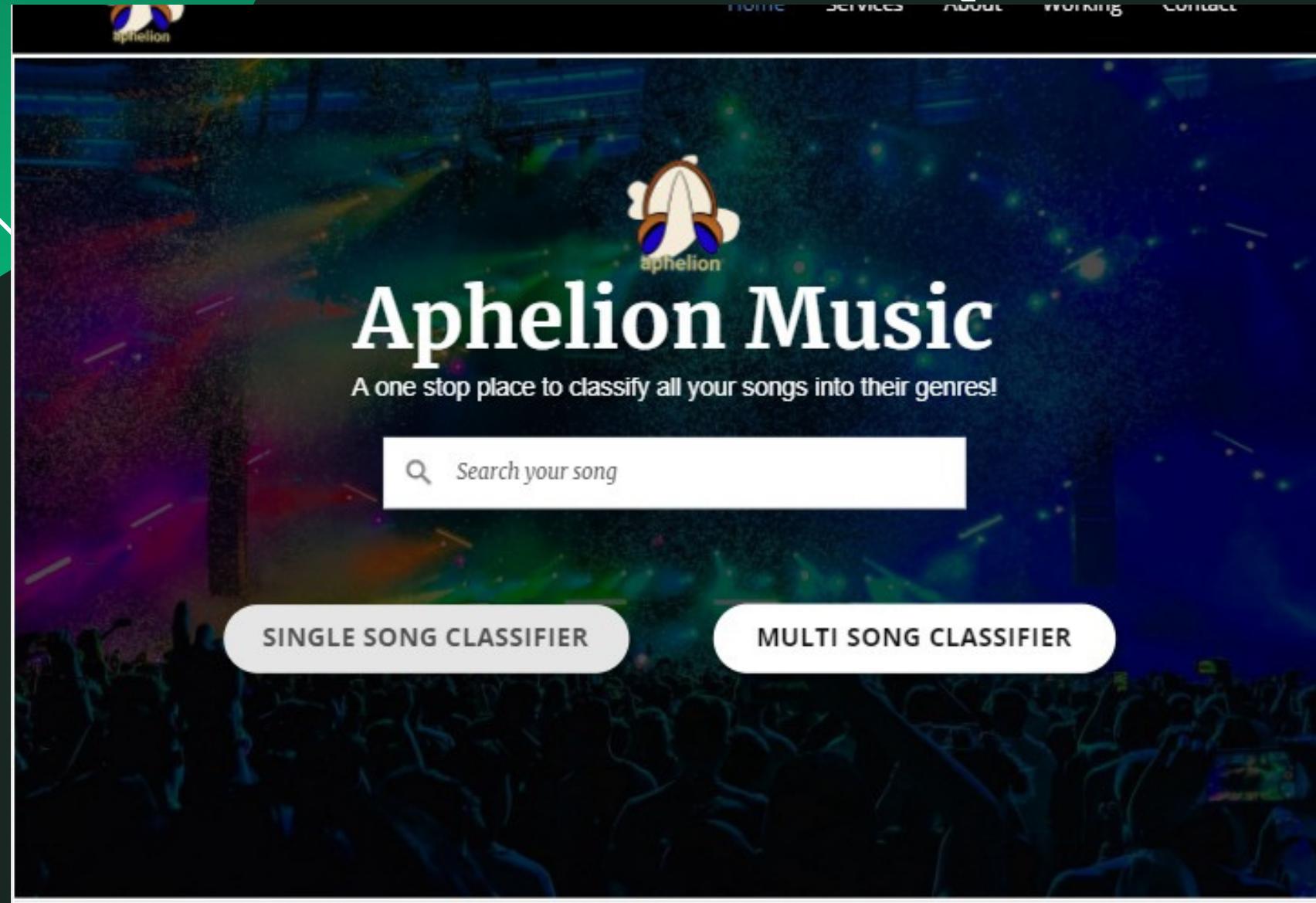




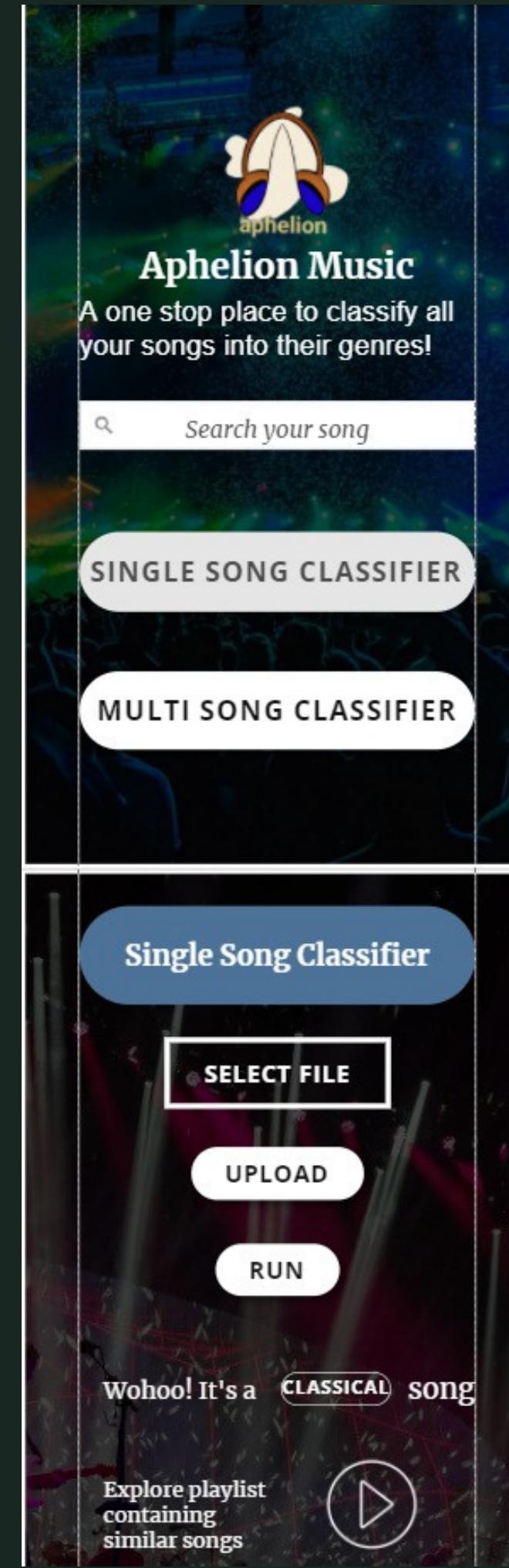
FINAL PRODUCT

APHELION MUSIC PLATFORM

PROPOSED INTERFACE (DESKTOP)



PROPOSED INTERFACE (MOBILE)



Key Interface Features



High Accuracy
(>90%) and clarity



Upload and Run
Friendly Interface



Listen at your
convenience



Contact Us

MAILING ADDRESS

IIT Bombay, Powai, Mumbai
400076

EMAIL ADDRESS

info@aphelionmusic.com

PHONE NUMBER

+91 9876543210

QUESTIONS
OR CONCERN
FOR