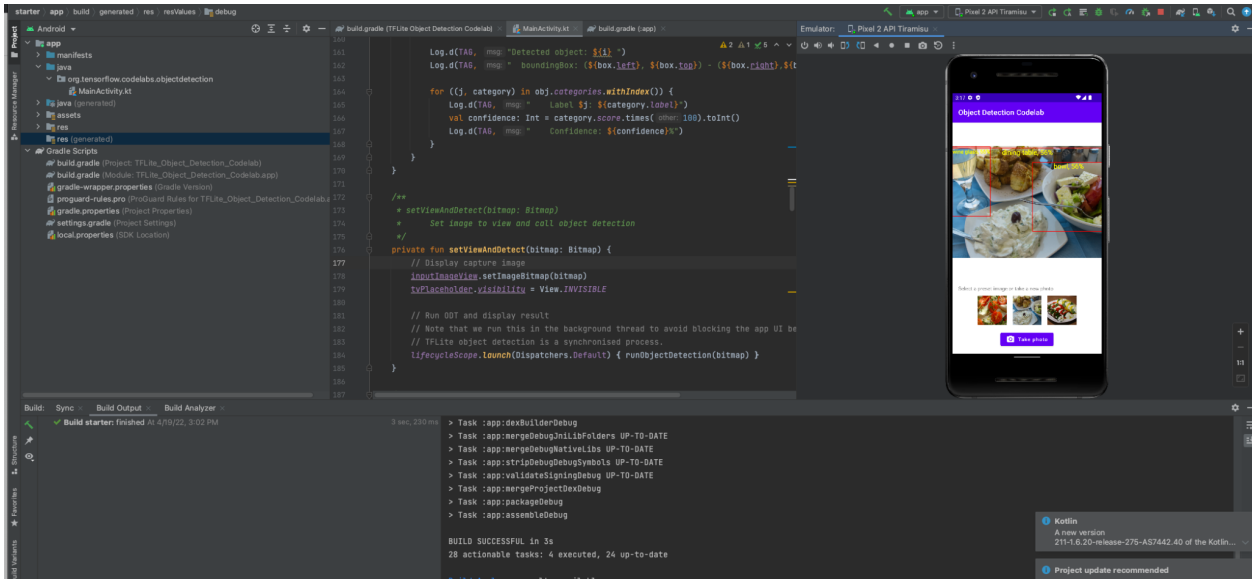
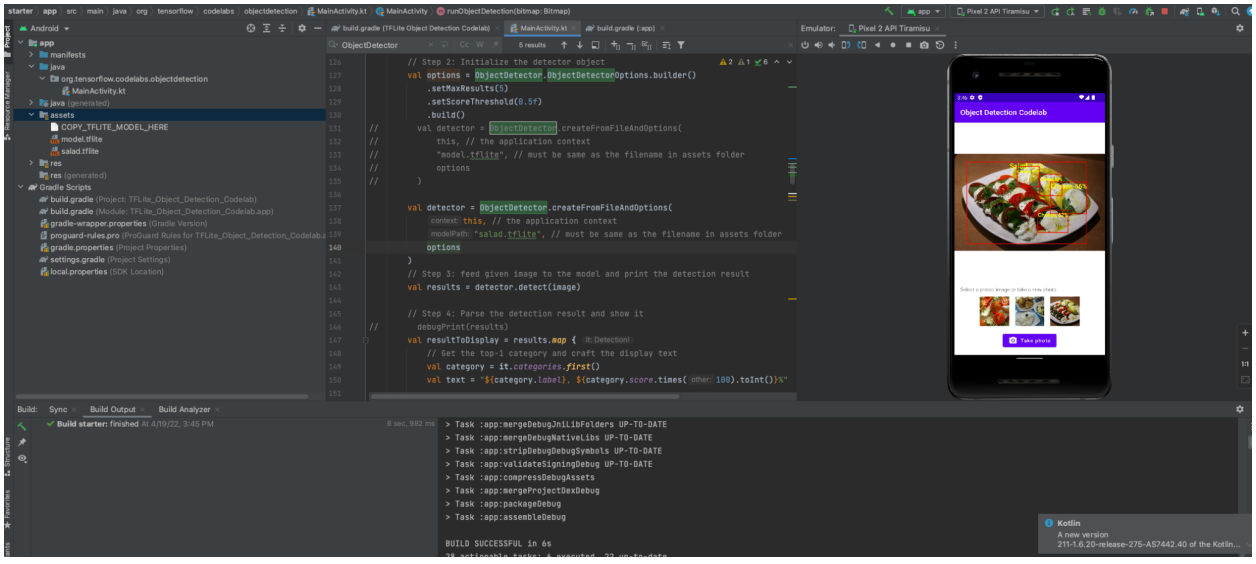
Assignment-5
On Device ML

Harika Nalam
SJSU ID - 015939963

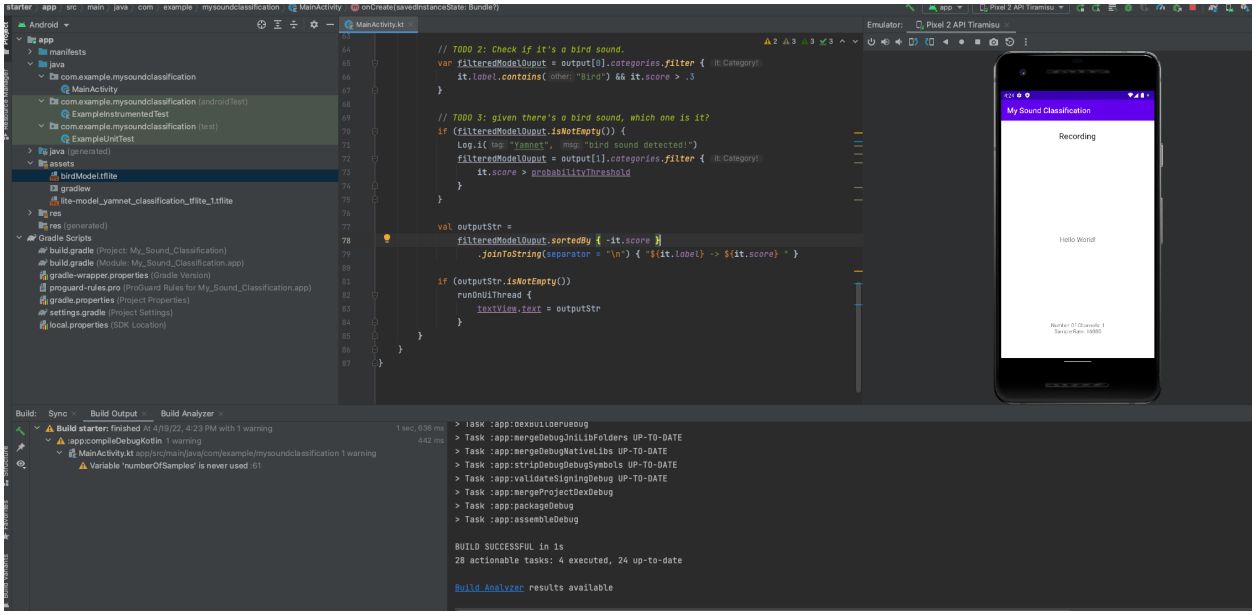
A) Mobile App and Image training on the device: Build and deploy a custom object detection model using tflite on the android simulator
   a) Using TensorFlow model to build SDK Android app and detect objects in an image





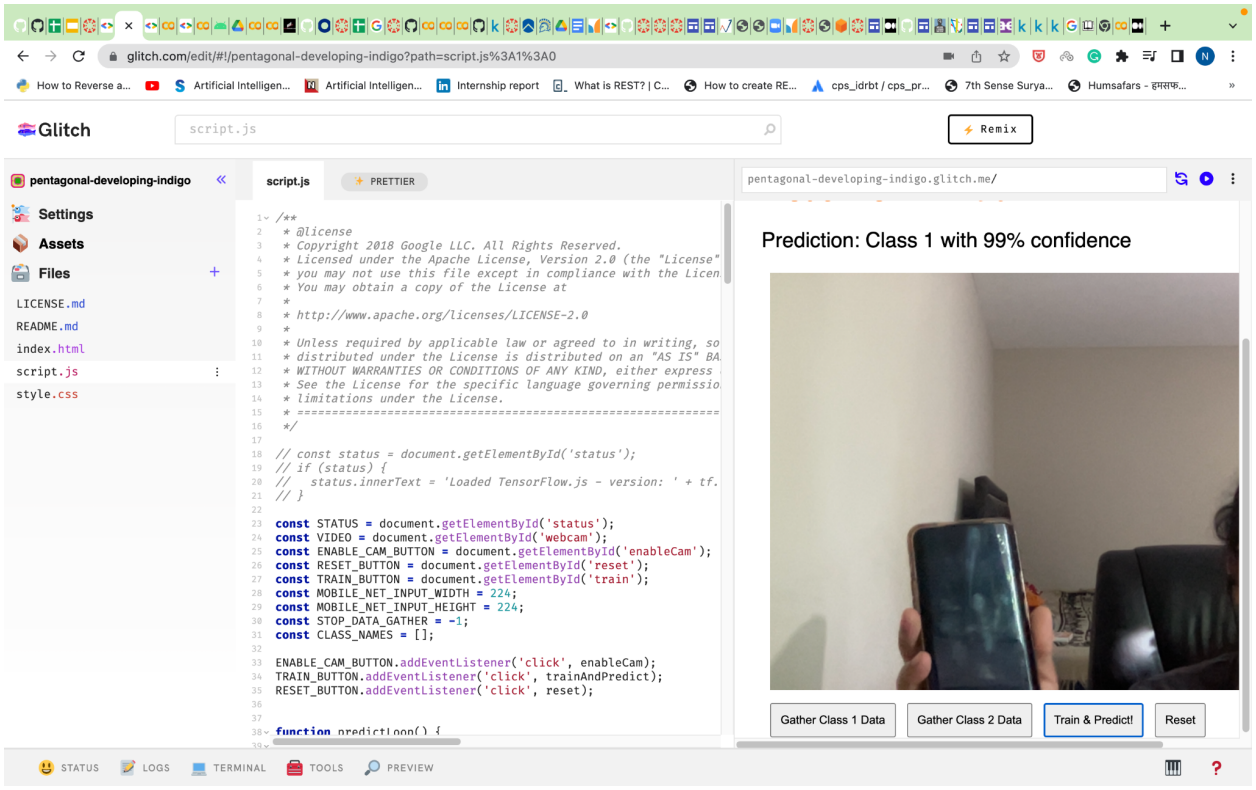
B) Mobile app and audio training on device: Build a custom pre-trained Audio Classification model

a) Using the Tensorflow model an SDK Android app is used to record the audio and classify the audio



C) Web app and image training on the device: TensorFlow.js Transfer Learning Image Classifier

a) Transfer Learning using Glitch.com
b) As a first step, a binary classification dataset is generated
c) The second step is to Train and predict the model on the newly generated dataset.
d) Class and confidence for the image is the output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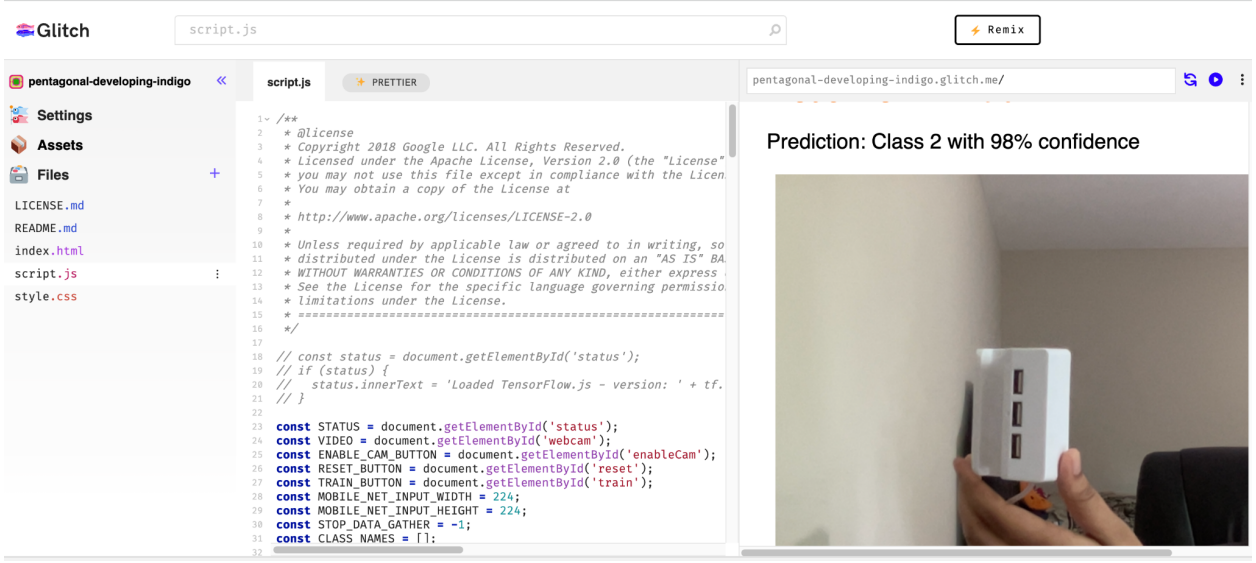
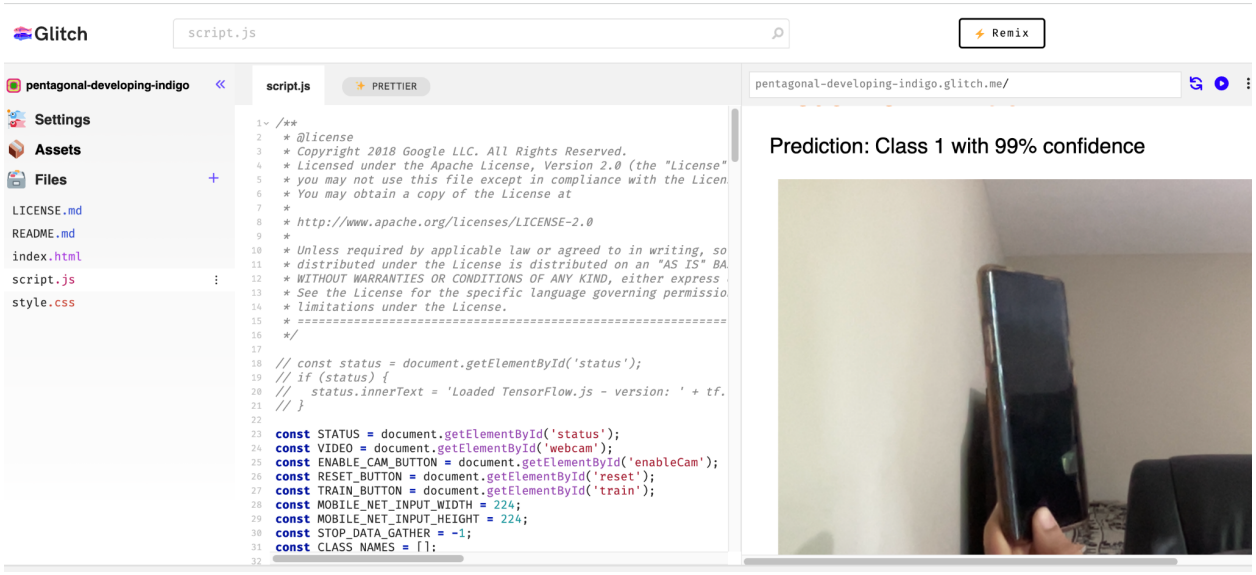
Glitch
script.js
Remix
pentagonal-developing-indigo
Settings
Assets
Files
LICENSE.md
README.md
index.html
script.js
style.css
script.js
PRETTIER
pentagonal-developing-indigo.glitch.me/
Prediction: Class 1 with 99% confidence
Gather Class 1 Data
Gather Class 2 Data
Train & Predict!
Reset
STATUS
LOGS
TERMINAL
TOOLS
PREVIEW


Glitch
script.js
Remix
pentagonal-developing-indigo
Settings
Assets
Files
LICENSE.md
README.md
index.html
script.js
style.css
script.js
PRETTIER
pentagonal-developing-indigo.glitch.me/
Prediction: Class 2 with 98% confidence



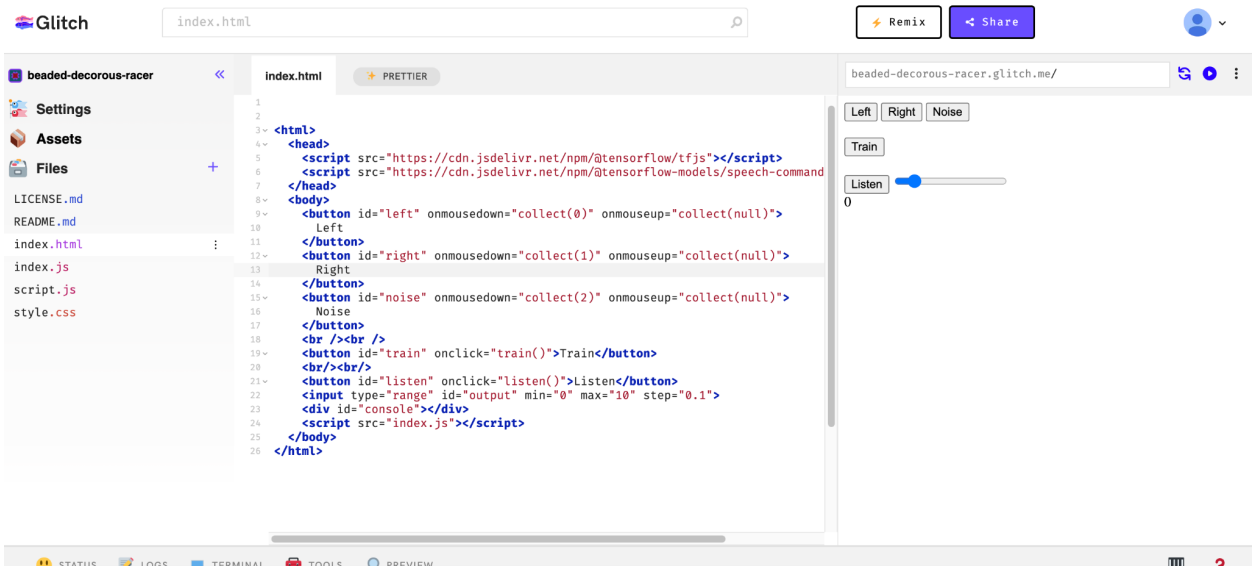
D) Webapp and audio training on the device: TensorFlow.js - Audio recognition using transfer learning

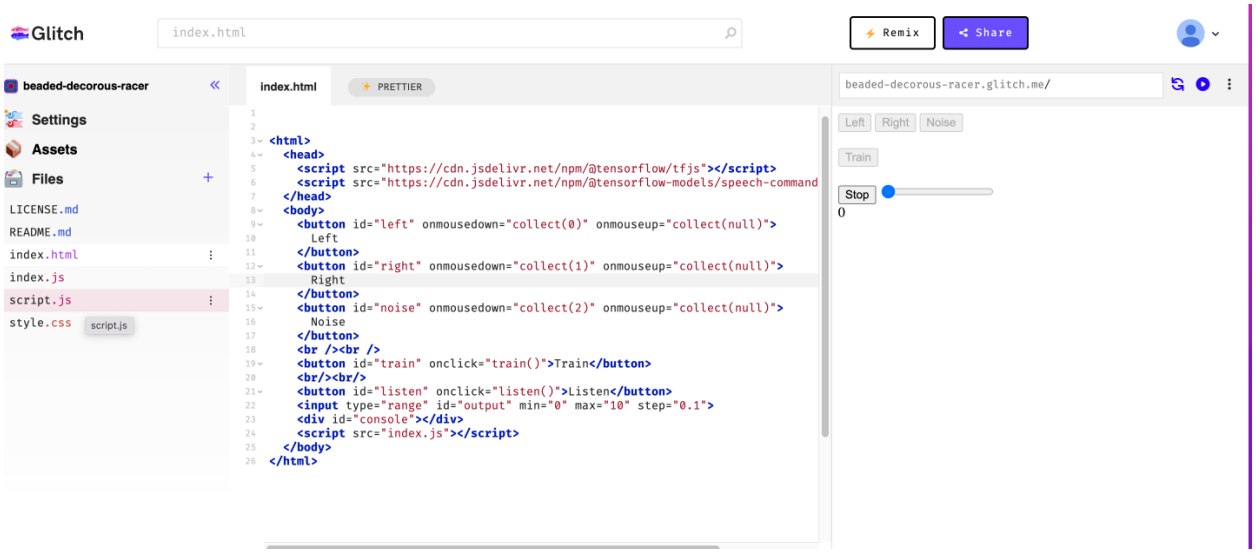
a) Audio recognition using transfer learning

b) A new audio dataset is generated with two different audio sounds along with noise

c) The model is built on the newly generated dataset.

d) And model is used to predict the audio signals





E) Using out of box SDK to do ML on-device: Use ML Kit to perform

a) The model is built to translate the text into other languages.