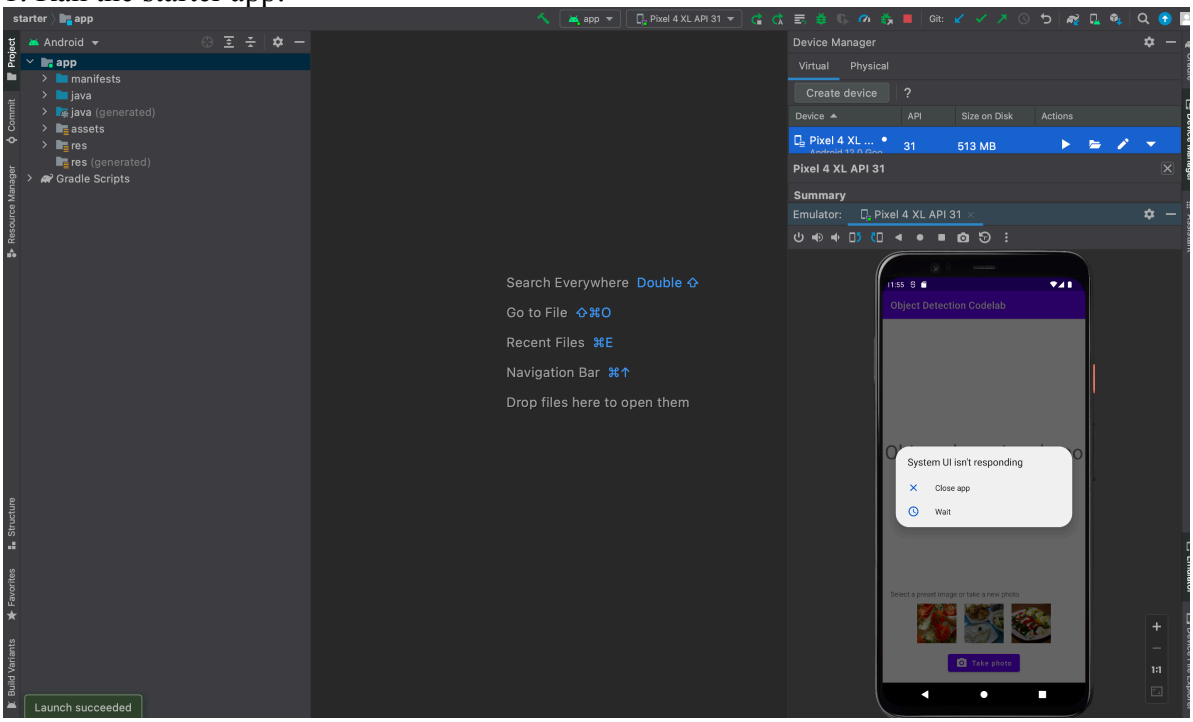
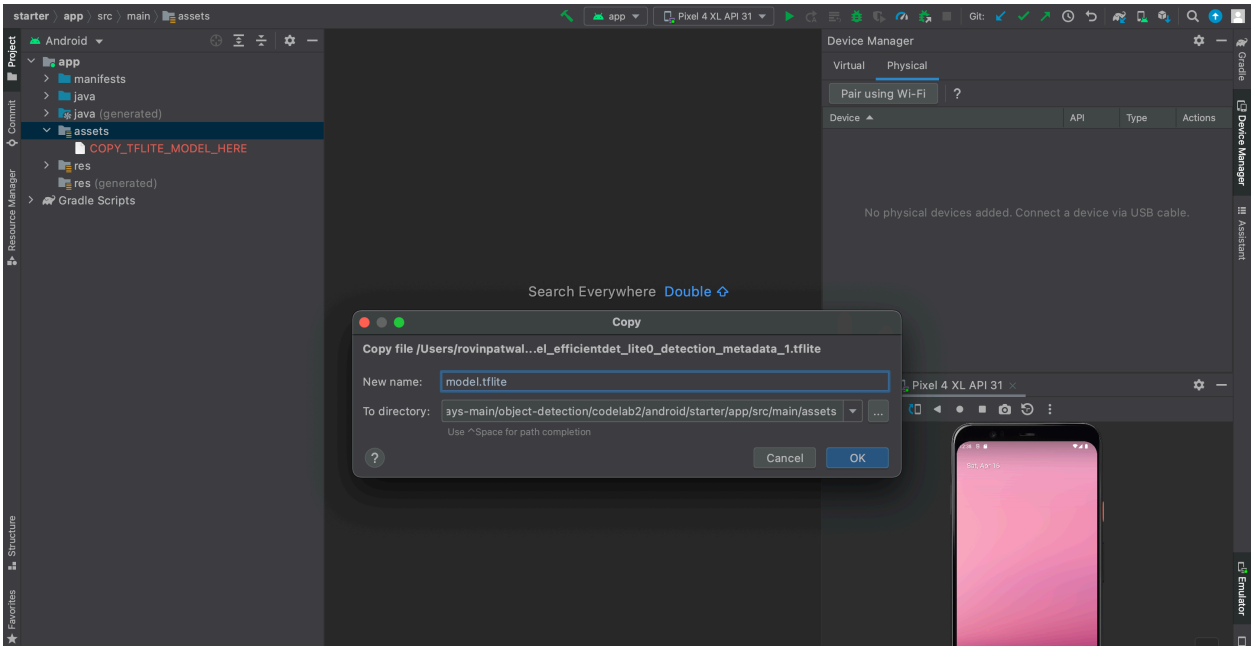
a) Mobile App and Image training on device: Build and deploy a custom object detection model using tflite on android simulator

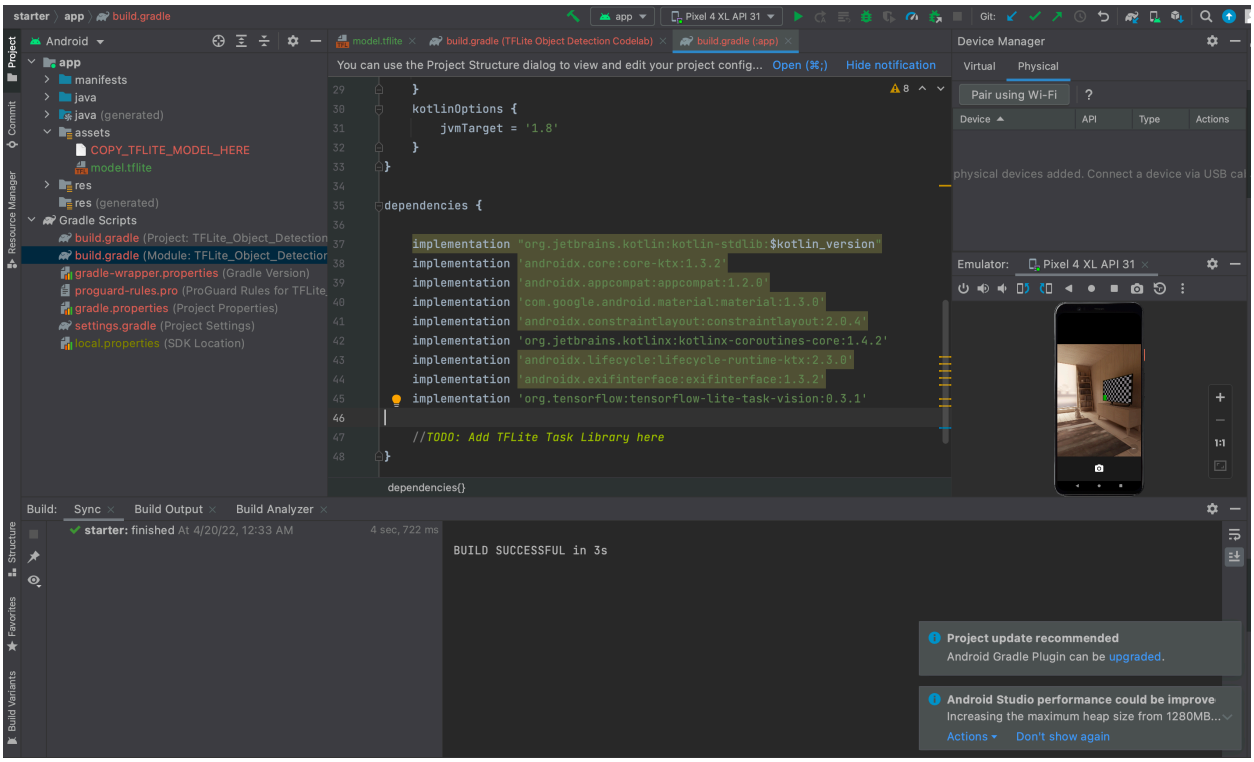
1: Ran the starter app:



2. Added model file in assets:

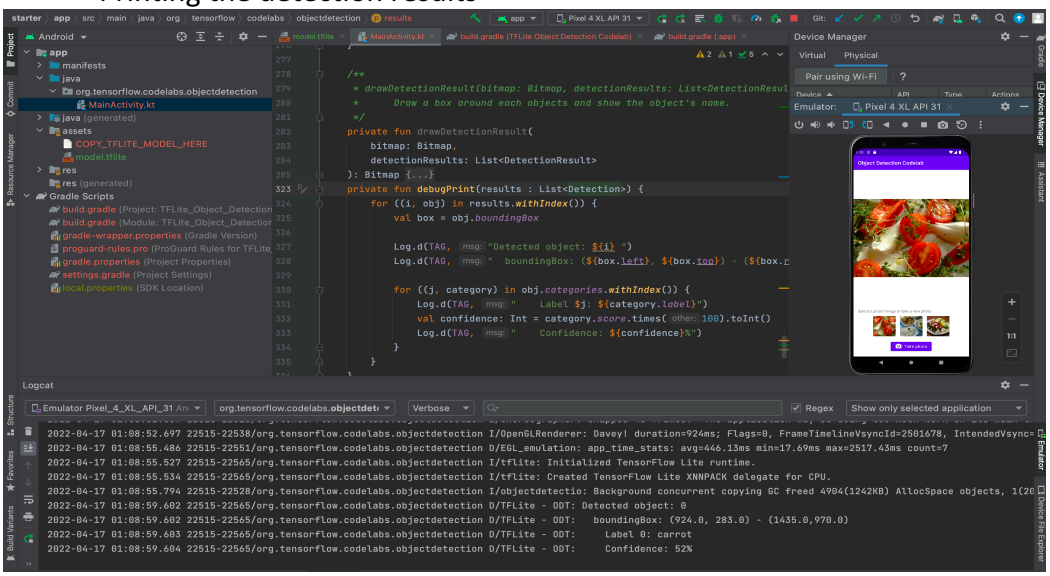


3. Added dependencies in build.grade file

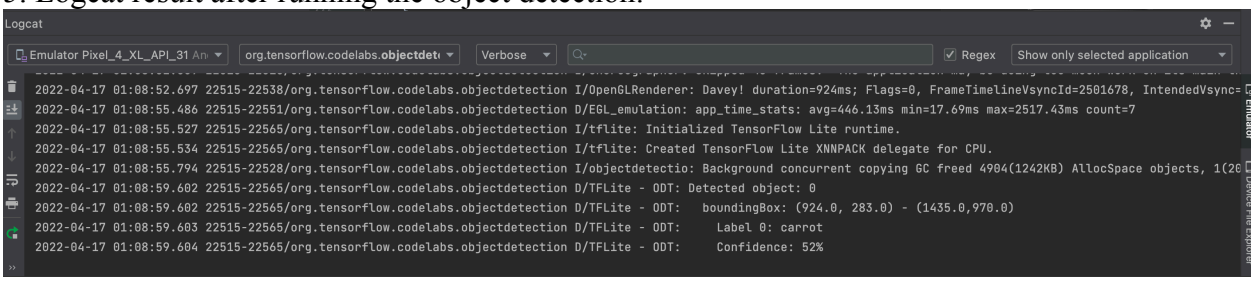


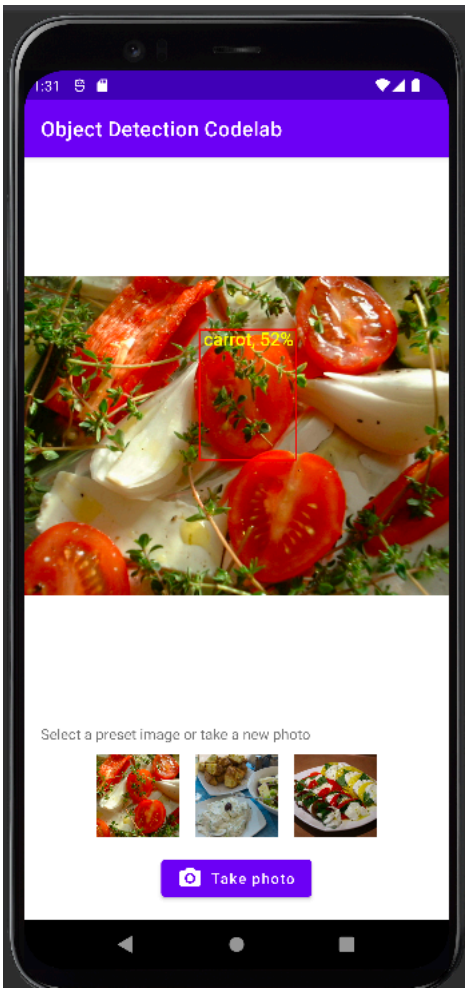
4: Added code for:

- Creation of image object
- Creation of Detector instance
- Feeding Image(s) to the detector
- Printing the detection results



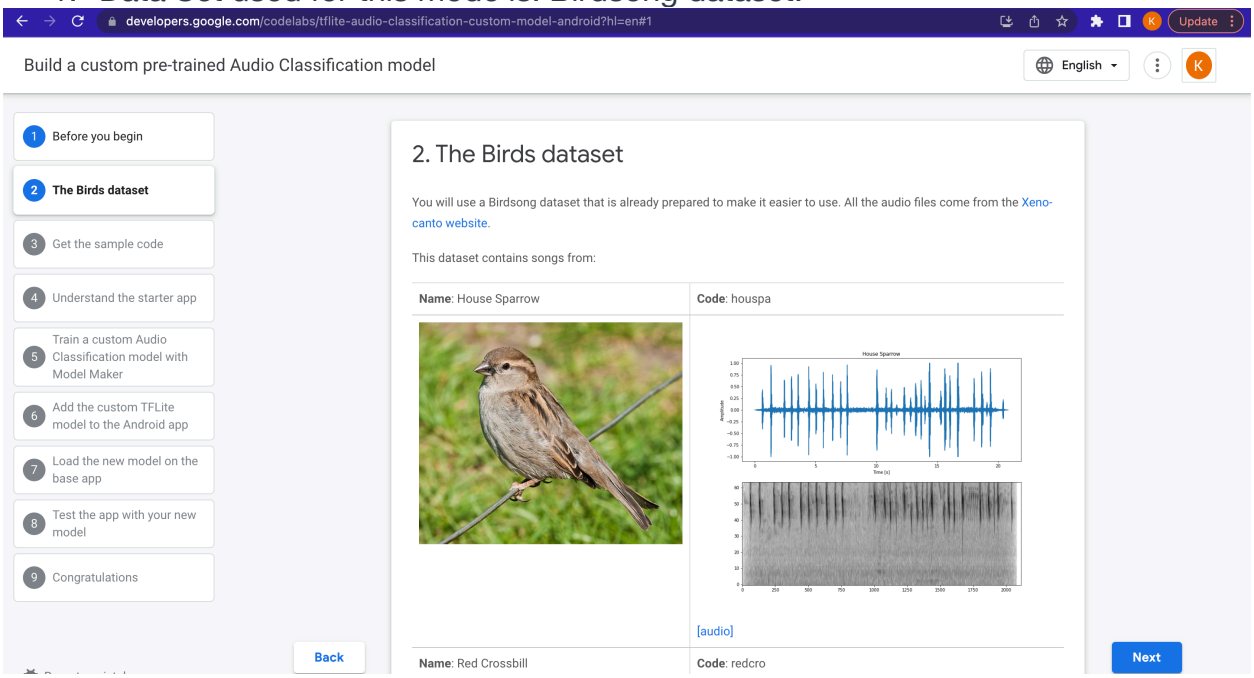
5. Logcat result after running the object detection:



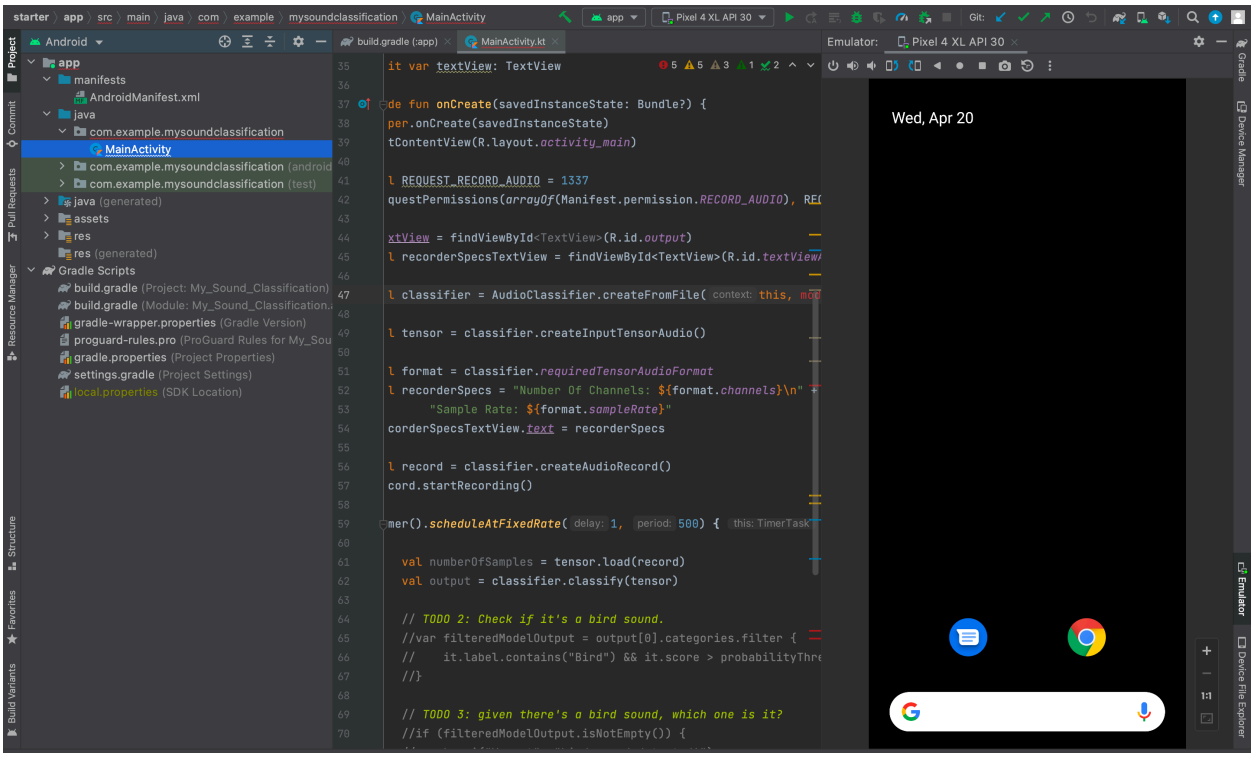


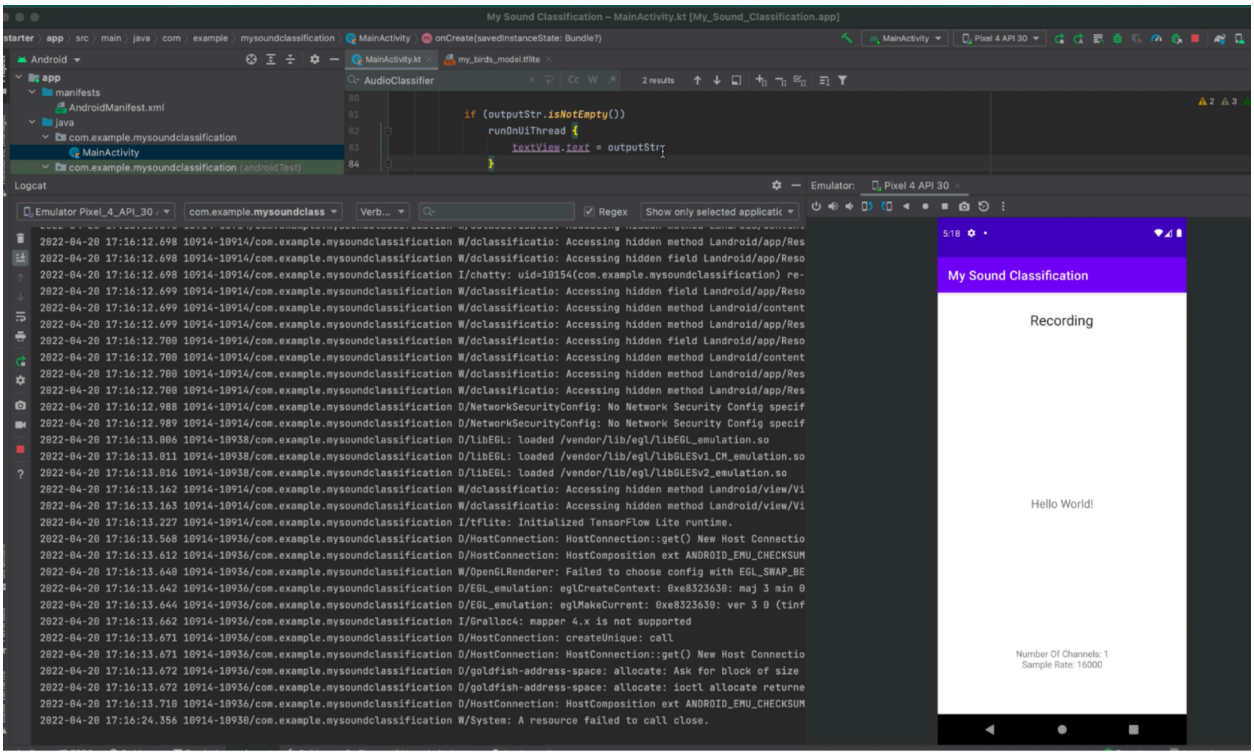
b) Mobile app and audio training on device : Build a custom pre-trained Audio Classification model

1. Data Set used for this mode is: Birdsong dataset.



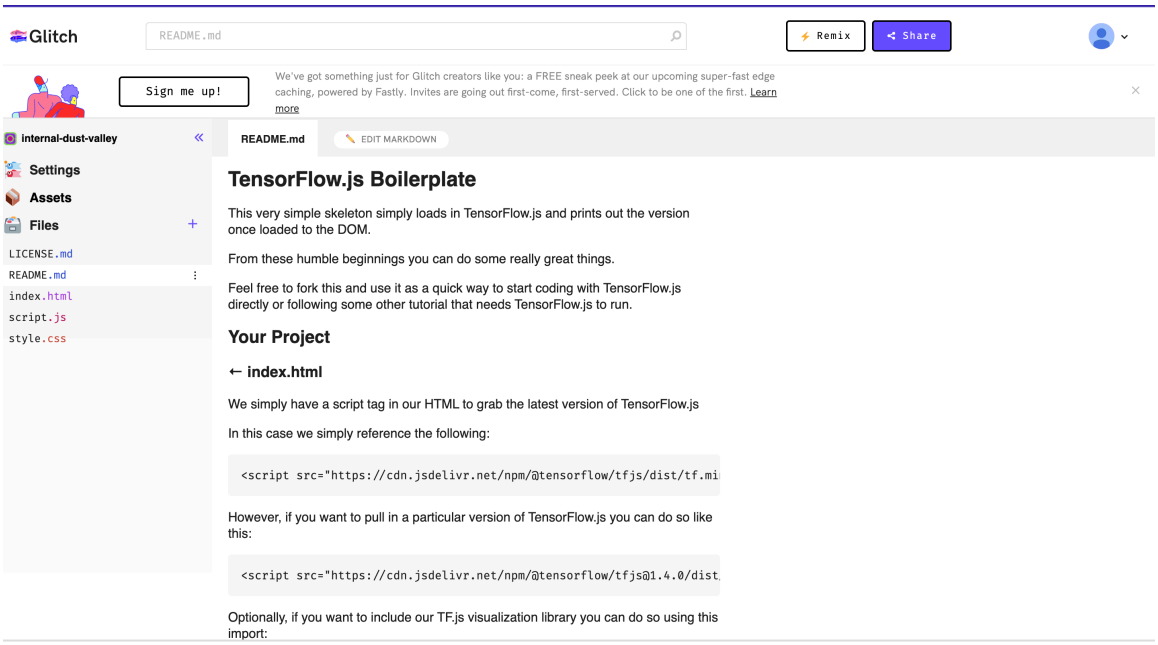
2. Model after importing in Android Studio



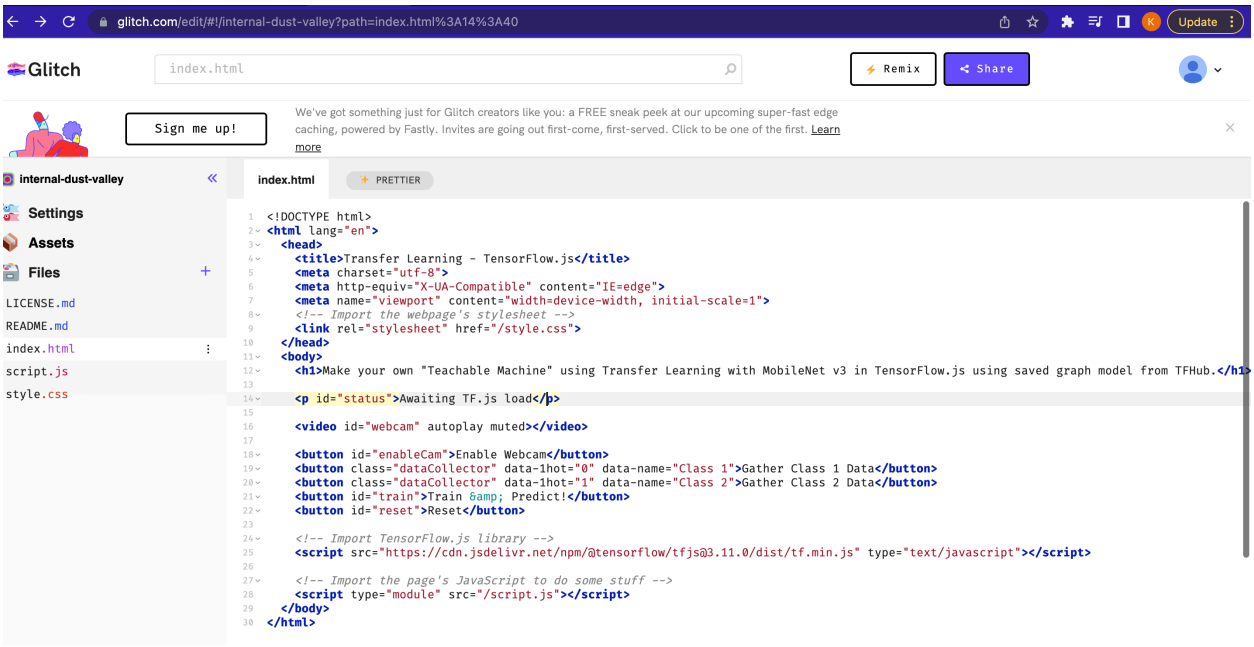


c) Web app and image training on device: TensorFlow.js Transfer Learning Image Classifier

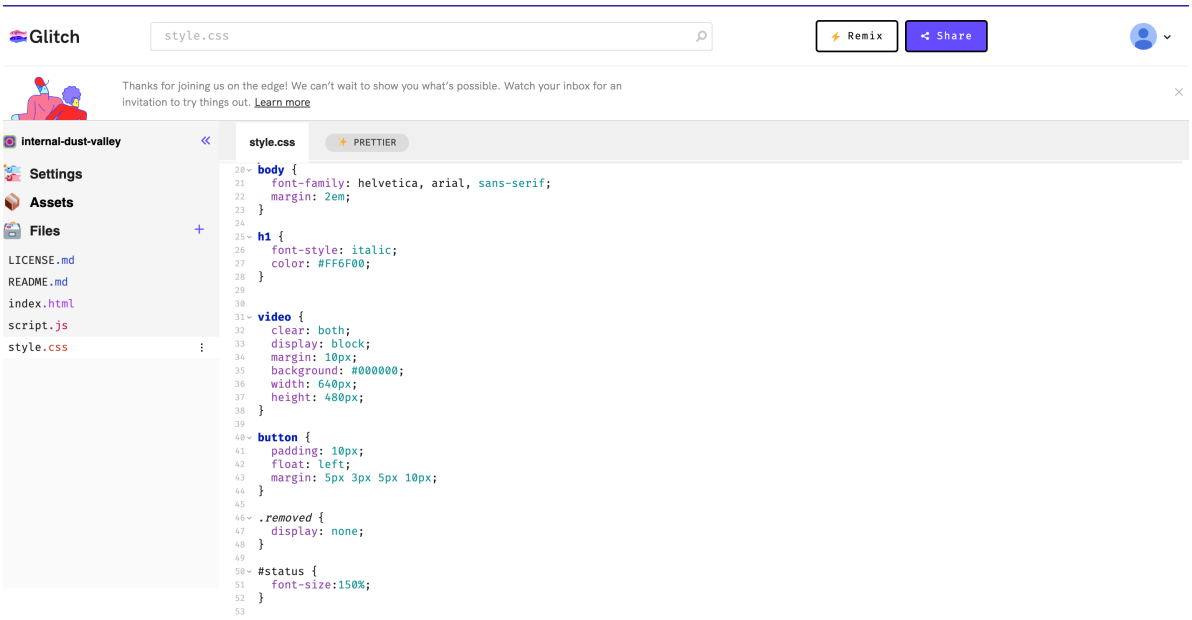
Code in glitch: https://glitch.com/edit/#!/internal-dust-valley?path=README.md%3A1%3A0
Live model link: https://internal-dust-valley.glitch.me/

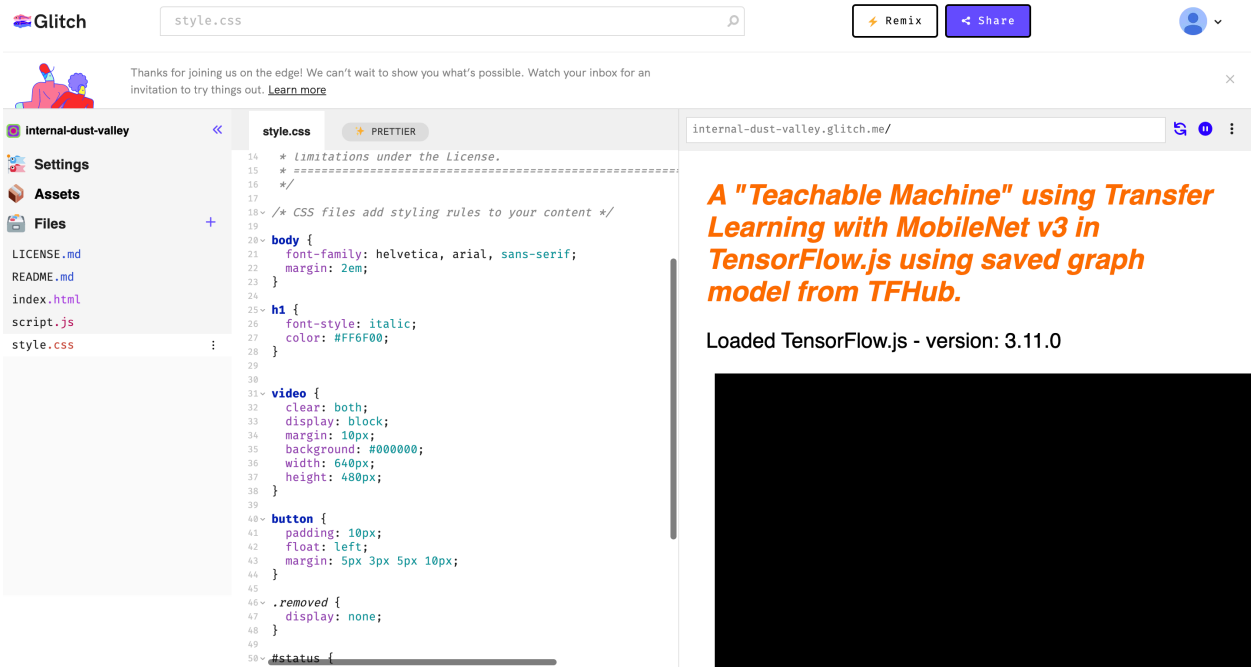


1. Edit HTML file:

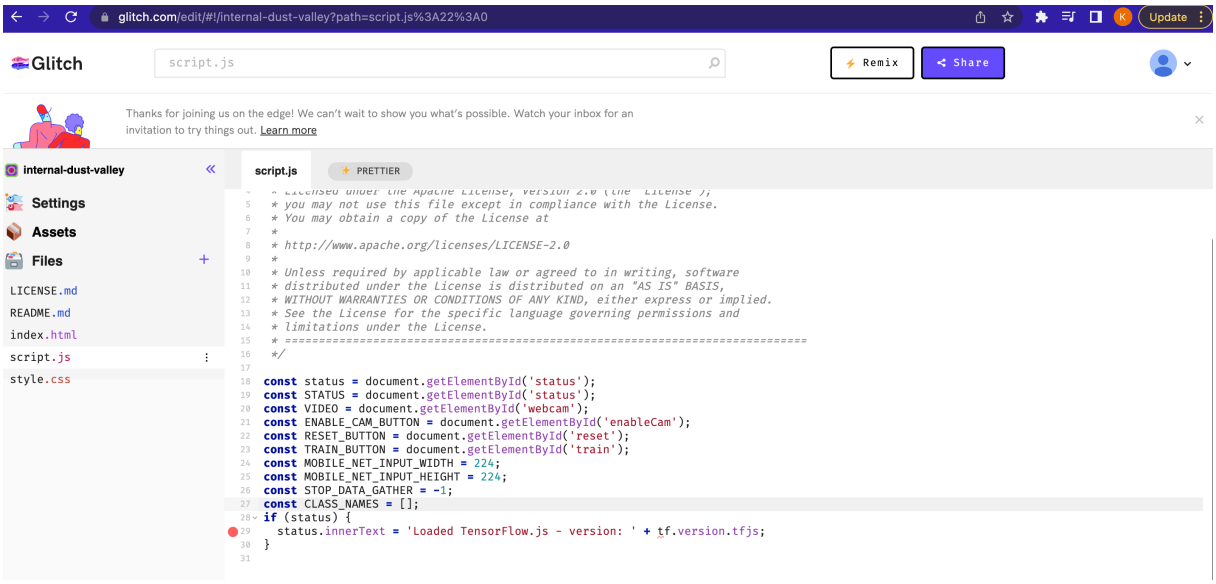


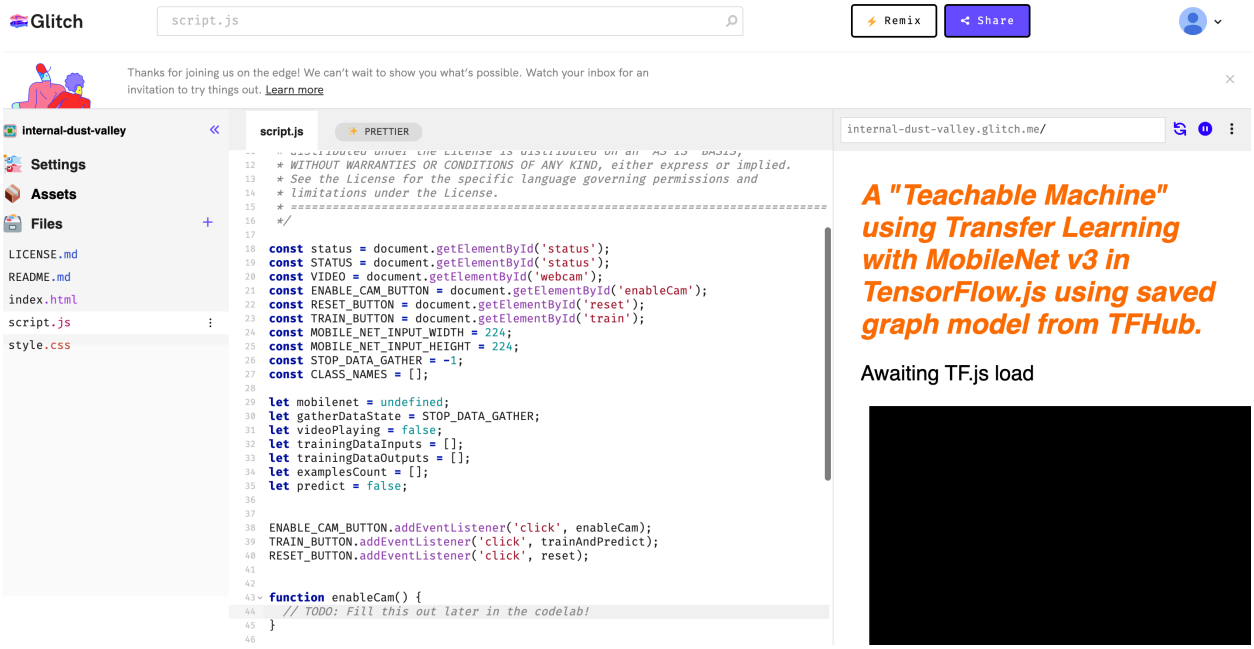
2. Add CSS changes in style.css:



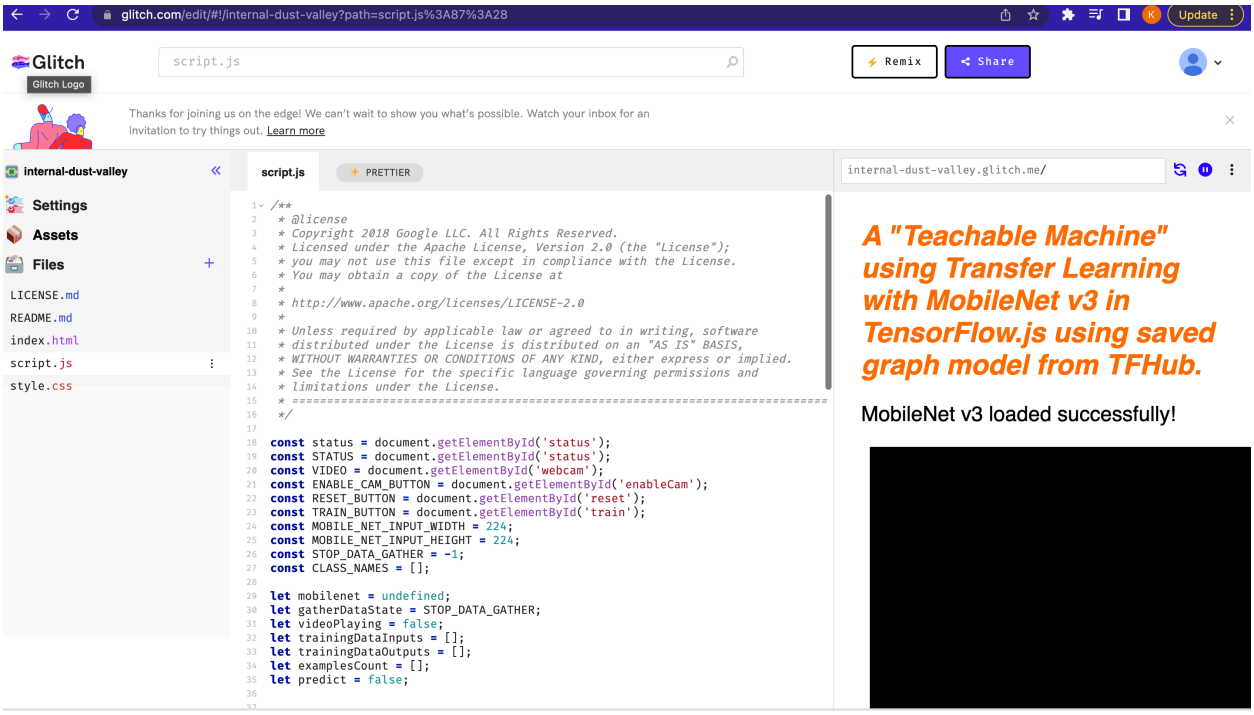


3. Script.js changes:

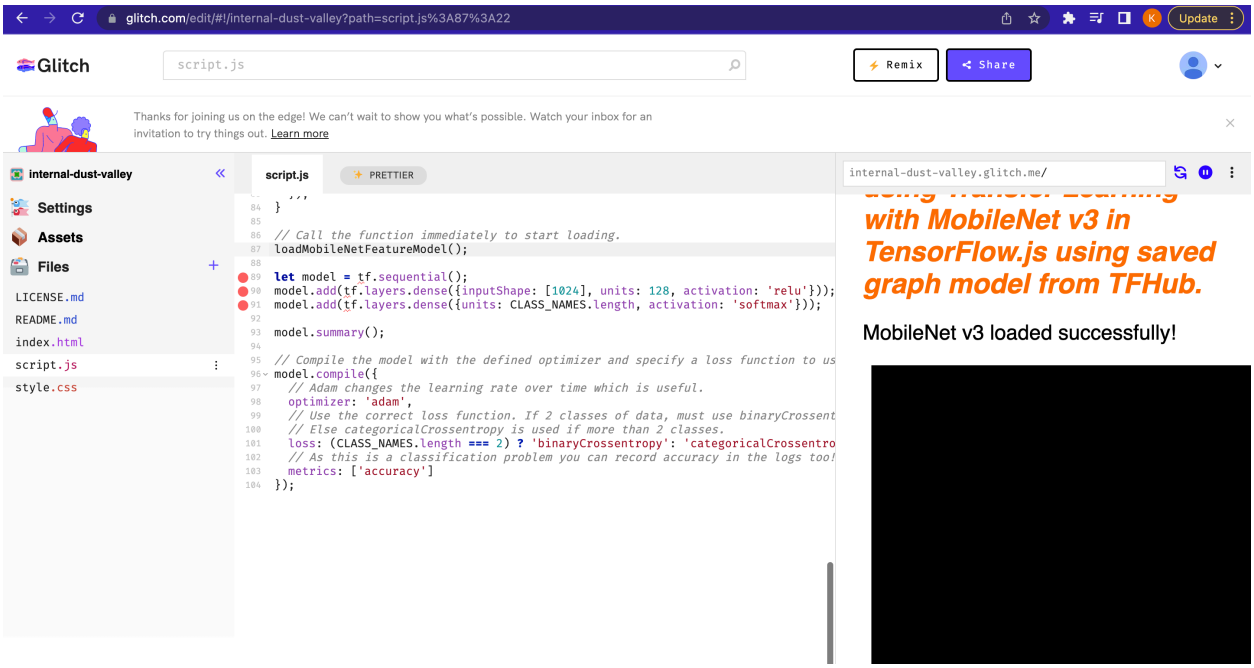




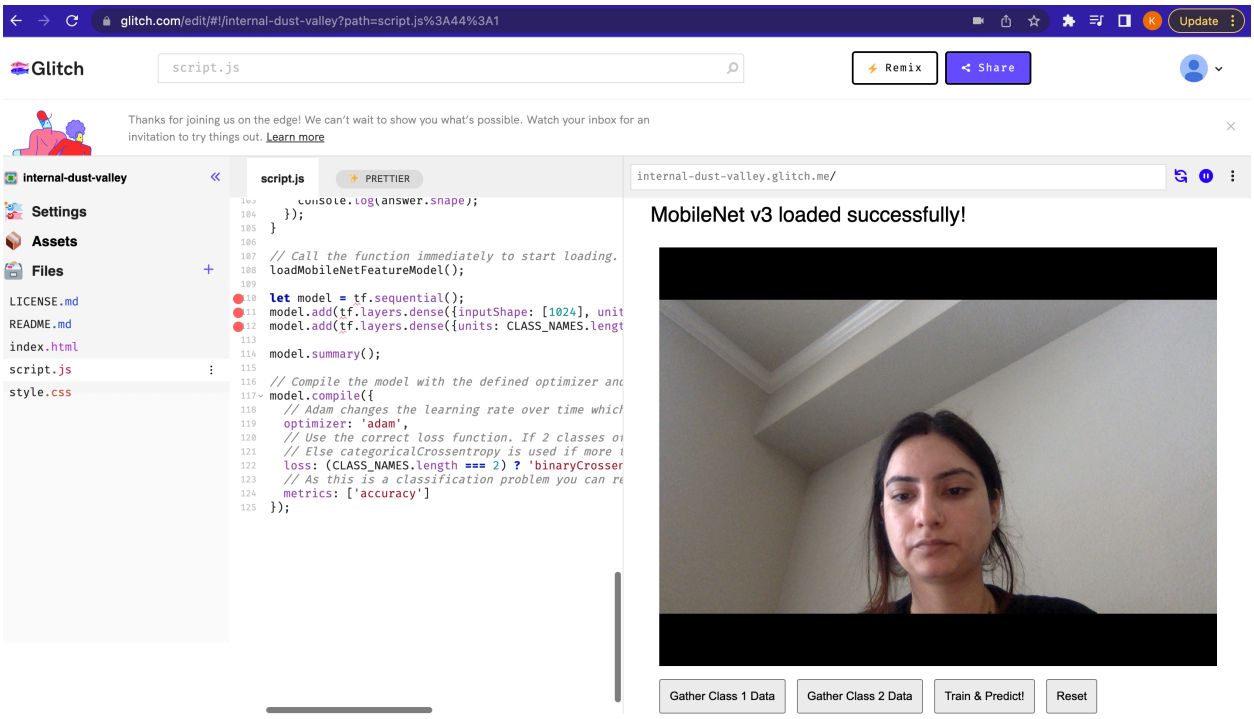
4. Load MobileNet model:



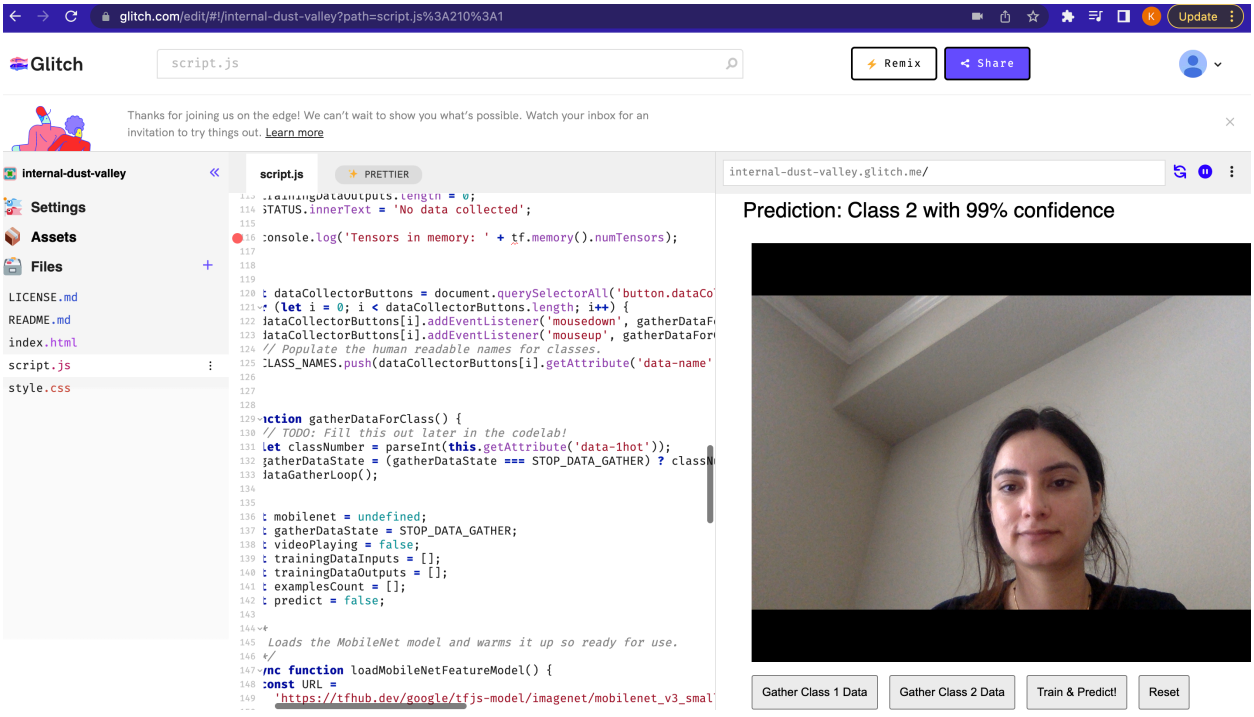
5. Defined new model:



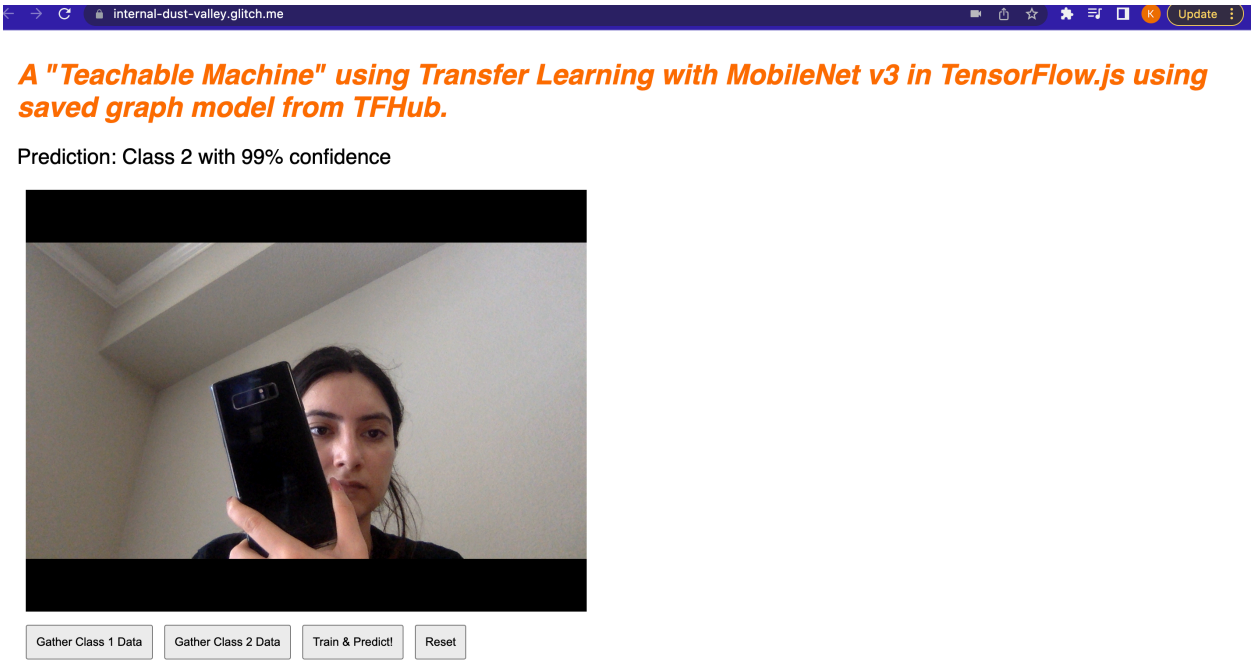
6. Enabed webcam:



Video:



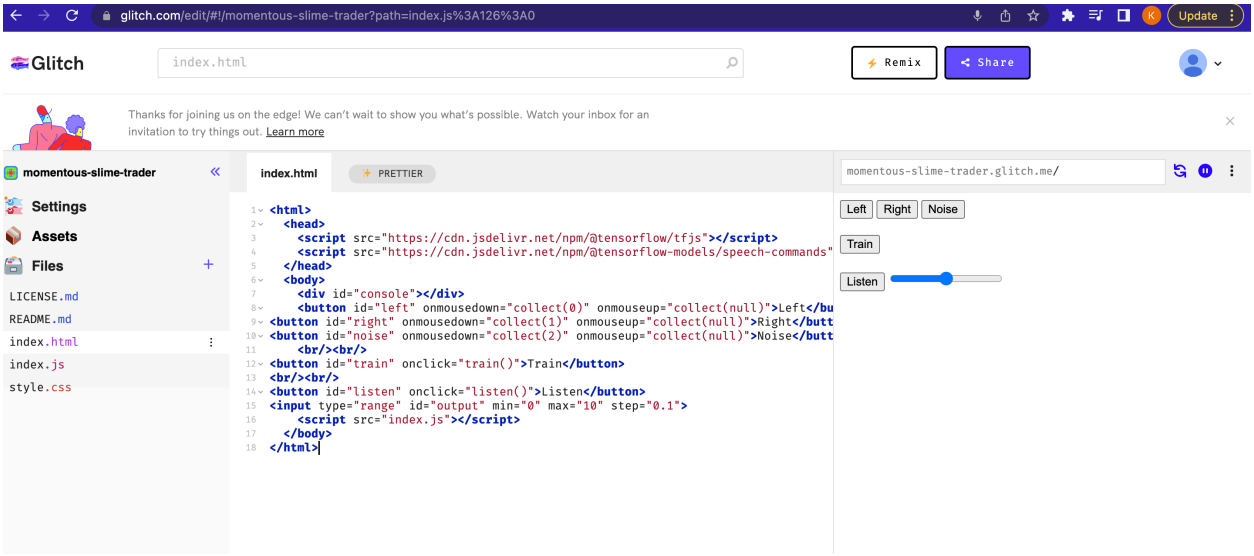
Prediction tested:



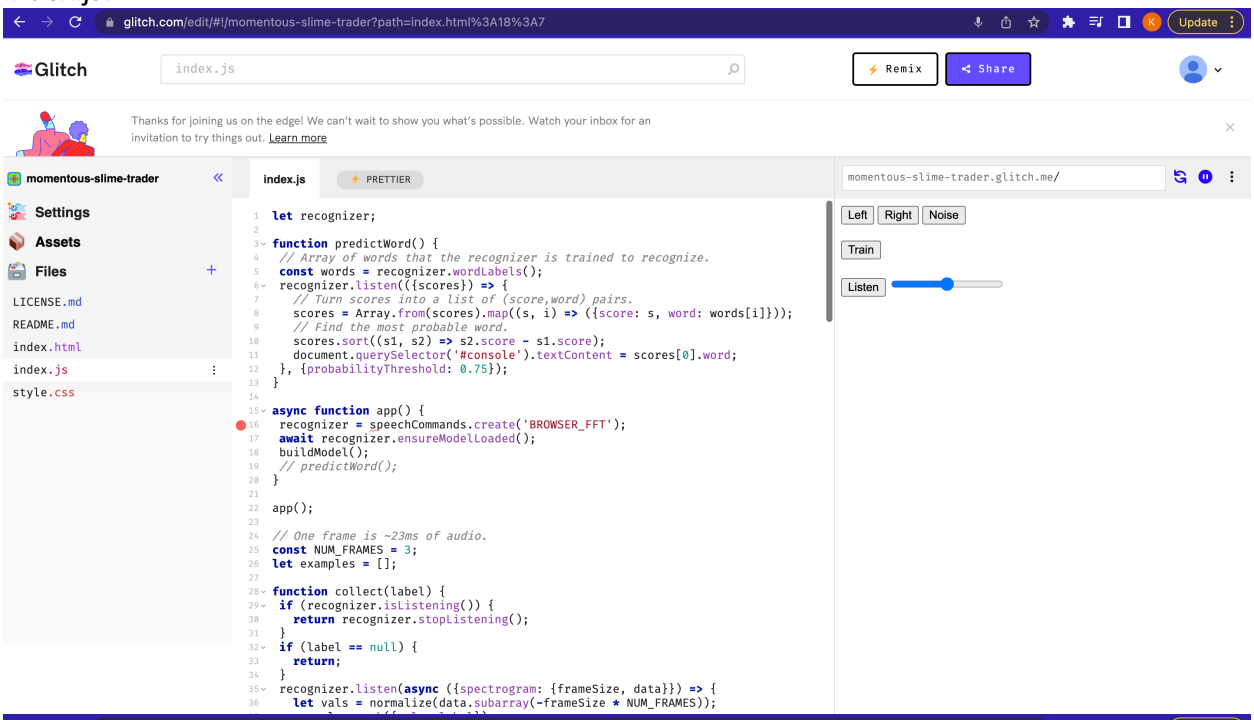
d) Webapp and audio training on device : TensorFlow.js - Audio recognition using transfer learning

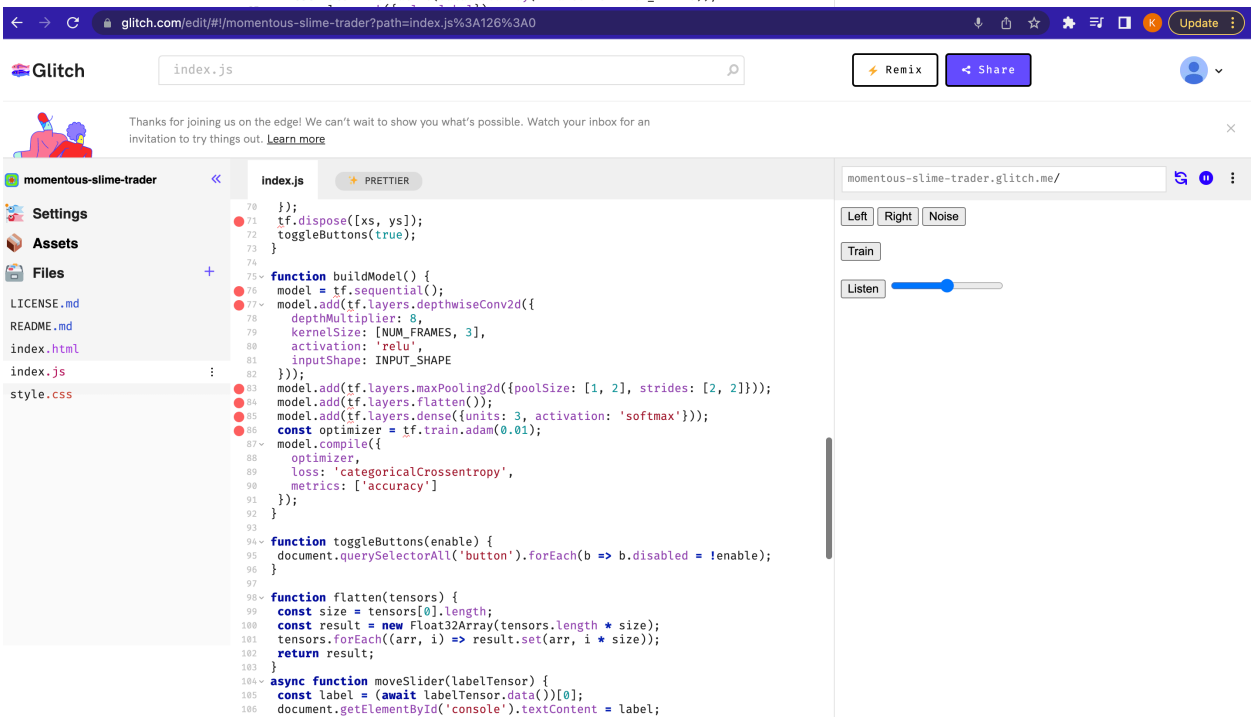
Live demo: https://momentous-slime-trader.glitch.me/
Code in glitch: https://glitch.com/edit/#!/momentous-slime-trader?path=README.md%3A47%3A0

Index.html:



Index.js:

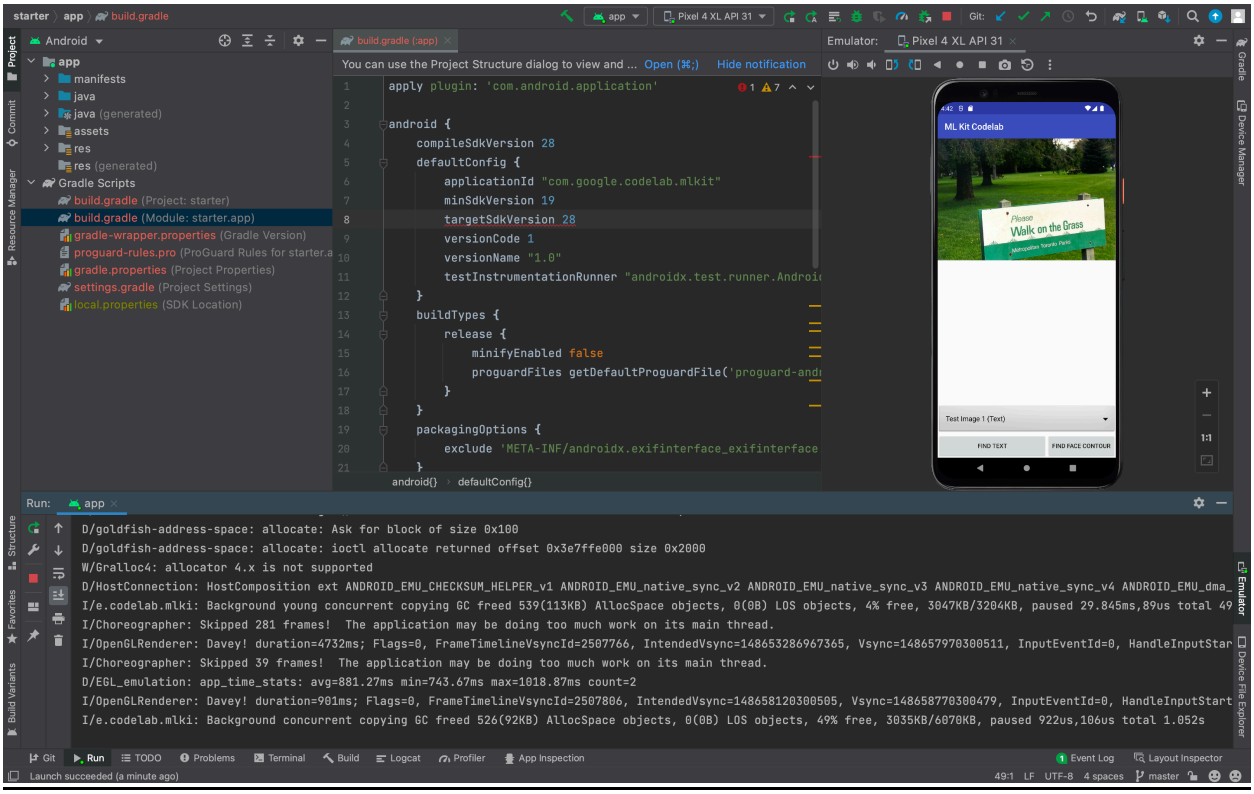




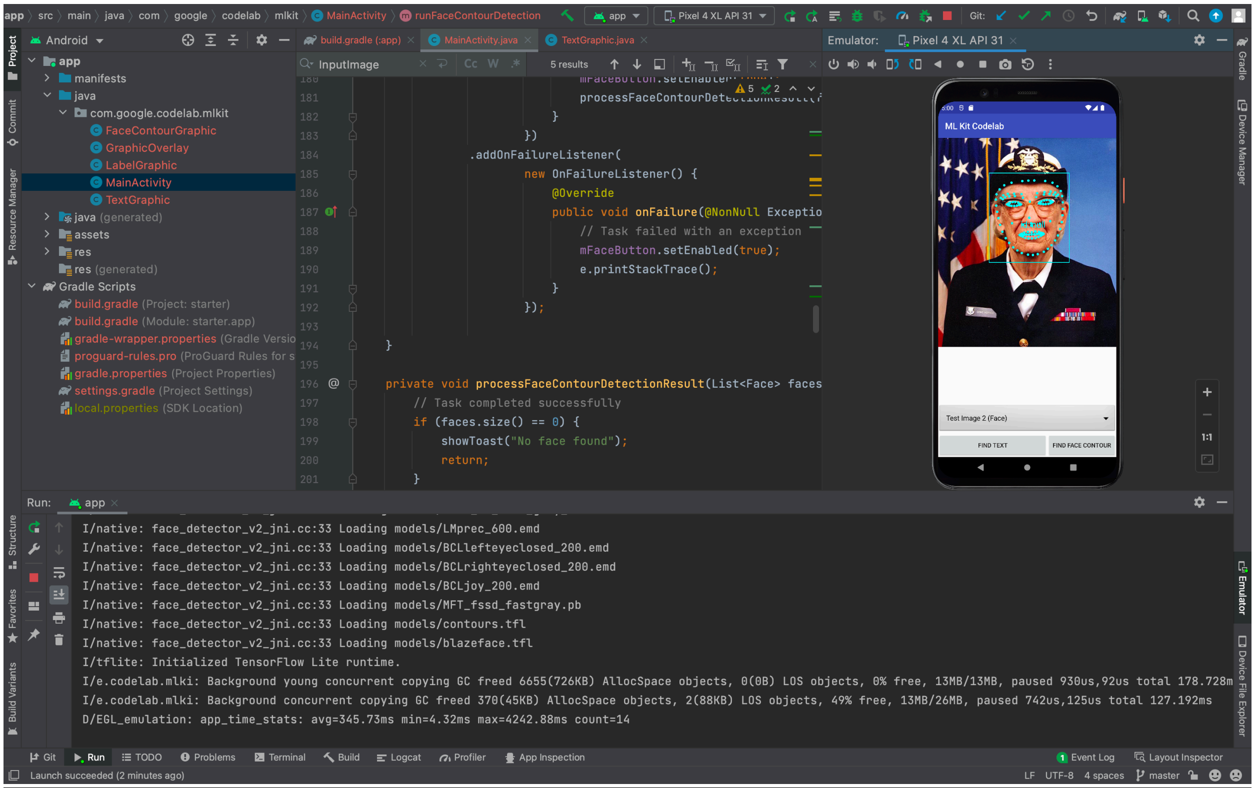
Prediction result:

e) Using out of box sdk to do ML ondevice : Use ML Kit to perform [Recognize text and facial features with ML Kit: Android](#) (Links to an external site.), and [Recognize, Identify Language and Translate text with ML Kit and CameraX: Android](#)

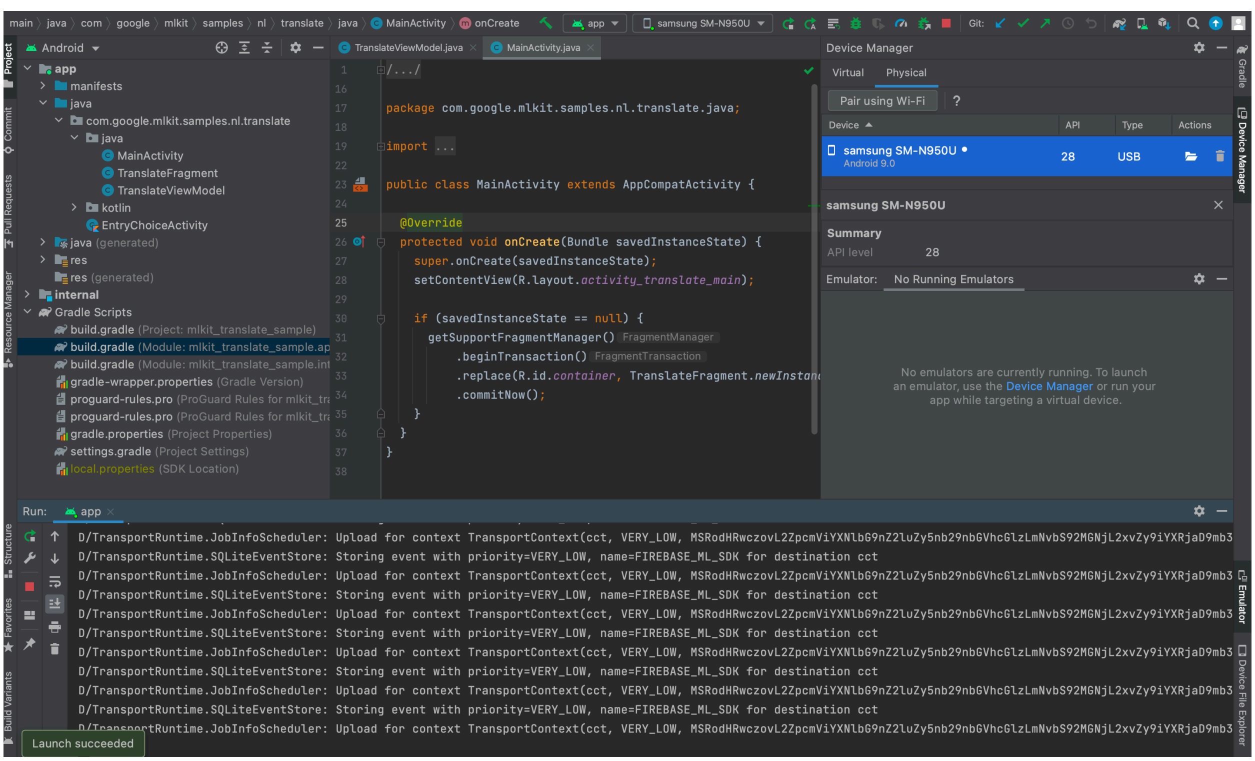
Recognize text and facial features with ML Kit: Android



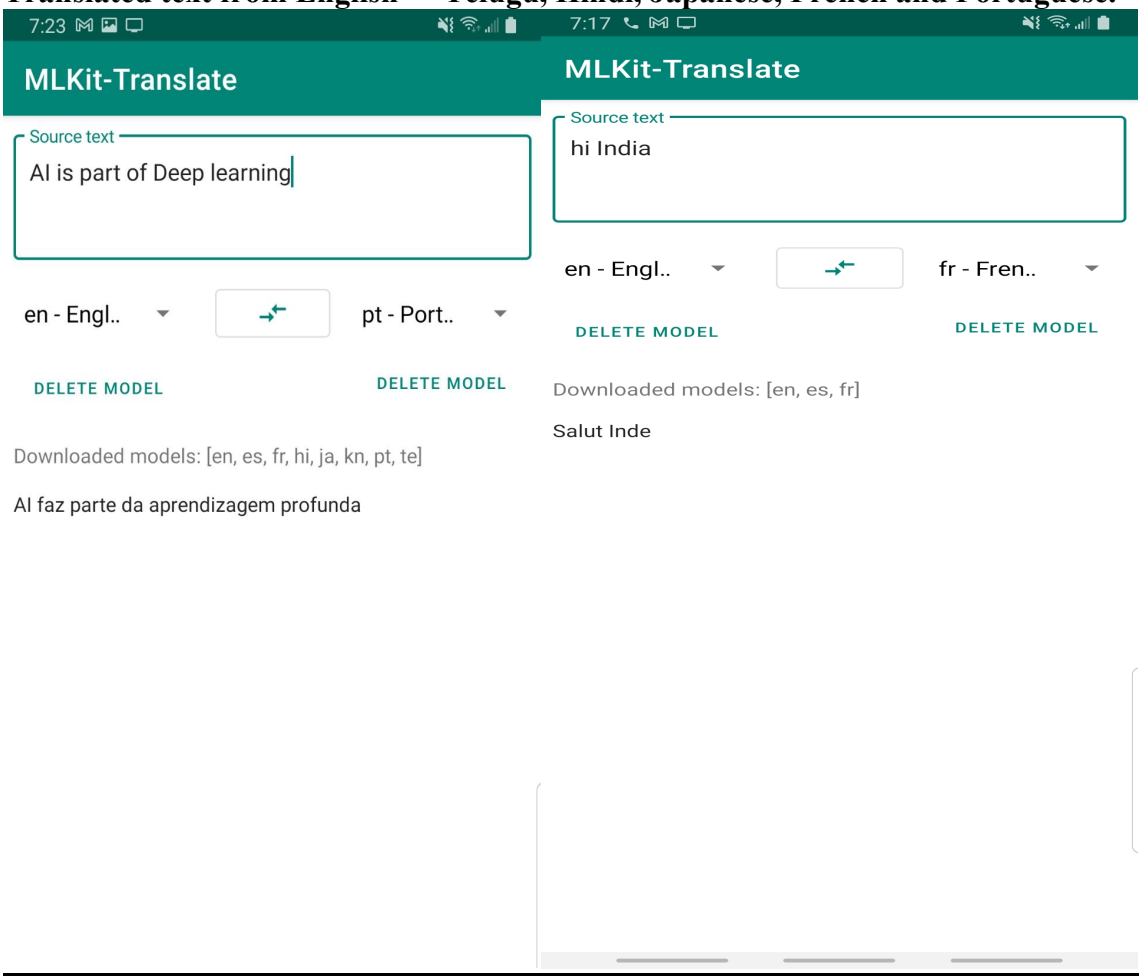
On-Device face contour detection:

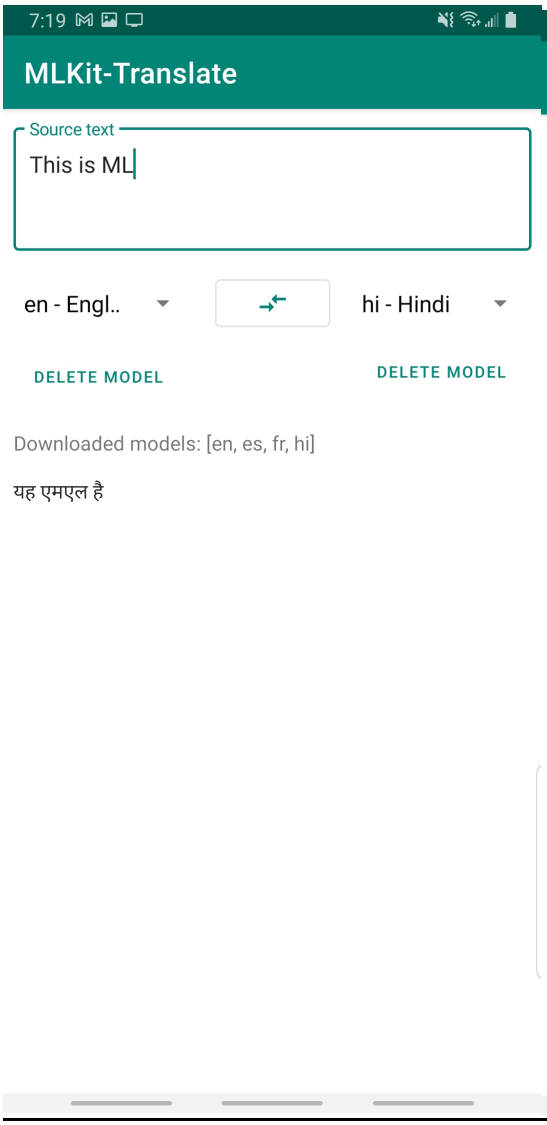


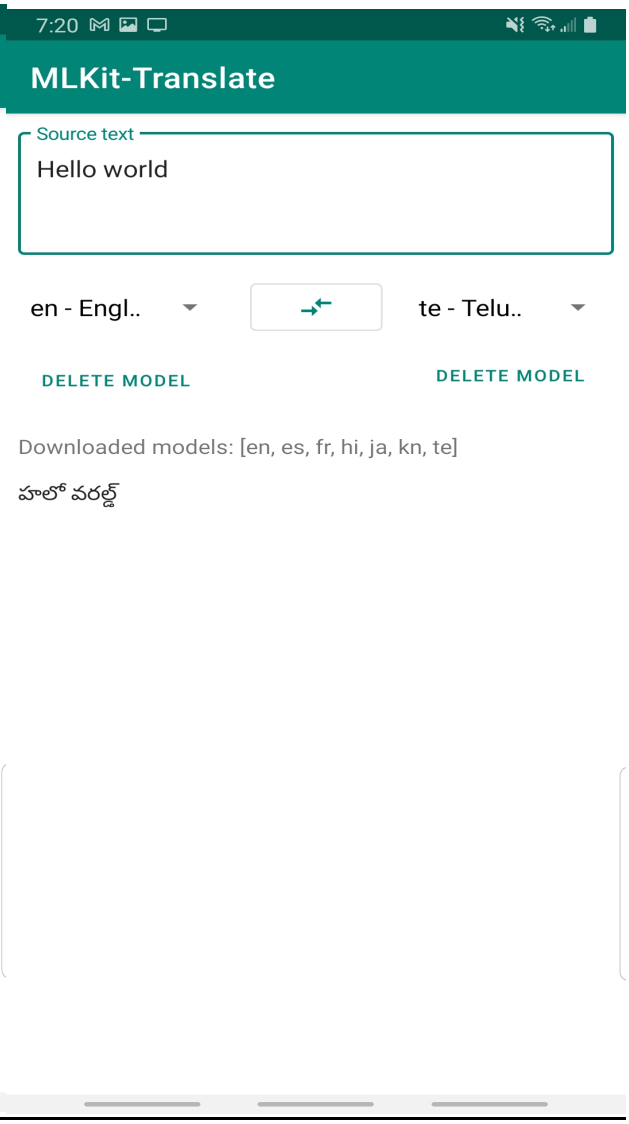
Recognize, Identify Language and Translate text with ML Kit and CameraX: Android

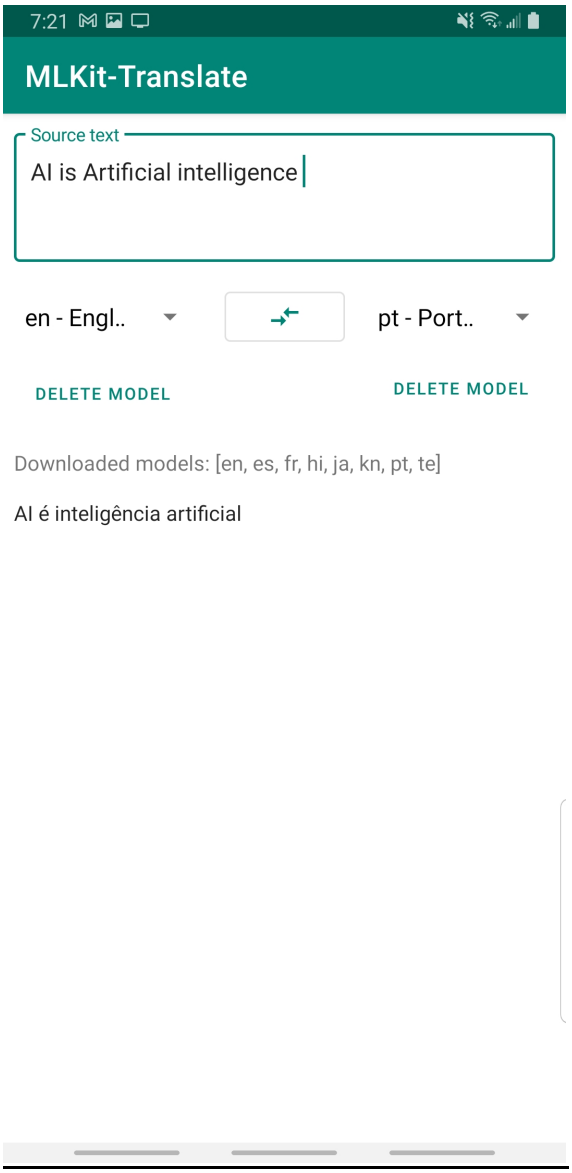


Connected Android phone: Samsung Galaxy note as a physical device in Android Studio
Translated text from English -> Telugu, Hindi, Japanese, French and Portuguese.




7:19
MLKit-Translate
Source text
This is ML
en - Engl..
hi - Hindi
DELETE MODEL
DELETE MODEL
Downloaded models: [en, es, fr, hi]
यह एमएल है


7:20
MLKit-Translate
Source text
Hello world
en - Engl..
te - Telu..
DELETE MODEL
DELETE MODEL
Downloaded models: [en, es, fr, hi, ja, kn, te]
హలో వరల్డ్


7:21
MLKit-Translate
Source text
AI is Artificial intelligence
en - Engl..
pt - Port..
DELETE MODEL
DELETE MODEL
Downloaded models: [en, es, fr, hi, ja, kn, pt, te]
AI é inteligência artificial