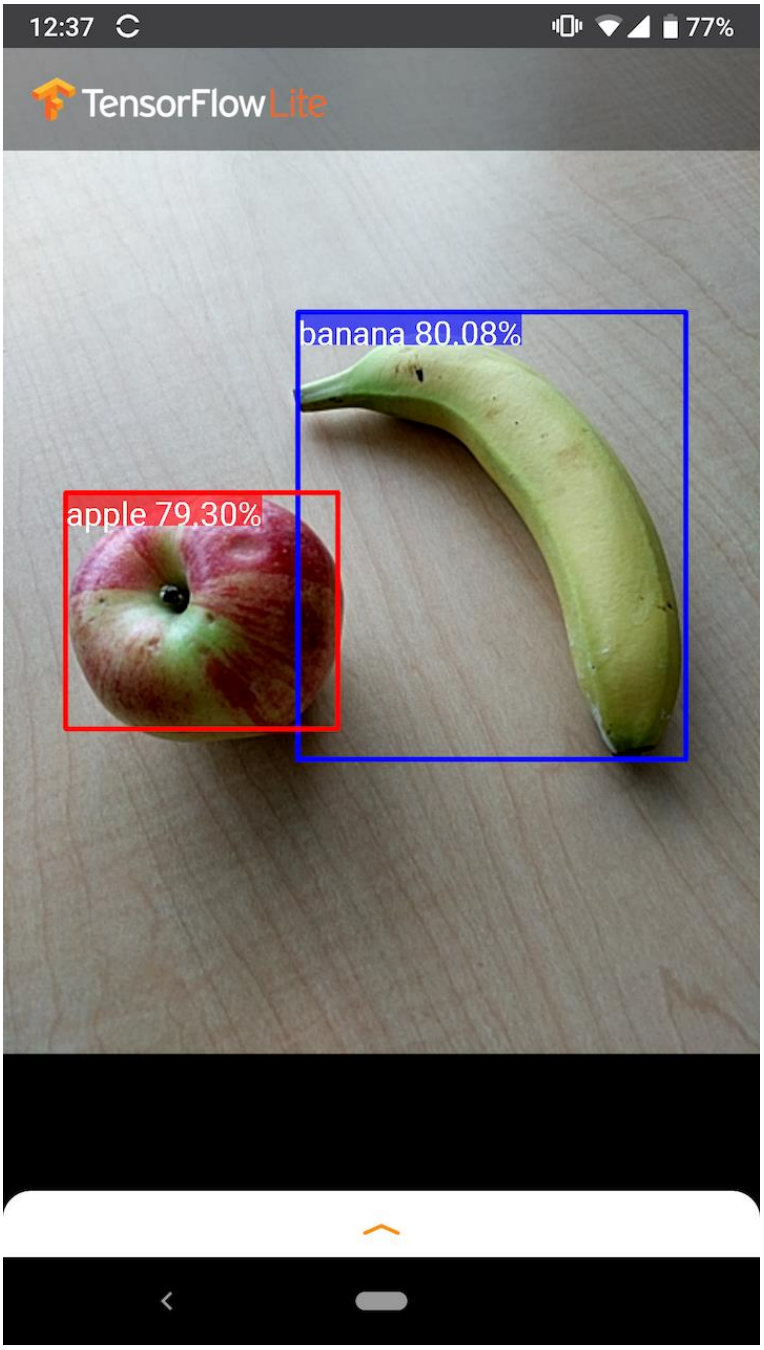
Practice Exercise

TensorFlow Lite

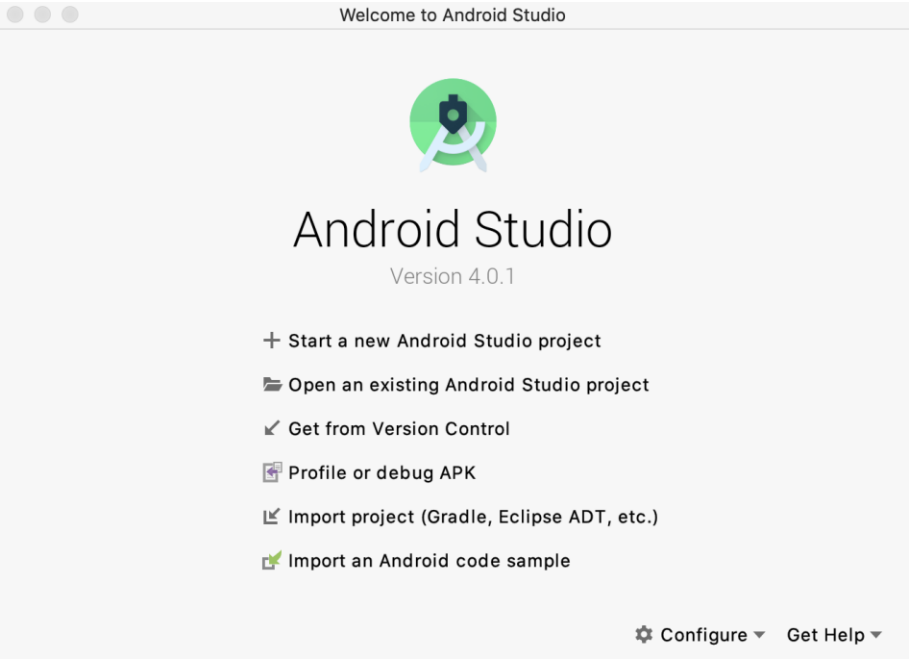
Object Detection with TFLite

Detect multiple objects within an image, with bounding boxes. Recognize 80 different classes of objects.

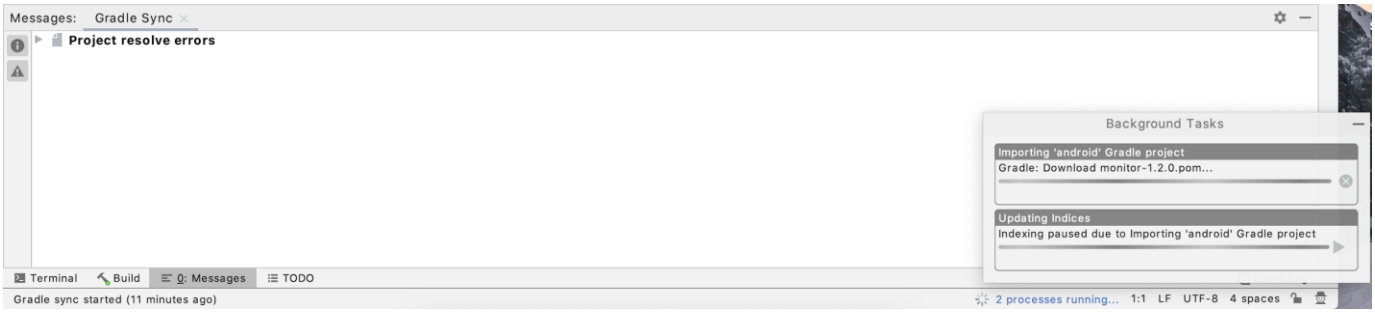


Steps

1. Download & Install Android Studio
2. Download or Clone the TensorFlow Examples GitHub repository
3. We are going to use TensorFlow Lite Object Detection Android Demo example in the exercise
4. Open Android Studio. After it loads select " Open an existing Android Studio project" from this popup:



5. In the file selector, choose `examples/lite/examples/object_detection/android` from your working directory.
6. You might get a "Gradle Sync" popup, the first time you open the project, asking about using Gradle wrapper. Click "OK". (Gradle sync might also start automatically). It will download some files and take some time.



7. You will see a number of errors/warnings. Fix them as per the recommendations.
8. Now you can connect your android device. Make sure “USB Debugging” mode is enabled in your android device.
9. Once your device is successfully detected it will show up in the bar like in the image below.

10. Now you can build the project by pressing the Green Run button beside the device name and the app will start running on your device.

11. You can use it to detect objects like this

12. You can also build this into an APK and run it separately on your android device by installing the apk file.

Useful links

- TensorFlow Lite | ML for Mobile and Edge Devices
- Object detection
- Tutorials
- https://codelabs.developers.google.com/codelabs/recognize-flowers-with-tensorflow-on-android/#0

Happy Learning!