

# Digital Talent Scholarship 2022

## Device Based model in TF Lite 2

Lead a sprint through the Machine Learning Track

# Agenda

- Running TF model in Android App
- TF Lite on devices

# Are your students ML-ready?

# Recap

## On-device object detection: Train and deploy a custom TensorFlow Lite model - YouTube

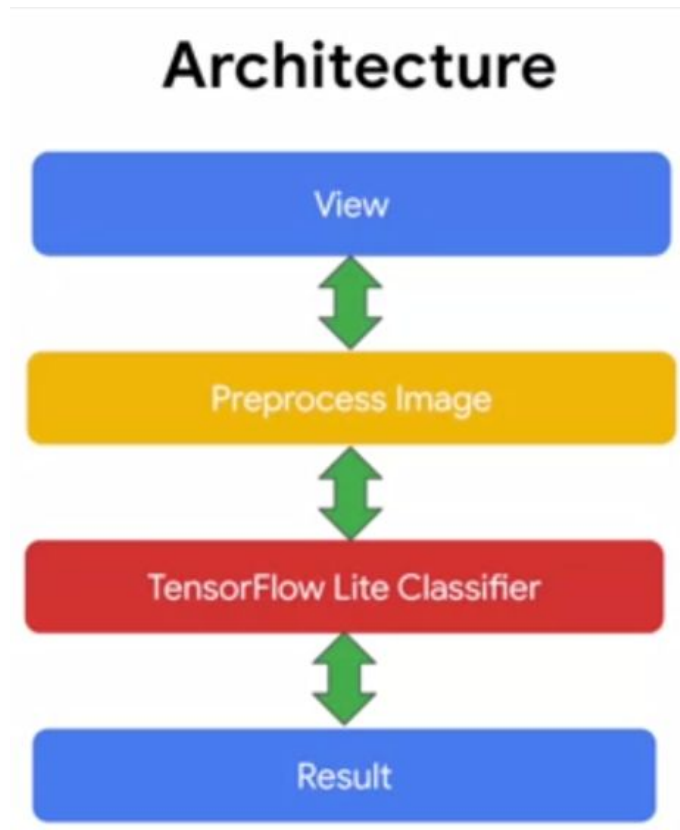
# PART 4

## Android Introduction

# Installation and Resource

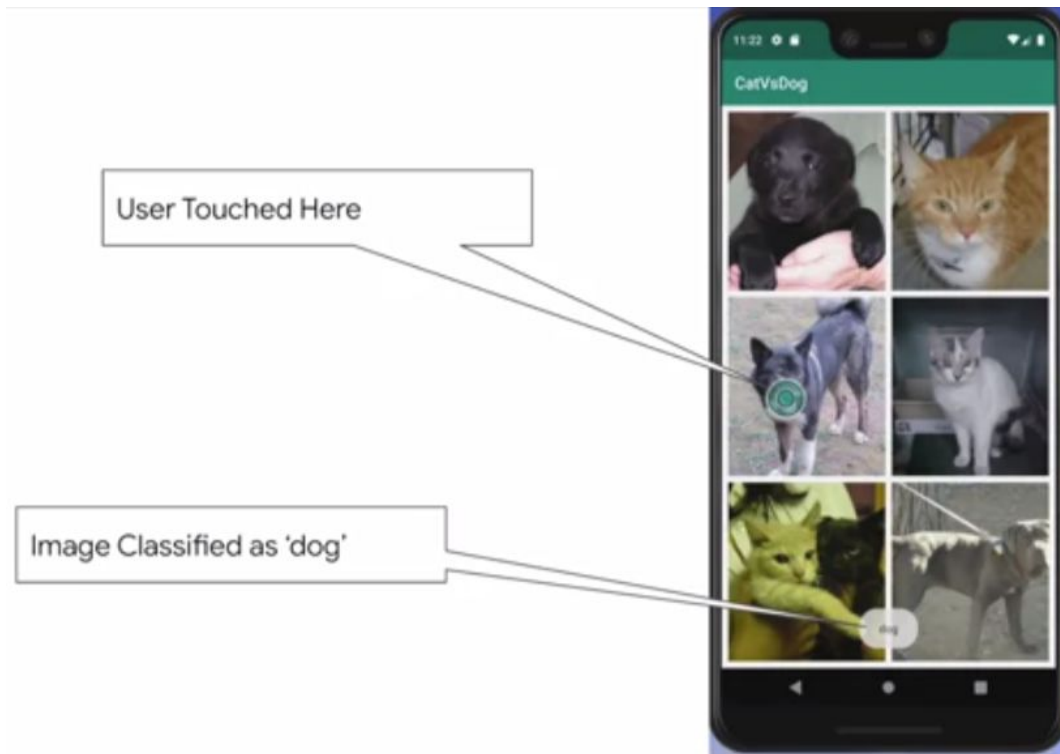
- Download Android Studio
- Add dependencies and add aaptOptions

# Architecture of a model



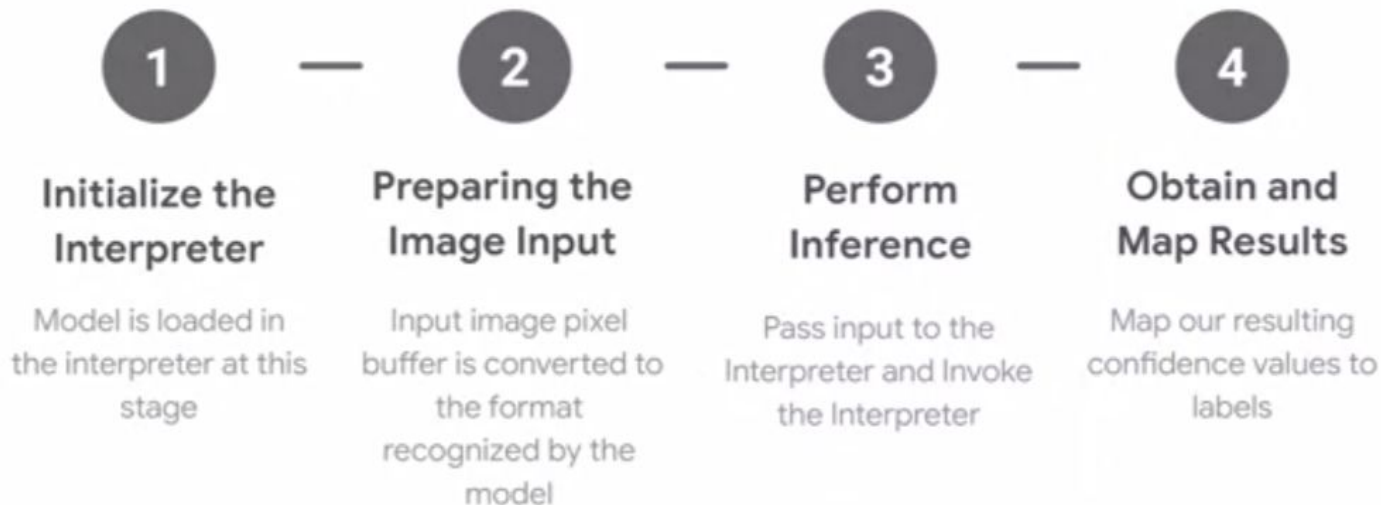


# Initializing the Interpreter



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## Steps Involved in Performing Inference



# Set the Interpreter's Options

Options: A class for controlling runtime interpreter behaviour

- `setNumThreads(int numThreads)`
- `setUseNNAPI(boolean useNNAPI)`
- `setAllowFp16PrecisionForFp32(boolean allow)`
- `addDelegate(Delegate delegate)`

# DEMO Cats and Dogs Classifier

# **PART 5**

## **Classifying Camera Images**

# Image Classification

- Menggunakan Machine Learning untuk mengidentifikasi apa yang direpresentasikan sebuah gambar
- Quantized MobileNet yang sudah ditrain dengan ImageNet dataset, terdiri dari 1000 objek kelas yang berbeda.

# DEMO Camera Image Classification

# Train a custom object detection model using your data - YouTube



[Introduction to object detection on Raspberry Pi - YouTube](#)

# **PART 6**

## **Object Detection App**

# Object Detection Model

- Identifies classes of objects along with localizing them
- MobileNet SSD trained on COCO dataset
- COCO dataset has 80 classes
- Labels file is used to list COCO classes and map to output confidences

# DEMO Object Detection

<https://youtube.com/playlist?list=PLTgRMOcmRb3NvWH-5JApxc4nEhKZkT6Ot>

[How to use machine learning in android app | Machine learning in android studio | Android | ML - YouTube](#)



**Q & A**

# Thank You