

Assignment 6

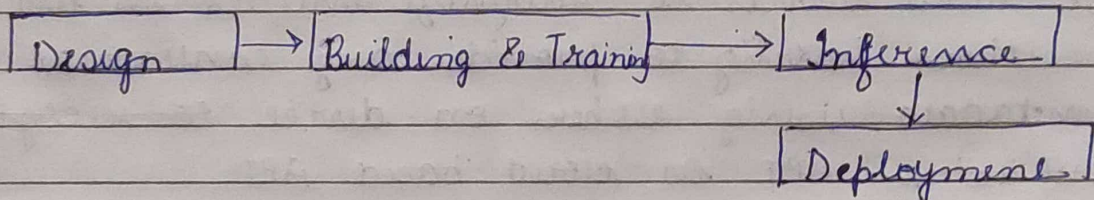
Title: Android & Machine Learning

Problem Statement: Draw Inferences over data coming from phone's sensing hardware (Eg accelerometer, GPS, microphone etc) & process those samples with help of Machine Learning

Theory:

ML: It is a programming technique that provides your apps the ability to automatically learn & improve from experience without being explicitly programmed to do so.

ML Development Process



1. Design: In this stage, product manager, designers & developers work together to define product goals & create high level design of the app.
2. Building & Training: Machine learning requires a model that's trained to perform a ~~perfo~~ particular task, like making a prediction or classifying recognizing some input. Developers can select an existing model or build a model from scratch.

3. Inferences :-

It is the process of using machine learning model that has already been trained to perform specific task. Usual issues to be taken into account are latency, cost & privacy issues.

4. Deployment

It is the process of packaging & updating your ML model for use on Android when doing on device inference. There are 3 options available.

- i) Include model with android app.
- ii) Provide model at runtime
- iii) Combination of both.

Some of the key applications of ML in android are:-

1. Image Labelling :-

It allows devices to recognize entities in an image without having to provide any contextual metadata, using either on-device or cloud-based API.

2. Barcode Scanning -

This Barcode scanning model allows you to read data encoded using most standard barcode formats.

Conclusion : Thus, I have used Machine Learning Model in Android.