### Github Link



https://bit.ly/2O5bCPq

# Machine Learning with Firebase - ML Kit

Presented by Pankaj Rai



## Agenda

- Kotlin features
- What is ML?
- What is firebase
- Firebase services
- Let's code



## Why Kotlin?

An alternative or replacement of Java?



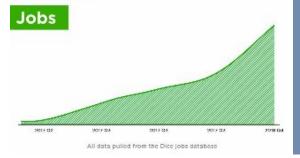
### Achieved milestones



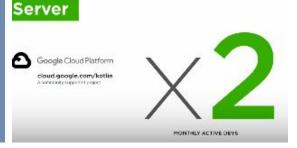
1.5 Million kotlin developer



Total number of apps using kotlin since last year grown by 4 times



Over 30% android developers are using kotlin



## Features of Kotlin?



### Features

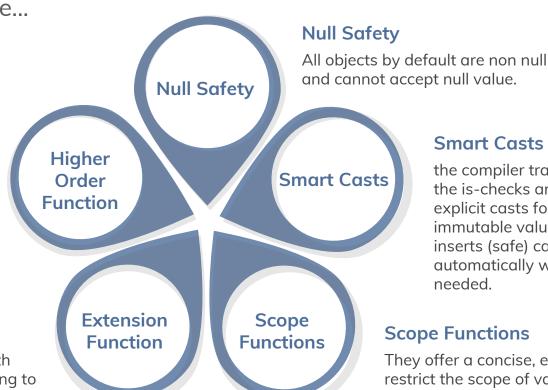
There are many more...

#### **Higher Order Function**

A higher-order function is a function that takes functions as parameters, or returns a function.

#### **Extension Function**

An ability to extend a class with new functionality without having to inherit.



### **Smart Casts**

the compiler tracks the is-checks and explicit casts for immutable values and inserts (safe) casts automatically when needed.

#### **Scope Functions**

They offer a concise, elegant way to restrict the scope of variables in a useful way.

### What is ML?

### Machine Learning

It is the learning in which machine can learn by its own without being explicitly programmed. It is an application of AI that provide system the ability to automatically learn and improve from experience.

"A computer program is said to learn from experience E with respect to some task T and some performance measure P, if its performance on T, as measured by P, improves with experience E" - Tom Mitchell(1998)

## What is Firebase?

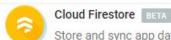
### Firebase



Firebase is Google's mobile platform that helps you quickly develop high-quality apps and grow your business.



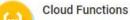
## Services of Firebase?



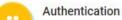
Store and sync app data at global scale



Machine learning for mobile developers



Run mobile backend code without managing servers



Authenticate users simply and securely

#### Hosting

Deliver web app assets with speed and security

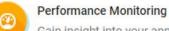
Cloud Storage
Store and serve files at Google scale

Realtime Database
Store and sync app data in milliseconds



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Prioritize and fix issues with powerful, realtime crash reporting



Gain insight into your app's performance



Test your app on devices hosted by Google



#### App Indexing

Drive search traffic to your mobile app



Engage active app users with contextual messages



Google Analytics

Get free and unlimited app analytics



Predictions BETA

Define dynamic user groups based on predicted behavior



A/B Testing BETA

Optimize your app experience through experimentation



**Cloud Messaging** 

Send targeted messages and notifications



Remote Config

Modify your app without deploying a new version



Dynamic Links

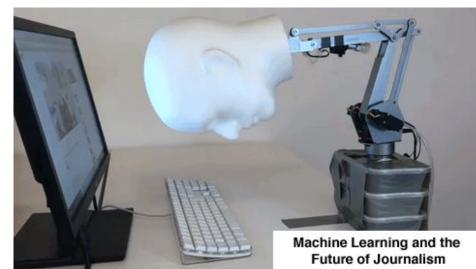
Drive growth by using deep links with attribution

### ML Kit

ML Kit lets you to bring powerful machine learning features in your app whether it's for Android or iOS.

There's no need to have deep knowledge of neural network or

model optimization to get started.







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