DEBABRATA BHATTACHARYA[d.bhatta.1232@gmail.com](mailto:d.bhatta.1232@gmail.com) | [github.com/D-Bhatta](https://github.com/D-Bhatta) | [Portfolio](http://portfolio.debabrata.xyz/)

# Summary

Software Engineer with experience developing **Android and Java** applications. Can develop, integrate, and deploy **AWS services**. Can train and deploy **Machine Learning models**.

# Skills

### Languages

**Fluent**: Java, Python, SQL

**Learning**: Kotlin

### Frameworks, API, and Cloud services

**Fluent**: Amplify, Android SDK, Google APIs

**Intermediate**:

**AWS services:** EC2, S3, Simple DB, DynamoDB, Lambda, API Gateway

**Databases:** MariaDB, MongoDB, PostgreSQL

**Learning**:

**Machine Learning:** Model development with scikit-learn, TensorFlow, Keras. Data representation with matplotlib.

**AWS:** Model Training on Cloud Instances with AWS infrastructure, GAN training with AWS DeepComposer

**Azure services:** Azure AppService, Azure Virtual Machine

# Free Lancing Work Experience

### Recent Client: Cr\*\*\*\*\*U (Startup): Fintech Android App [Name withheld for client confidentiality]

* Designed and developed **Java Android app** with respect to client business requirements.
* Developed **authentication**, **data storage**, and certain business **functionality using API calls** for said app.
* Developed and deployed **serverless Amazon Web Services** backend with **Amplify, DynamoDB, API Gateway, S3, and Lambda**.

**Technologies used: Java, Android SDK and Google APIs, AWS Amplify, AWS DynamoDB, AWS S3, AWS Lambda**

# Key Projects—See Portfolio at [portfolio.debabrata.xyz](http://portfolio.debabrata.xyz/)

## Full Stack Projects

### Diabetes Prediction Android App

* Full Stack **Android app** with a **Flask backend** that performs diabetes prediction with an **ensemble of 6 trained machine learning models**.
* Led a team of 4 developers to create user interfaces and **Kotlin** code, and delivered functionality on a tight deadline.
* Developed **pipelined architecture for training and serializing 6 models** on the Pima Indians diabetes data set, which were then **encapsulated into an ensemble,** and **deployed a Flask application** to act as an **API** and serve as the backend for the Android app.

**Technologies used: Kotlin, Python, Flask, scikit-learn, Android SDK, Pytest**

### Random Question Paper Generator

* **Web** and **Android** **app** with a custom **python backend service** that generates custom Question sets from a very large question bank database.
* Led a team of 8 developers to design and develop a **PHP** web application component and a **Kotlin Android** component.
* Developed a **Python** application queries a **MariaDB** instance with 1000s of questions and generates a well-balanced question paper in **3 seconds**.
* Optimized the python application and the database instance that **reduced processing time** by 12 seconds **from** **15 to 3 seconds**, a reduction of 500%.

**Technologies used: Python, Kotlin, PHP, HTML, CSS, SQL, MariaDB, Android SDK, Pytest**

Standalone Android Projects

### Echo Music Player

* Developed music player Android application using **Kotlin**.
* App can play, stop, resume music files stored on the device.
* Automatically discovers music files on device.
* Can 'favorite' music with a Favorite button.

**Technologies used: Kotlin, SQLite**

##### Machine Learning Projects

* Developed **machine learning models** for the following datasets: **Pima Indians Diabetes** dataset, **Boston Housing** dataset, **Iris flowers** dataset.
* Analyzed the **Stack Overflow 2019 developer survey**.

# Open Source Contributions

## [scikit-image: Image processing](https://github.com/scikit-image/scikit-image/pull/4599)

* Illustrated usage for natural sort algorithm by processing documentation in PR, which was successfully merged into master branch.

# Education

**Bachelor of Technology in Computer Science and Engineering**, CGPA:9.1/10, 2016-2020, from JIS University, Kolkata.

**Certifications** in Machine Learning, DBMS, AWS DeepComposer & Android development from NPTEL, Udacity & InternShala.