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

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
- 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.