Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	15 October 2022
Team ID	PNT2022TMID36404
Project Name	Classification of Arrhythmia by Using Deep Learning with 2-D ECG Spectral Image Representation
Maximum Marks	4 Marks

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

Example: Order processing during pandemics for offline mode

Reference: https://developer.ibm.com/patterns/ai-powered-backend-system-for-order-processing-during-pandemics/

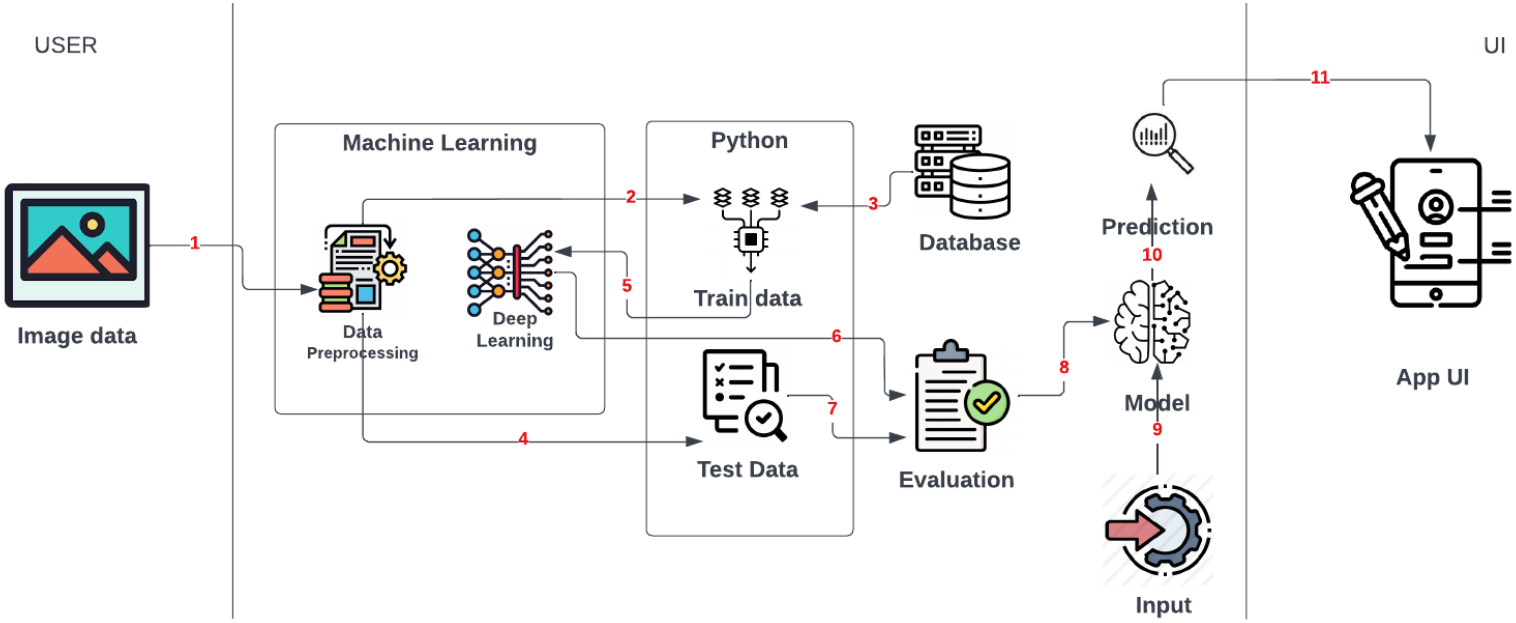

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Web UI, Form UI	HTML, CSS, JavaScript
2.	Application Logic-1	Data Preprocessing, Data Segmentation	TensorFlow, Keras, NumPy, Pandas
3.	Application Logic-2	CNN	TensorFlow, Keras
4.	Application Logic-3	Web Application Interface	Flask
5.	Cloud Database	Database Service on Cloud	IBM Watson
6.	File Storage	File storage requirements	IBM Block Storage/ Google Drive
7.	External API-1	Image Processing API	Keras, TensorFlow
8.	Machine Learning Model	Classification of Arrhythmia using CNN with ECG(Electro Cardio Gram)	CNN – Keras, TensorFlow
9.	Infrastructure (Server / Cloud)	Application Deployment on Local System	Local Host, HTTP server

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Visual Studio, Google Collab, Anaconda, Flask	Python, Machine Learning
2.	Security Implementations	Implementation of Cookies, Authentication	Cookies Session SESSION_COOKIE_SERVER
3.	Scalable Architecture	Micro Services	Micro web application Framework by Flask
4.	Availability	Data on each server can be accessed simultaneously and modified via a network	Distributed server
5.	Performance	High Flexibility, High Accuracy, Reliable	Extensions

References:

https://c4model.com/

https://developer.ibm.com/patterns/online-order-processing-system-during-pandemic/

https://www.ibm.com/cloud/architecture

https://aws.amazon.com/architecture

https://medium.com/the-internal-startup/how-to-draw-useful-technical-architecture-diagrams-2d20c9fda90d