Project Design Phase – II

Technology Stack (Architecture & Stack)

Date	16 October 2022
Team ID	PNT2022TMID28062
Project Name	Classification of Arrhythmia by Using Deep Learning with 2-D ECG Spectral Image Representation
Maximum marks	4 Marks

Technical Architecture:

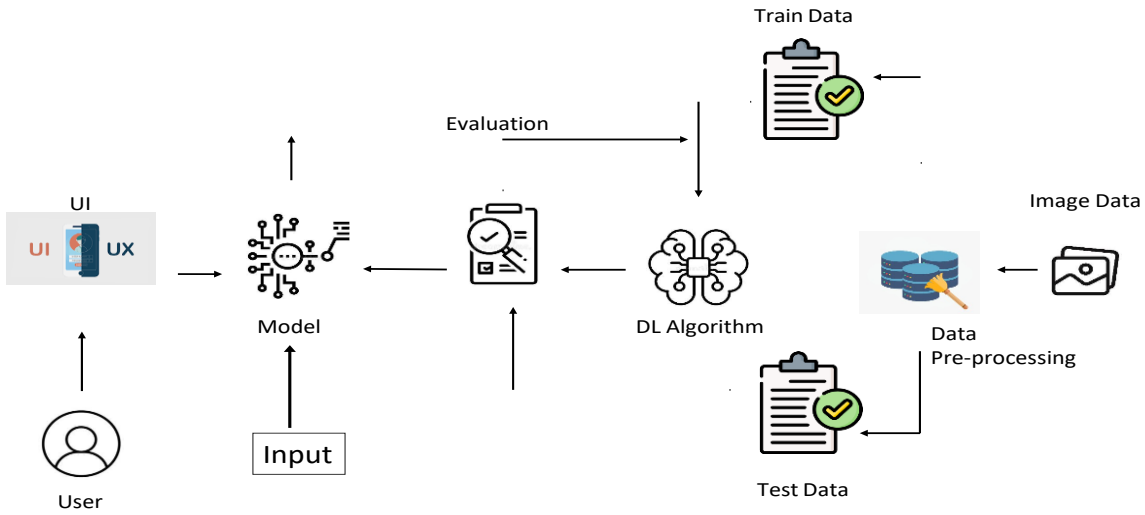

Table 1: Components & Technology

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-user 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	ECG (Electro Cardio Gram) classificationusing CNN	CNN -Keras,Tensorflow
9.	Infrastructure (Server / Cloud)	Application Deployment on Local System	Local Host ,HTTP Server

Table 2: Application and Characteristic

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 Service	Micro web application Frameworkby flask
4.	Availability	Data on each server can be accessedsimultaneously and modified via a network.	Distributed Server
5.	Performance	High Flexibility, High Accuracy, Reliable ,HTTP request handling functionality, WSGI 1.0 complaint	Extensions,Jinja2,Werkezeug