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

Date	03 October 2022
Team ID	PNT2022TMID17913
Project Name	Classification of Arrhythmia by Using Deep Learning with 2-D ECG Spectral Image Representation
Maximum Marks	4 Marks

Technical Architecture:
Reference:
https://www.canva.com/design/DAFPSTWGd3g/hAxx297lJYe3DuLcHhHavQ/view?utm_content=DAFPSTWGd3g&utm_campaign=designshare&utm_medium=link2&utm_source=sharebutton
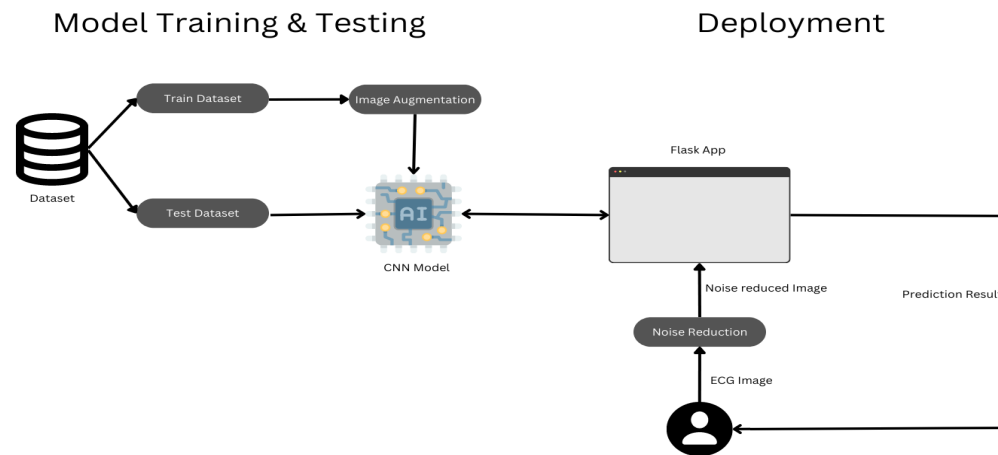
Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	The user can interact via Web UI.	HTML, CSS, JavaScript / Angular Js / React Js etc.
2.	Train & Test dataset split	The dataset will be split into training and testing dataset.	Python, Keras.
3.	Image Augmentation	Image Augmentation will be done on the training dataset.	Python, ImageDataGenerator.
4.	CNN Model	The core image processing will be done in this CNN model.	Python, Tensorflow
5.	Noise reduction	Noise in Image will be reduced here	AutoEncoder, CNN.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Flask, Tensorflow, python	python, CUDA, HTML, CSS
2.	Scalable Architecture	The Application will be deployed in IBM cloud. The three tiers are IBM cloud, Web service and can be accessible using the Internet.	IBM cloud.
3.	Availability	Since the application is deployed in a cloud environment it ensures the availability.	IBM cloud
4.	Performance	Tensorflow ensures the performance of the model by using GPU in Host system.	Python, CUDA, IBM cloud