

Date	20 October 2022
Team ID	PNT2022TMID01033
Project Name Project	Classification of Arrhythmia by Using Deep Learning with 2-D ECG Spectral Image Representation
Maximum Marks	4 marks

Table-1: Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interact with application e.g..Web UI, Mobile App etc.....	HTML, CSS, Flask
2.	Application Logic-1	Loading the dataset, Image processing and Data augmentation	Python- Image Data Generator Library,,preprocessing,image lib.
3.	Application Logic-2	Augmented data for internal analysis, Training the model	CNN
4.	Application Logic-3	Access the model deployed in Watson studio using created API key	IBM Watson, Flask application
5.	Cloud Database	Database services (storage etc..) on Cloud	IBM cloud databases for MySQL, IBM cloud object storage, etc...
6.	Machine Learning Model	To classify the Arrhythmia from the input given by the user.	CNN, Numpy, pandas, Sequential,Models,Labels,Matplotlib, Image Data Generator, OpenCV
7.	Infrasturcture (Server/Cloud)	Application deployment on Local system/ Cloud	Local, Cloud Foundry, IBM watson

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open Source Frameworks	List of the Open source frameworks used	Tensorflow, Keras
2.	Security Implementations	Limit direct acces to deploy model	IAM Tokens(API key)
3.	Scalable Architecture	Auto Scaling our service	Cloud Foundry
4.	Availability	High availability and disaster recovery	Cloud Foundry
5.	Performance	Handing multiple request & distribute traffic in an optimal way	Cloud Foundry

Technical Architecture

