

Project Design Phase-I
Proposed Solution

Date	09 October 2022
Team ID	PNT2022TMID17913
Project Name	Classification of Arrhythmia by Using Deep Learning with 2-D ECG Spectral Image Representation
Maximum Marks	2 Marks

Proposed Solution :

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	The Electrocardiogram (ECG) is one of the signals that is most frequently utilised in the identification and prediction of cardiovascular disorders (CVDs). The irregular heartbeats, or arrhythmias as they are often called, can be recorded in the ECG readings. For accurate diagnosis of patients' acute and chronic cardiac problems, an in-depth examination of ECG signals is essential. which need a lot of time or an expert surgeon to do. The patient may have a costly hospitalisation or a delayed start to their therapy as a result.
2.	Idea / Solution description	We develop a convolutional neural network (CNN) based method for electrocardiogram (ECG) arrhythmia classification. Using deep two-dimensional CNN and grayscale ECG images, we divide the ECG into six categories, one of which is normal and the other five of which are various types of arrhythmia.
3.	Novelty / Uniqueness	We have used an auto encoder in the preprocessing step to reduce noise in data and to reduce dimensions of image.
4.	Social Impact / Customer Satisfaction	Customer/Patient need not wait for an expert surgeon and he/she need not spend for hospitalisation. He/she can use the app and

		upload the image and find the type of disease and take the necessary measures.
5.	Business Model (Revenue Model)	This application can be used by more people for earlier classification of arrhythmia.
6.	Scalability of the Solution	As this application is deployed in IBM cloud it is more scalable.