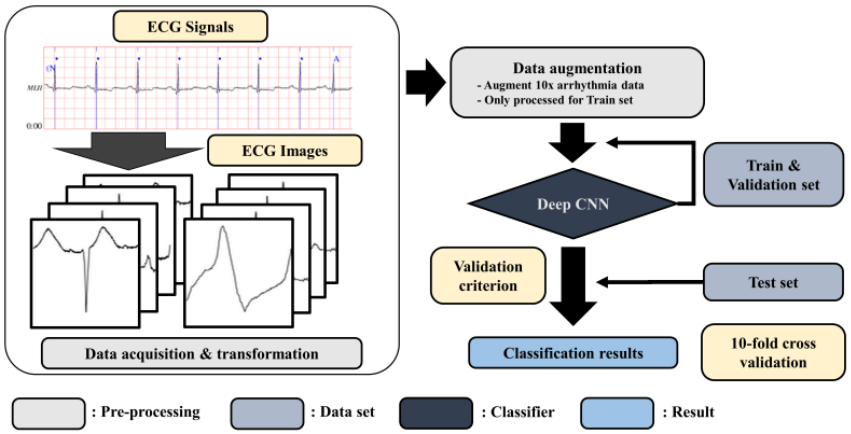
Project Design Phase-I
Solution Architecture

Date	01/10/2022
Team ID	PNT2022TMID52879
Project Name	CLASSIFICATION OF ARRHYTHMIA BY USING DEEP LEARNING WITH 2-D ECG SPECTRAL IMAGE REPRESENTATION
Maximum Marks	4 Marks

Solution Architecture:

- In this project, we build an effective electrocardiogram (ECG) arrhythmia classification method using a convolutional neural network (CNN)The CNN classifier is optimized to classify eight different types of ECG beats as follows: normal beat (NOR), premature ventricular contraction beat (PVC), paced beat (PAB), right bundle branch block beat (RBB), left bundle branch block beat (LBB), atrial premature contraction beat (APC), ventricular flutter wave beat (VFW), and ventricular escape beat (VEB)
- In our web application, the user chooses the image that will be classified. The image is fed into the trained model, and the webpage will display the mentioned class. Python Flask is used to create the web application.
- After finishing this code pattern, the reader will:
- Understand the underlying ideas and methods of convolutional and artificial neural networks.
- Become well-versed in image data.
- Work with modelling that is sequential.
- Utilize the powers of Keras.
- Utilize image processing methods.
- Understand how to use the Flask framework to develop a web application.

Example - Solution Architecture Diagram:



FLOW:

- To upload an image, the user interacts with the user interface.
- The integrated model analyses the uploaded image.
- The prediction is displayed on the UI following model analysis of the submitted image.