

Project Design Phase-I Solution Architecture

Date	19 SEPTEMBER 2022
Team ID	PNT2022TMID16055
Project Name	CLASSIFICATION OF ARRHYTHMIA BY USING DEEP LEARNING WITH 2-D ECG SPECTRAL IMAGE REPRESENTATION
Maximum Marks	4 Marks

Solution Architecture:

Solution architecture is a complex process – with many sub-processes – that bridges the gap between business problems and technology solutions. Its goals are to:

- ✓ By creating a powerful convolutional neural network-based electrocardiogram (ECG) arrhythmia classification algorithm (CNN)
- ✓ Using deep two-dimensional CNN and grayscale ECG images, we classify ECG into seven categories, one of which is normal and the other six of which reflect multiple kinds of arrhythmias. then create a web application that allows the user to choose the image that will be classed.
- ✓ The image is fed into the trained model, and the webpage will display the given class.
- ✓ Summarize the concepts driving artificial neural networks and convolution neural networks.
- ✓ Define features, development phases, and solution requirements.
- ✓ Build a web application using the Flask framework.

Solution Architecture Diagram:

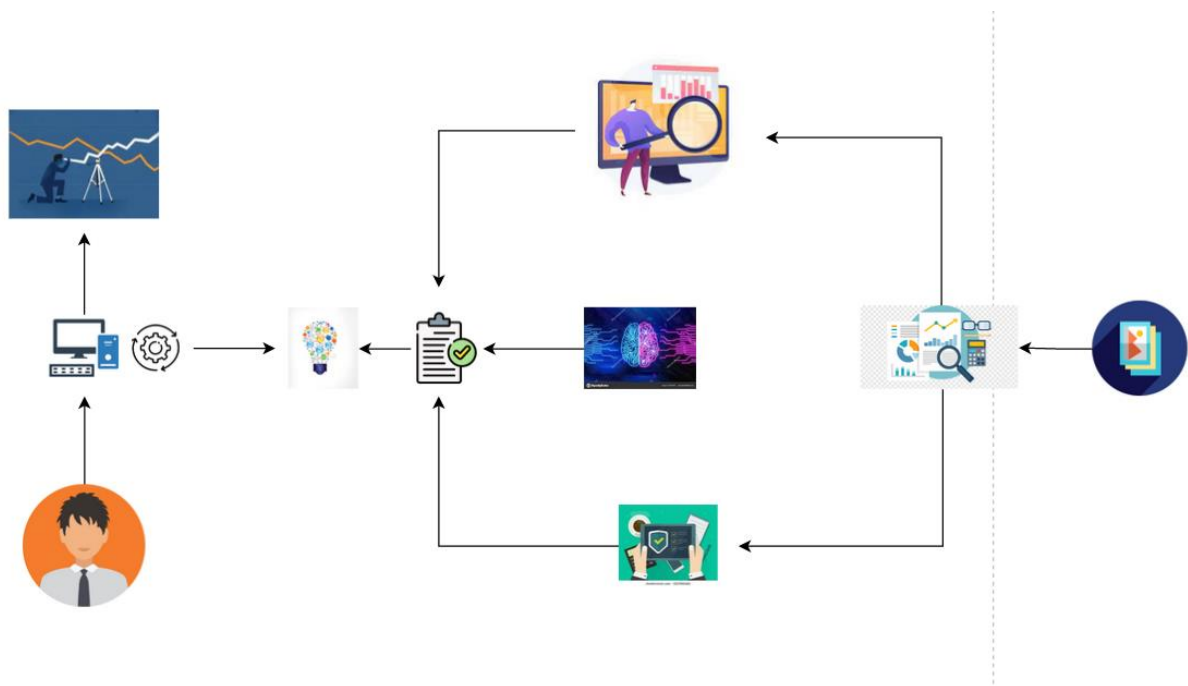


Figure 1: Architecture and data flow of Classification of Arrhythmia By Using Deep Learning with 2-D ECG Spectral Image Representation