Ideation Phase
Brainstorm & Idea Prioritization Template

Date	24 September 2022
Team ID	PNT2022TMID00644
Project Name	Classification of Arrhythmia by Using Deep Learning with 2-D ECG Spectral Image Representation
Maximum Marks	4 Marks

Brainstorm & Idea Prioritization Template:

Brainstorming provides a free and open environment that encourages everyone within a team to participate in the creative thinking process that leads to problem solving. Prioritizing volume over value, out-of-the-box ideas are welcome and built upon, and all participants are encouraged to collaborate, helping each other develop a rich amount of creative solutions.

Step-1: Team Gathering, Collaboration and Select the Problem Statement

Define your problem statement

Arrhythmia is a representative type of CVD that refers to any irregular change from the normal heart rhythms. There are several types of arrhythmia including atrial fibrillation, premature contraction, ventricular fibrillation, and tachycardia. Although a single arrhythmia heartbeat may not have a serious impact on life, continuous arrhythmia beats can result in fatal circumstances. In this project, we build an effective electrocardiogram (ECG) arrhythmia classification method using a convolutional neural network (CNN), in which we classify ECG into seven categories, one being normal and the other six being different types of arrhythmia using deep two-dimensional CNN with grayscale ECG images. We are creating a web application where the user selects the image which is to be classified. The image is fed into the model that is trained and the cited class will be displayed on the webpage.

Key rules of brainstorming

To run an smooth and productive session

Stay in topic.

Defer judgment.

Go for volume.

Encourage wild ideas.

Listen to others.

If possible, be visual.

Step-2: Brainstorm, Idea Listing and Grouping

2

Brainstorm

Write down any ideas that come to mind
that address your problem statement.

🕐 **10 minutes**

Divya

Classifying arrhythmia	Easy detection	Get detailed information
User friendly application		

Dhuneesha

Easy and fast analysis	Accurate results	Enhancement of features can be done if required
Can be used by anyone		

Nivedha

No need for experts	Easier and faster than traditional methods	Maintenance and Support
Safe storage of data		

Preethi

Automated workflows	Accurate observation of results	Easy download of reports
Create a tour guide for the application		

Step-3: Idea Prioritization

3

Group ideas

Take turns sharing your ideas while clustering similar or related notes as you go. Once all sticky notes have been grouped, give each cluster a sentence-like label. If a cluster is bigger than six sticky notes, try and see if you and break it up into smaller sub-groups.

🕐 20 minutes

Features

User friendly application

Maintenance and support

Safe storage of data

Automated workflows

Applications

Classifying arrhythmia

Get detailed information

Easy and fast analysis

Create a tour guide for the application

Results

Accurate results

Easy download of reports

Easier and faster than traditional methods

Accurate observation of results