

## Ideation Phase


### Brainstorm & Idea Prioritization Template

Date	19 September 2022
Team ID	PNT2022TMID00865
Project Name	Classification of Arrhythmia 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



### Brainstorm & idea prioritization

Use this template in your own brainstorming sessions so your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room.

🕒 10 minutes to prepare  
🕒 1 hour to collaborate  
👥 2-8 people recommended

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**Before you collaborate**

A little bit of preparation goes a long way with this session. Here's what you need to do to get going.

🕒 10 minutes

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**A Team gathering**  
Define who should participate in the session and send an invite. Share relevant information or pre-work ahead.

**B Set the goal**  
Think about the problem you'll be focusing on solving in the brainstorming session.

**C Learn how to use the facilitation tools**  
Use the Facilitation Superpowers to run a happy and productive session.

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**1 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 a smooth and productive session

🗣️ Stay in topic.

💡 Encourage wild ideas.

👂 Defer judgment.

👂 Listen to others.

🗣️ Go for volume.

👁️ 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			Dhruv			Nivedha			Priyanka		
Classifying ambiguous	Easy and accurate	Get detailed information	Easy and accurate	Accurate results	Overcoming of issues on the app	Easy and accurate	No need for complex	Easy and accurate	Accurate results	Overcoming of issues on the app	Easy and accurate
Easy and accurate	Get detailed information	Overcoming of issues on the app	Easy and accurate	Accurate results	Overcoming of issues on the app	Easy and accurate	No need for complex	Easy and accurate	Accurate results	Overcoming of issues on the app	Easy and accurate
Easy and accurate	Get detailed information	Overcoming of issues on the app	Easy and accurate	Accurate results	Overcoming of issues on the app	Easy and accurate	No need for complex	Easy and accurate	Accurate results	Overcoming of issues on the app	Easy and accurate

**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 can break it up into smaller sub-groups.

🕒 20 minutes

**Features**

- Classifying ambiguous
- Easy and accurate
- Get detailed information
- Overcoming of issues on the app

**Applications**

- Classifying ambiguous
- Easy and accurate
- Get detailed information
- Overcoming of issues on the app

**Results**

- Classifying ambiguous
- Easy and accurate
- Get detailed information
- Overcoming of issues on the app

## Step-3: Idea Prioritization

**4**

### Prioritize

Your team should all be on the same page about what's important moving forward. Place your ideas on this grid to determine which ideas are important and which are feasible.

🕒 20 minutes

