

## Ideation Phase

### Brainstorm & Idea Prioritization Template

Date	19 September 2022
Team ID	PNT2022TMID00594
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.
- 👂 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

Arun.K

How to automate data collection and analysis of data

Start with Sequential type of modelling

Data Collection

See Performance

Astalakshi.G

Accuracy testing

Start with Family, hierarchical

classifying algorithms

user friendly applications

Dhanvashini.R

performance of model

Start with Image processing techniques

Image Pre processing

accuracy and error

easy download of reports

Divya.N

knowledge about deep learning techniques

Start from to build a web application

Training and testing the model

accurate information of results

automated notifications

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 applications

automated workflow

intuitive and rapid

scalable programs

Start with Family, hierarchical

Applications

See Performance

How to automate data collection and analysis of data

Data Collection

classifying algorithms

Training and testing the model

Results

accurate information of results

easy download of reports

accuracy testing

TIP

Add customizable tags to sticky notes to make it easier to find, browse, organize, and categorize important ideas as themes within your mural.

## 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

