

Ideation Phase

Brainstorm & Idea Prioritization Template

Date	18 October 2023
Team ID	Team-592600
Project Name	Alzheimer Disease Prediction
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.

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.

Reference: <https://www.mural.co/templates/empathy-map-canvas>

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

Template



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
👤 2-6 people recommended

➕

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

1

Team gathering

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

2

Set the goal

Think about the problem you'll be focusing on solving in the brainstorming session.

3

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

Alzheimer Disease Prediction using deep learning models like CNN(Convolution Neural Network) to analyze medical imaging data

⌚ 5 minutes

PROBLEM

Alzheimer Disease Prediction using deep learning models like CNN(Convolution Neural Network) to analyze medical imaging data

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

Brainstorm

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

10 minutes

Tip
You can select a sticky note and use the pencil icon to draw or use the eraser icon to delete.

Person 1

Multi-Modal Data Fusion: Combine various types of medical imaging data, such as MRI, PET scans, and CT scans. Create a deep learning model that can analyze and extract features from these different modalities to improve prediction accuracy.

Longitudinal Data Analysis: Utilize longitudinal data from patients, tracking changes in imaging data over time. This can help in identifying early signs of Alzheimer's disease progression.

Explainable AI (XAI): Develop methods to interpret the model's predictions. Explainability is essential in a medical context, as it can provide insights into why the model made a particular prediction.

Person 2

Incorporate privacy-preserving techniques like federated learning or homomorphic encryption to ensure the security and confidentiality of patient data.

Given the scarcity of labeled Alzheimer's data, use data augmentation techniques and generative models to expand the training dataset for machine learning models.

Fine-tune pre-trained models like Xception on a large dataset, such as ImageNet, and then adapt them to Alzheimer's prediction. Transfer learning can significantly reduce training time and improve results.

Person 3

Develop clinical decision support systems that integrate deep learning models into a clinician's workflow, providing real-time diagnostic support.

Create brain-training games or apps that use deep learning models to track changes in gameplay behavior, which can be indicative of cognitive decline.

Collaborate with medical institutions to conduct clinical trials and validate the model's predictions in real-world scenarios.

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

Tip
Add additional notes to sticky notes to make a cluster. To lock, remove, merge time, and collapse/expand notes, click on the icons on your screen.

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Step-3: Idea Prioritization

