

Ideation Phase

Brainstorm & Idea Prioritization Template


Date	11 November 2023
Team ID	Team-591644
Project Name	Machine Learning Approach For Predicting The Rainfall
Maximum Marks	4 Marks

Machine Learning Approach For Predicting The Rainfall:

During a collaborative brainstorming session, eight experts contributed diverse ideas to enhance rainfall prediction using machine learning. Suggestions ranged from technical model improvements like ensemble model combinations and integrating real-time satellite data to user-centric strategies such as mobile app customization and community engagement workshops. Ideas also encompassed sustainability integration, community-driven feedback loops, emerging technology utilization like IoT sensors, and policy advocacy for collaborative partnerships. These varied suggestions formed a comprehensive foundation, addressing technical accuracy, user engagement, environmental impact, community involvement, technological advancements, and policy influence within the rainfall prediction project.

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

Template



Brainstorm & idea prioritization

Machine Learning Approach For Predicting The Rainfal

⌚ 10 minutes to prepare
👥 1 hour to collaborate
2-8 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

➕

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

➕

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

➕

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

➔

Open article

1

Define your problem statement

What problem are you trying to solve? Frame your problem as a How Might We statement. This will be the focus of your brainstorm.

⌚ 5 minutes

PROBLEM

Inaccurate rainfall predictions disrupt agricultural planning and decision-making, causing financial losses and uncertainty

👥

Key rules of brainstorming

To run an 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

TIP

You can add a sticky note and use the pencil (edit) to make it look like your drawing!

1. Agricultural Expert(sunil):

Suggests incorporating local farming practices and traditional weather indicators into the predictive model to make it more relatable and valuable for farmers.

Recommend developing a feature in the application that provides specific crop-related advice based on predicted rainfall patterns, assisting farmers in optimizing their planting schedules.

2. Meteorologist (Michael):

Proposes using ensemble modeling techniques, combining multiple forecasting models to improve prediction accuracy and reliability

Recommends integrating advanced weather satellite data into the model in real-time, allowing for more precise and up-to-date predictions.

3. Data Scientist (David):

Suggests leveraging deep learning models, such as convolutional neural networks, to analyze satellite imagery and extract valuable weather-related features.

Proposes using anomaly detection algorithms to identify irregular patterns in weather data that could signify extreme weather events.

4. Environmental Scientist (Elena):

Recommends including environmental impact assessments within the predictive model, showcasing the potential ecological effects of different weather scenarios.

Proposes integrating sustainability tips and advice in the app to encourage environmentally friendly farming practices based on predicted weather patterns.

Technical Model Improvement

User Interface and Engagement

Emerging Technology Integration

Environmental Impact and Sustainability

1

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.

30 minutes

TIP

Add a sticky note to sticky notes to make a group that, when grouped, will categorize documents close as they are when you start.

Step-3: Idea Prioritization

3

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

TIP

Participants can use their cursor to point at where sticky notes should go on the grid. The facilitator can confirm the spot by using the laser pointer holding the H key on the keyboard.

Importance

If each of these ideas could get done without any difficulty or cost, which would have the most positive impact?

Proposes using ensemble modeling techniques, combining multiple forecasting models to improve prediction accuracy and reliability

Technical Model Improvement

Suggests leveraging deep learning models, such as convolutional neural networks, to analyze satellite imagery and extract valuable weather-related features.

User Interface and Engagement

Suggests incorporating local farming practices and traditional weather indicators into the predictive model to make it more relatable and valuable for farmers.

Emerging Technology Integration

Recommends integrating advanced weather satellite data into the model in real-time, allowing for more precise and up-to-date predictions.

Feasibility

Regardless of their importance, which tasks are more feasible than others? (Cost, time, effort, complexity, etc.)

Brain Storming link :

<https://app.mural.co/t/smartintern7466/m/smartintern7466/1699959458307/79ac977d2e73dc2c3d795179e1c4628a2e6eb801?sender=u1eace578fb242542ad063307>

Or

<https://drive.google.com/file/d/1FN6qsWMinFEqRExki8NUevB5II9ar84M/view?usp=sharing>