

Ideation Phase

Brainstorm & Idea Prioritization

Date	18 October 2023
Team ID	592350
Project Name	Deep Learning Model for Eye Disease Prediction

Brainstorm & Idea Prioritization:

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 number of creative solutions.

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Brainstorm

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

🕒 10 minutes

TIP
You can select a sticky note and hit the pencil [switch to sketch] icon to start drawing!

Person 1

Developing a robust model using deep learning to identify eye diseases using images

Building a web application to allow users to upload images and predict if they have any eye disease or not

Implement machine learning algorithms for analysis of medical images

Develop a system that can process images quickly and give immediate feedback

Collaborate with ophthalmologists and optometrists

Some common eye diseases include cataracts, glaucoma, macular degeneration, and diabetic retinopathy. The goal is to develop a model that can accurately identify these conditions from retinal fundus images.

Develop a web application that allows users to upload images and get predictions. The application should be user-friendly and accessible to a wide range of users, including healthcare professionals and patients.

Use a robust dataset for training and testing the model. The dataset should include a variety of eye disease images, including different stages and types of diseases. The model should be evaluated using standard metrics such as accuracy, precision, and recall.

Identify the system data set, convert it to a standard format, and preprocess it. This includes tasks such as image normalization, cropping, and augmentation to improve the model's performance.

Develop an educational platform to raise awareness about eye diseases and the importance of early detection. The platform should provide information on symptoms, risk factors, and available treatments, and encourage users to seek professional advice.

Person 2

Educational Campaigns: Raising awareness about routine eye exams

Use advanced machine learning algorithms for analysis of medical images

Use telemedicine to extend access to eye care, particularly in underserved areas

Encourage collaboration between ophthalmologists, optometrists

Develop advanced image processing techniques for faster diagnosis

Clinical decision support systems

Development of innovative diagnostic tools such as wearable devices or portable, non-invasive diagnostic devices

Promote interdisciplinary research that combines ophthalmology with genetics, neurology, and immunology

Developing Machine Learning algorithms that can detect patterns in large datasets of eye disease data

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



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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 cursors 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.

