





Date	19 September 2022
Team ID	PNT2022TMID51065
Project Name	Deep Learning Fundus Image Analysis For Early Detection Of Diabetic Retinopathy
Maximum Marks	4 Marks


DEEP LEARNING FUNDUS IMAGE ANALYSIS FOR EARLY DETECTION OF DIABETIC RETINOPATHY



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



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

- 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

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

Deep Learning Fundus Image Analysis for Early Detection of Diabetic Retinopathy



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.

2

Brainstorm

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

🕒 10 minutes

A.Elavarasi

We can increase the performance by training on more datasets

Auto encoder, sparse coding, restricted boltzmann machines are also can be used

We can use Nano 33BLE arduino to implement

Query driven approach can be used for heterogenous integrated data

A.Dharini

For early detection of DR, regular screening of retina is essential

Hybrid approach can be used for detection

DR can be detected by brand new framework

Waveshare OV9655 Camera can be used for image detection along with arduino

K.Dharshini

We can use the Convolutional Neural Network(CNN) for retina image detection

Using Edge Impulse, we can implement it

Optomap can be used for DR detection

High accuracy algorithms should be used for medical image analysis

B.Keerthika

DR is best diagnosed with two main methods: Fluorescein Angiography (FA) and Optical Coherence Tomography (OCT)

Using MATLAB source code, we can do this effectively

Using SVM and decision trees, images can be analysed

Retinal image scans can be used

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

PHASE 1 DATA COLLECTION	We can increase the performance by training on more datasets	DR is best diagnosed with two main methods: Fluorescein Angiography (FA) and Optical Coherence Tomography (OCT)	Using SVM and decision trees, images can be analysed	For early detection of DR, regular screening of retina is essential
PHASE 2 PROGRAMMING	Using MATLAB source code, we can do this effectively	High accuracy algorithms should be used for medical image analysis	Query driven approach can be used for heterogenous integrated data	Auto encoder, sparse coding, restricted boltzmann machines are also can be used
PHASE 3 TRAINING THE MODEL	DR can be detected by brand new framework	We can use the Convolutional Neural Network(CNN) for retina image detection	Optomap can be used for DR detection	Hybrid approach can be used for detection
PHASE 4 TESTING & IMPLEMENTATION	We can use Nano 33BLE arduino to implement	Waveshare OV9655 Camera can be used for image detection along with arduino	Using Edge Impulse, we can implement it	Retinal image scans can be used

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

