

PROJECT DESIGN PHASE-I
PROPOSED SOLUTION

Date	19 September 2022
Team ID	PNT2022TMID12576
Project Title	Deep Learning Fundus Image Analysis for Early Detection of Diabetic Retinopathy

PROPOSED SOLUTION:

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Diabetic Retinopathy(DR) is a condition that can develop in your eye if you are diagnosed with type 1 or type 2 diabetes. It damages a part of one's eye called the retina, which is the tissue that lines the back of one's eye. When DR is detected at early stages, we can prevent the patient from completely losing their eyesight.
2.	Idea / Solution description	We propose a solution wherein if the fundus image, an image which displays the interior surface of the eye, is available, this problem can be easily detected by running a machine learning or deep learning model which can predict the presence of DR in the early stages.
3.	Novelty / Uniqueness	<ul style="list-style-type: none">• Displaying test results or the report on a web based portal for each and every patient.• Try a different Computer Intelligence technique and compare the performance with contemporary solutions.
4.	Social Impact / Customer Satisfaction	<ul style="list-style-type: none">• Patients who are affected by DR at early stages can prevent further loss of vision.• Without the need of a doctor, the program would be able to diagnose/predict whether the patient is affected.
5.	Business Model (Revenue Model)	<ul style="list-style-type: none">• A program to be incorporated with the system that pictures the fundus image.• Hospitals would make use of this program.• Ad revenue from the portal through which we would share the test results.
6.	Scalability of the Solution	<ul style="list-style-type: none">• Can also detect if the patient is affected by Glaucoma or not, since both the tests make use of the same fundus image.