Project Design Phase-I
Proposed Solution Template

Date	16 October 2022
Team ID	PNT2022TMID24469
Project Name	Deep learning Fundus Image Analysis for Early Detection of Diabetic Retinopathy
Maximum Marks	2 Marks

Proposed Solution Template:

Project team shall fill the following information in proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	How to detect Diabetic Retinopathy and avoid loss of vision?
2.	Idea / Solution description	Diabetic Retinopathy which is one of the complication of Diabetes Mellitus has to identified in early stages, only then vision can be saved. So here were are presenting an automated detection system using deep learning and fundus images, which will be helpful for early detection and better diagnosis of disease.
3.	Novelty / Uniqueness	Our novel approach to feature learning for DR characterization leveraged deep learning methods for automated image characterization. Specifically, we used customized deep convolutional neural networks for automated characterization of fundus photography because of their wide applicability in many image recognition tasks and robust performance on tasks with large ground truth data sets.
4.	Social Impact / Customer Satisfaction	This project can reduce loss of vison cases drastically due to Diabetic Retinopathy, because of effective screening and early detection of disease. It also reduces the labour burden in health care.
5.	Business Model (Revenue Model)	It can be used in eye clinics and in hospitals. It can also be used in government hospitals to make Diabetic Retinopathy detection affordable for poor.
6.	Scalability of the Solution	It can also be developed to detect Diabetic macular Edema and glaucoma diseases.