**IBM-EPBL/**[**IBM-Project-18407-1659684768**](https://github.com/IBM-EPBL/IBM-Project-18407-1659684768)

**PROBLEM STATEMENT: Deep Learning Fundus Image Analysis for Early Detection of Diabetic Retinopathy**.

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**AIM :** To write the problem statement for Deep Learning Fundus Image Analysis for Early Detection of Diabetics Retinopathy

**PROBLEM STATEMENT :**

Diabetic Retinopathy (DR) is common complication of diabetes mellitus, which will cause lesions on the retina that affects vision. If it is not detected early, it can lead to blindness. Unfortunately, DR is not a reversible proves, and the given treatment will only give us a sustain vision. DR early detection and treatment can significantly reduce the risk of vision loss.

**WHAT ?**  In contrast to computer-aided diagnosis systems, the manual / human-based diagnosis process of DR retina fundus images by doctors (ophthalmologists) is time-consuming, labor-intensive, expensive, and prone to error.

**WHY ?** Diabetes-related retinopathy is brought on by high blood sugar levels harming the eye's iris. which could result in a permanent loss of vision.

**WHEN ?**  Early on, the DR has no symptoms, but later on, the vessels may start to leak a tiny amount of blood into your retina..

**WHERE ?** Blurred vision, Distorted vision will occur.

**WHO?**  It is common among the Diabetic patients.

**HOW ?**  The manual early detection of this DR is a challenging task.

**OBJECTIVES** :

The primary goal is to identify diabetic retinopathy by processing retinal images. Transfer learning has arose as one of the most popular techniques that has enhanced performance in many areas, notably in the analysis and classification of medical images. We used transfer learning techniques that are more frequently used in medical image analysis and have been extremely effective, including such Inception V3, Resnet50, and Xception V3.