Deep Learning Fundus Image Analysis for Early Detection of Diabetic Retinopathy

Problem statement

Mrs. Shreya, a 55-year-old woman. She has been diabetic for 10 years. She thought her diabetes was under control but noticed some irregularities in her vision. She felt like her vision was getting blurry. She wants to be diagnosed quickly before it gets worse.

- She has been facing this issue for the past few days.
- She wants to know the result and solution to this problem.
- Diabetic retinopathy primarily affects men and women with diabetes over 40 years of age who have high sugar levels.

Who does the problem affect?	Males and females who have diabetes.
What are the boundaries of the problem?	An abnormal rise in diabetic levels and losing control over sugar levels.
What is the issue?	Diabetic retinopathy is a diabetes complication that affects the eyes and makes vision poor. It can even lead to blindness.
When does the issue occur?	This occurs when the diabetes levels are not under control.
Where does the issue occur?	This mainly affects the back of the eye (retina) causing damage to the blood vessels of the light-sensitive tissue.
Why is it important that we fix the problem?	If undiagnosed, it may lead to permanent blindness or vision loss.
What solution to solve this issue?	An automated system is introduced for the early detection of diabetic retinopathy.
What methodology was used to solve the issue?	Deep learning techniques are used to identify the problem and detect the early arrival of this disease and take precautionary measures.