

DEEP LEARNING FUNDUS IMAGE ANALYSIS FOR EARLY DETECTION OF DIABETIC RETINOPATHY

PROBLEM STATEMENT:

Mr.Ezhil is a 35 years old man. He has a very high blood sugar level due to diabetes for a long time.Though he doesn't feel any symptoms for diabetic retinopathy he was instructed to check for it due to very high blood pressure.

- Ezhil wants to know whether he is affected by Diabetic Retinopathy.
- He has had a high blood glucose level for a long period of time.
- This disease usually occurs for people around 35-40 years
- As Ezhil is tensed he need to know the result immediately

Who does the problem affect?	Persons with very high blood sugar levels.
What are the boundaries of the problem?	People around 35 to 40 years old.
What is the issue?	No symptoms at the early stage of this disease. So, early detection of diabetic retinopathy is required to prevent loss of vision.DR causes impaired vision and may even lead to blindness if it is not diagnosed in early stages. Highly trained experts examine the colored fundus images to diagnose this fatal disease. This manual diagnosis of this condition is tedious and error-prone.
When does the issue occur?	Although retinopathy usually does not appear for approximately five years after a type 1 diabetes diagnosis, it may already be present when type 2 diabetes is

	<p>diagnosed. After 15 years of having diabetes, 98 percent of those with type 1 diabetes and 78 percent of those with type 2 have some degree of retinal damage.</p>
<p>Where does the issue occur?</p>	<p>Diabetic retinopathy is a diabetes complication that affects eyes. It's caused by damage to the blood vessels of the light-sensitive tissue at the back of the eye (retina). At first, diabetic retinopathy might cause no symptoms or only mild vision problems. Diabetic Retinopathy (DR) is an ophthalmic disease that damages retinal blood vessels.</p>
<p>Why is it important that we fix the problem?</p>	<p>In DR, early detection and treatment is of vital importance as it may prevent vision loss and blindness.</p>