# ABSTRACT

# DIABETIC RETINOPATHY DETECTION

Diabetic Retinopathy (DR) is a complication caused by diabetes that affects the human eye. It is caused by the mutilation of the blood vessels of the light-sensitive tissue at the back of the human retina. It's the most recurrent cause of blindness in the working age group of people and is highly likely when diabetes is poorly controlled. Although methods to detect Diabetic Retinopathy exist, they involve manual examination of the retinal image by an Ophthalmologist. Diabetic retinopathy (DR) is a leading cause of vision impairment and blindness among individuals with diabetes. Early detection and intervention are crucial to prevent irreversible damage to the retina. This project focuses on the development of an accurate and efficient system for the detection of diabetic retinopathy using deep learning techniques. The proposed methodology employs DenseNet121 to automatically extract meaningful features from digital fundus images. These images are acquired through retinal screening, and the deep learning model is trained to classify them into different stages of diabetic retinopathy, ranging from mild to severe.The image is classified into several stages of DR such as normal, mild, moderate, severe, and proliferative diabetic retinopathy. The frontend of the web application is developed using ReactJS, and Backend using Python and Firebase.