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**DIABETIC RETINOPATHY DETECTION USING**

**ENSEMBLE INCEPTION NETWORK MODEL**

**ABSTRACT**

Diabetic retinopathy is a complication of diabetes that affects the eyes. It occurs when high blood sugar levels damage the blood vessels in the retina, which is the light-sensitive tissue at the back of the eye. Over time, the damaged blood vessels can leak or become blocked, causing vision problems and potentially leading to blindness if left untreated. DR has five stages or classes, namely normal, mild, moderate, severe and PDR (Proliferative Diabetic Retinopathy). Diabetic retinopathy can be managed and prevented with regular eye exams and good diabetes management, including controlling blood sugar levels, blood pressure, and cholesterol levels. Treatment options may include laser therapy, injections of medication into the eye, or surgery. This manual diagnosis of this condition (by clinicians) is tedious and error-prone. For detecting early, here propose an ensemble model which has two inception models such as InceptionV3 and InceptionResnetV2. By stacking the output layers of each base model we create a meta-model for prediction. The proposed ensemble model gave more performance in identifying the DR stages. For the training 3 different dataset is used from Kaggle and IEEE data port.