**INTRODUCTION**

Diabetic Retinopathy is a complication that affect the eye due to the result of high blood glucose called diabetes. It can cause vision loss and in severe condition can lead to complete blindness. Early symptoms of diabetic retinopathy includes blurred vision, darker areas of vision, eye floaters and difficulty in perceiving colours. Proper detection of diabetic retinopathy in early stage is extremely important to prevent complete blindness. Of an estimated 285 million people with diabetes mellitus worldwide, approximately one third have signs of diabetic retinopathy. Globally the number of people affected with diabetic retinopathy will increase from 126.6 million in 2010 to 191.0 million by 2030. Non Proliferative Diabetic Retinopathy (NPDR) is an early stage of disease in retina where tiny red spots occur. These tiny spots may represent haemorrhage and abnormal pouching of blood vessels represents microaneurysms. The lining of these blood vessels can become damaged enough to allow leakage of fluid and fatty material called exudates. Available physical tests to detect diabetic retinopathy includes pupil dilation, visual acuity test, optical coherence tomography, etc. But they are time consuming and patients need to suffer a lot. This paper focuses on automated computer aided detection of diabetic retinopathy using machine learning hybrid model by extracting the features haemorrhage, microaneurysms and exudates. The classifier used in this proposed model is the hybrid combination of SVM and KNN.