

Project Title: An Intelligent Predictive System for Diabetic Retinopathy among Diabetes Patients in Malaysia
Project No.: RG 052-11ICT
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Abstract:

Retinopathy or blindness due to diabetes is one of the most common complications among diabetics worldwide. Due to its high prevalence, early detections are necessary so as to avoid vision loss. This paper aims to discuss the design and development of a retinopathy predictive system which is based on two main techniques, data mining and case-based reasoning. To be specific, C5.0 was used to produce the necessary decision tree whereas k-nearest neighbour algorithm was used to select the three most similar cases for every new case entered into the system. Finally, a voting mechanism makes the final prediction. Results show that the hybrid system has a better accuracy prediction rate (85%) compared to C5.0 (76%) and CBR (73%) implemented solely.