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Diagnosis of Diabetes Using Computer Methods: Soft Computing Methods for Diabetes Detection Using Iris

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Abstract : Complementary and Alternative Medicine (CAM) techniques are quite popular and effective for chronic diseases. Iridology is more than 150 years old CAM technique which analyzes the patterns, tissue weakness, color, shape, structure, etc. for disease diagnosis. The objective of this paper is to validate the use of iridology for the diagnosis of the diabetes. The suggested model was applied in a systemic disease with ocular effects. 200 subject data of 100 each diabetic and non-diabetic were evaluated. Complete procedure was kept very simple and free from the involvement of any iridologist. From the normalized iris, the region of interest was cropped. All 63 features were extracted using statistical, texture analysis, and two-dimensional discrete wavelet transformation. A comparison of accuracies of six different classifiers has been presented. The result shows 89.66% accuracy by the random forest classifier.

Keywords : complementary and alternative medicine, classification, iridology, iris, feature extraction, disease prediction
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