



Diagnosis of Diabetes Mellitus Using PCA, Neural Network and Cultural Algorithm

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Abstract –Diabetes Mellitus (DM) is a chronic metabolic disorder characterized by the hyperglycaemia with the disturbances of body metabolism resulting from the defects in insulin secretion, insulin action, or both. The chronic hyperglycaemia of diabetes is associated with the long term damage, dysfunction and failure of various vital organs like, the eyes, kidneys, nerves, heart and the blood vessels leading to micro and macro vascular complications.

Data mining gives a diversity of methods to investigate large data keeping in mind the end goal to find hidden knowledge. This study is an effort to plan and execute a descriptive data mining approach and to devise association standards to envisage diabetes behaviour in arrangement with particular life style parameters, including physical activity and emotional states, especially in elderly diabetics. Proposed methodology is based on Principal Component Analysis (PCA), Neural Network (NN) and Cultural Algorithm (CA).

Keywords – CA, Data mining, Diabetes mellitus, NN, PCA.