Abstract

Diabetes Risk Score (DRS) tools are computational tools, used to assess the risk of a person’s getting diabetes. DRS tools are generally used as a simple, inexpensive and non-invasive mass screening tool to detect diabetes. Various DRS tools are reported in literature and being used successfully. The accuracy of the DRS tools highly depends on the parameters used to derive it. Total Diabetic Risk Score is calculated by adding individual parameter’s risk scores. This approach won’t work, if any pair of parameters is negatively correlated with diabetes risk. In such cases, it reduce the total diabetes risk score when one parameter is kept constant and other is decreased, while they are actually expected to increase it. In this research study, researchers propose a new parameter Waist Circumference Age Index (WAI), to address the above issue. This paper also discusses the derivation of criteria for determining high and low risk for diabetes based on WAI using machine learning technique. The outcome of this research study can be used to develop a new Diabetes Risk Score tool.

References
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Application of Data Mining Techniques in Deriving Waist Circumference-Age Index for Diabetes Risk Score


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Index Terms

Computer Science

Information Sciences

Keywords

Association Rule Mining, Clustering, Discretization, Diabetes Risk Score, Indian Weighted Diabetes Risk Score, Machine Learning, Type-2 Diabetes