

عنوان مقاله:

Improving of Diabetes Diagnosis using Ensembles and Machine Learning Methods

محل انتشار:

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خلاصه مقاله:

Diabetes is one of the most common metabolic diseases, and diagnosis of it is a classification problem. The most challenge in this area is missing value problem. Artificial Intelligence techniques have been successfully implemented over medical disease diagnoses. Classification systems aim clinicians to predict the risk factors that cause diabetes. To address this challenge, we introduce a novel model to investigate the role of pre-processing and data reduction for classification problems in the diagnosis of diabetes. The model has four stages consists of Pre-processing, Feature sub-selection, Classification, and Performance. In the classification technique, ensemble techniques such as bagging, boosting, stacking, and voting were used. We considered both states with/without for pre-processing stage to reveal the high performance of our model. Two experiments were conducted to reveal the performance of the model for the diagnosis of diabetics Mellitus. The results confirmed the superiority of the proposed method over the state-of-the-art systems, and the best accuracy and F1 achieved 97.12% and 97.40%, respectively.

کلمات کلیدی:

Data mining, Diabetes mellitus, Pre-processing, Ensembles, Machine Learning

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