عنوان مقاله:

New Method For Early Detection Of Diabetes By Using a Combination Of Decision Tree And Genetic Algorithm

محل انتشار:

پنجمین کنفرانس بین المللی مهندسی برق و کامپیوتر با تاکید بر دانش بومی (سال: 1396)

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خلاصه مقاله:

Medical diagnosis is one of the most important application areas for data mining tools that can be used with more precision and less error for the medical diagnosis. Many researchers have focused on the development of data mining methods with the purpose of improving accuracy in the mentioned area. It can be examined by using these methods that whether people have been affected from the diabetes or not. There are various techniques available in this field, that each one has its own advantages and disadvantages. In this regard, the present study has aimed to predict diabetes mellitus with the weighted averaging method and through by a combination of three algorithms in the decision tree called ID3, C4.5 and C5.0 and thus the accuracy prediction index has been improved. The proposed approaches in this study include maximum votes, simple averaging, and the weighted averaging methods. The conducted calculations on the data set of diabetes mellitus using computational approaches show that the best performance is related the weighted averaging model that is equal to 92.03%. In addition, there are also the available techniques in the literature of the subject show that the weighted averaging method has been superior among the introduced conventional models in previous researches and has obtained a higher accuracy.

کلمات کلیدی:

Diabetes disease, Decision Tree, Genetic Algorithm, Supervised learning

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