

Diabetes Diagnosis Model Using Rough Set and K- Nearest Neighbor Classifier

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Abstract : Diabetes is a complex group of disease with a variety of causes; it is a disorder of the body metabolism in the digestion of carbohydrates food. The application of machine learning in the field of medical diagnosis has been the focus of many researchers and the use of recognition and classification model as a decision support tools has help the medical expert in diagnosis of diseases. Considering the large volume of medical data which require special techniques, experience, and high diagnostic skill in the diagnosis of diseases, the application of an artificial intelligent system to assist medical personnel in order to enhance their efficiency and accuracy in diagnosis will be an invaluable tool. In this study will propose a diabetes diagnosis model using rough set and K-nearest Neighbor classifier algorithm. The system consists of two modules: the feature extraction module and predictor module, rough data set is used to preprocess the attributes while K-nearest neighbor classifier is used to classify the given data. The dataset used for this model was taken for University of Benin Teaching Hospital (UBTH) database. Half of the data was used in the training while the other half was used in testing the system. The proposed model was able to achieve over 80% accuracy.

Keywords : classifier algorithm, diabetes, diagnostic model, machine learning

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