

Analysis and Rule Extraction of Coronary Artery Disease Data Using Data Mining

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Abstract : Coronary Artery Disease (CAD) is one major cause of disability in adults and one main cause of death in developed. In this study, data mining techniques including Decision Trees, Artificial neural networks (ANNs), and Support Vector Machine (SVM) analyze CAD data. Data of 4948 patients who had suffered from heart diseases were included in the analysis. CAD is the target variable, and 24 inputs or predictor variables are used for the classification. The performance of these techniques is compared in terms of sensitivity, specificity, and accuracy. The most significant factor influencing CAD is chest pain. Elderly males (age > 53) have a high probability to be diagnosed with CAD. SVM algorithm is the most useful way for evaluation and prediction of CAD patients as compared to non-CAD ones. Application of data mining techniques in analyzing coronary artery diseases is a good method for investigating the existing relationships between variables.

Keywords : classification, coronary artery disease, data-mining, knowledge discovery, extract

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