

Estimation of Chronic Kidney Disease Using Artificial Neural Network

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Abstract : In this study, an artificial neural network model has been developed to estimate chronic kidney failure which is a common disease. The patients' age, their blood and biochemical values, and 24 input data which consists of various chronic diseases are used for the estimation process. The input data have been subjected to preprocessing because they contain both missing values and nominal values. 147 patient data which was obtained from the preprocessing have been divided into as 70% training and 30% testing data. As a result of the study, artificial neural network model with 25 neurons in the hidden layer has been found as the model with the lowest error value. Chronic kidney failure disease has been able to be estimated accurately at the rate of 99.3% using this artificial neural network model. The developed artificial neural network has been found successful for the estimation of chronic kidney failure disease using clinical data.

Keywords : estimation, artificial neural network, chronic kidney failure disease, disease diagnosis

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