A Fuzzy Rule Base System for the Diagnosis of Heart Disease

Abstract

Now a day's prediction of a heart disease is a great challenge to modern technology. Use of intelligent system in this context is a real challenge. In this paper a fuzzy rule based system for the diagnosis of the heart disease has been presented. The developed system has seven inputs. These are Chest pain type, resting blood pressure in mm (Trestbps), Serum cholesterol in mg (Chol), Numbers of Years as a smoker (years), fasting of blood sugar (fbs), maximum heart rate achieved (thalach), resting blood rate (trestbps). The angiographic disease status of heart of patients has been recorded as output. It is to state that diagnosis of heart disease by angiographic disease status is assigned by a number between 0 to 1, that number indicates whether the heart attack is mild or massive. The Cleveland database[11] has been used to make this study. Various membership functions have been used as input. Here an effort has been made to decide suitable membership function for proper diagnosis of heart disease. Three types of membership functions viz gaussian, triangular and trapezoidal membership functions have been attempted. Based on the minimum value of absolute residual the particular membership function can be decided for the fuzzy rule base system with an objective of the proper diagnosis of a patient.
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Index Terms

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