

which build upon the walls of the blood vessels. The arteries are responsible for supplying the oxygen rich blood to the heart muscles. When the blood clot grows huge enough, it blocks the flow of oxygen affluent blood to the heart muscles absolutely. This causes angina or heart attacks or even to sudden death. The angina is the chest pain or uneasiness due to the lack of oxygen in the blood.

The **Coronary Heart Disease (CHD)** is the damage in the interior of the coronary arteries leading to heart attacks and Arrhythmias. The Arrhythmias is the problem even in adolescent people with respective to the rate or rhythm of their heartbeat. The early prediction of such tedious disease can reduce the mortality rate. These types of prophecy nowadays are quite impressive in the world of robotic technology. The following inspection provides us with better way to end with such prediction proposals [1].

5. Exploration of Techniques Used

S.No	Author of the paper	Methodology used	No. of attribute	Attained accuracy % ~
1	Persi Pamela et al.	CART decision Tree; Fuzzy System ;PSO	14	94%
2	Markos et al.	Decision Tree; Fuzzy modeling & Optimization	19	73.4%
3	Kantesh et al.	Fuzzy reasoning	6	80%
4	K Cinetha et al.	Fuzzy logic; Decision Tree with Clustering	1230*	97.67%
5	Debabrata et al.	CAD Screening Expert System; Fuzzy System	7	84.20%
6	S Muthukaruppan et al.	Decision Tree; PSO; Fuzzy expert System	13	93.27%
7	Dursan et al.	Support Vector Machine ; Decision Tree; Neural Networks	19	87.74%
8	Ilias et al.	Support Vector Machine	198#	77%
9	Chih-Lin Chi et al.	Decision Support System with Optimal Decision path finder	49	50%
10	Rajeshwar et al.	Artificial Neural Network ; Back Propagation	12	89.4%

*Training data #Heart sound signal

Persi Pamela *et al.* used Classification and Regression Tree (CART) algorithm along with the Particle Swarm Optimization (PSO) to predict 94% accuracy of CHD [18]. Markos *et al.* has used C4.5 decision tree algorithm besides fuzzy opti-

mization techniques to acquire the result of 73.4 % [15]. 1230 training data are facilitated by K Cinetha *et al.* to propose a Decision Support System (DSS) for precluding CHD using decision tree with Clustering techniques has attained a premier accuracy of 97.67% [5]. To envisage 87.74 % accuracy by means of 19 attributes Dursan *et al.* has used C5 and CART decision trees [8]. Fuzzy expert system along with decision tree algorithm has been intended to gain the accuracy of 93.27 % by S Muthukaruppan *et al.* [17].

6. Conclusions

From this brief study, the prediction system which incorporates the methodologies such as Data mining, Fuzzy logic and Decision tree with clustering provides us with the appropriate accuracy of 97.67%. The another system that have been implemented in the Mat lab 10 with the techniques of Decision tree , Fuzzy system and Particle Swarm Optimization provides us the best accuracy of 94% even with less number of attributes which accounts to 14. Thereby, the study can be concluded as the system proposed by Persi Pamela *et al.* as worthy in regards of performance metrics as number of attributes, accuracy rate and time consumption.

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