



# Heart Disorder Prediction Using Machine Learning and Data Pitting Strategy

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**Abstract**—Heart Disorder is the main reason for death in the world over the last decade. Almost ten person dies of Heart Disorder about every minute in the India alone. Researchers have been using several data Pitting Strategies to help health care professionals in the diagnosis of heart disorder. However using data Pitting Strategy can reduce the number of test that are required. In order to reduce number of deaths from heart Disorders there have to be a quick and efficient detection Strategy. Decision Tree is one of the effective data Pitting methods used. This research compares different algorithms of Decision Tree classification seeking better performance in heart Disorder diagnosis using SL. The algorithms which are tested is C4.5 algorithm, Logistic model tree algorithm and Gradient Boosting algorithm. The existing datasets of heart Disorder patients from Cleveland database of UCI repository is used to test and justify the performance of decision tree algorithms. This datasets consists of 300 instances and 70 attributes. Subsequently, the classification algorithm that has optimal potential will be suggested for use in sizeable data. The goal of this study is to extract hidden patterns by applying data Pitting Strategies, which are noteworthy to heart Disorders and to predict the presence of heart Disorder in patients where this presence is valued from no presence to likely presence.

**Keywords:** Data Pitting; Decision Support System; Health disorder; Health records; Classification.

## I. INTRODUCTION

Heart Disorder is the leading cause of death in the world over the past 15 years (World Health Organization 2007). Several different symptoms are associated with heart disorder, which makes it difficult to diagnose it quicker and better. Working on heart disorder patient's databases can be compared to real-life application. Doctors knowledge to assign the weight to each attribute. More weight is assigned to the attribute having high impact on disorder prediction. Therefore it appears reasonable to try utilizing the knowledge and experience of several specialists collected in databases towards assisting the Diagnosis process. It also provides healthcare professionals an extra source of knowledge for making decisions.

The healthcare industry collects large amounts of health-care data and that need to be mined to discover hidden information for effective decision making. Motivated by the world-wide increasing mortality of heart disorder patients each year and the availability of huge amount of patients' data from which to extract useful knowledge, researchers have been using data Pitting Strategies to help health care professionals in the diagnosis of heart disorder (Helma, Gottmann et al. 2000). Thus data Pitting refers to Pitting or extracting knowledge from large amounts of data. Data Pitting applications will be used for better health policy-making and prevention of hospital errors, early detection, prevention of disorders and preventable hospital deaths (Ruben 2009). Heart Disorder prediction system can assist medical professionals in predicting heart disorder based on the clinical data of patients [1]. Hence by implementing a heart disorder prediction system using Data Pitting Strategys and doing some sort of data Pitting on various heart disorder attributes, it can able to predict more probabilistically that the patients will be diagnosed with heart disorder. This paper presents a new model that enhances the Decision Tree accuracy in identifying heart disorder patients. It uses the different algorithm of Decision Trees.



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