FACULTY OF COMPUTING
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PROJECT

P1- Project Proposal

Group 19

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1.0 Introduction

Based on our project topic, Cardiovascular Disease (CVD) is a general term for a wide range of disorders affecting the heart and blood vessels. It is a general term for a set of conditions that are a major global source of morbidity and mortality and can result in serious health consequences. The main cause of these disorders is compromised heart and blood vessel function, which includes capillaries, veins, and arteries. This can lead to a variety of symptoms and even fatal outcomes.

Our group will come up with an idea to make a Delay time model based on Health Monitoring System. This model proposes to count the defect phase on a human body before becoming a cardiovascular failure. The idea is to identify the defect of a cardiovascular disease based on the ranking phase. The purpose of the ranking phase is to diagnose which defect phase the people with cardiovascular problems are facing.

1.1 Problem Background

Cardiovascular disease (CVD) is a widespread and leading cause of death globally, affecting people of all backgrounds. It presents a significant economic burden due to medical costs and lost productivity. CVD is primarily driven by risk factors such as high blood pressure, smoking, and unhealthy lifestyles, exacerbated by the ageing population. Health disparities based on race, income, and location exist, underscoring the need for equitable access to care and prevention. While advances in treatment and prevention have been made, there's a need for broader dissemination and community-based interventions to promote heart-healthy habits and reduce the global impact of CVD.

1.2 Problem Statement

The CVD problem is about developing new diagnostic tools and strategies that are accurate, affordable, and accessible as well as enhancing the capacity of health systems to effectively predict CVD symptoms before it will go to the CVD failure and cause death.

A delay time model based on a health monitoring system is using a delay time method to predict cardiovascular failure conditions. It is trained by historical data and defects.This model can determine when the patient should get the check up before the CVD can get to the 3rd stage symptom which is edema and etc. This could help the patient to take extra precaution and they can detect and predict the symptom and effect from the early stages.

1.3 Objectives

The main objective of this study is to design and implement classification models that demonstrate high levels of prediction in CVD using advanced machine learning techniques. This goal is driven by the urgent need for more effective and efficient methods to identify CVD at an early stage, which is critical for improving patient outcomes and reducing the burden.

The first goal of this study is to focus on the prediction by using a delay time method. By analysing historical data, these models aim to identify subtle patterns and symptoms associated with CVD before it becomes a CVD failure This aims to contribute to early prediction and early treatment of CVD, which can significantly increase a patient's precaution with their lifestyle.

To conclude, the delay time model based on the health monitoring system goal is to help reduce the number of doctors and patients to take an early treatment or early notice of CVD symptoms and improve the health and well-being of people living .

1.4 Scopes

For scope, we can conclude that Cardiovascular Disease (CVD) is a fatal disease that commonly happens to most people especially in Malaysia. We will help to reduce the amount of death because of CVD by implementing classification models that demonstrate high levels of prediction in CVD using advanced machine learning techniques. We will diagnose patient data based on their regular medical check up background just like we stated in our objectives. The timely and accurate assessment of patient data is crucial for delivering effective care and ensuring patient safety. In the systems, latency can lead to missed important events, sluggish reactions, and worse patient outcomes.

1.5 Conclusion

In conclusion, our project aims to address the critical issue of Cardiovascular Disease (CVD), a set of conditions that pose a significant global health challenge, leading to morbidity and mortality. Cardiovascular Disease (CVD) can result in severe health consequences , and timely intervention is essential to prevent fatal outcomes.

Our project focuses on developing a Delay Time Model within a health monitoring system to proactively identify defects or early warning signs related to CVD before it progresses to a critical stage. The approach centers on the concept of ranking phases, which helps diagnose the specific defect phase individuals with cardiovascular problems may be expecting. It underscores the importance of early detection and intervention in the battle against cardiovascular disease.