

# **Heart diseases prediction using Quantum Machine learning (QuantML)**

## **Introduction**

Heart disease is a leading cause of death worldwide, and early prediction and prevention can significantly reduce the risk of developing the condition. In recent years, there has been increasing interest in the use of machine learning techniques for the prediction of heart disease, and more recently, the use of quantum machine learning algorithms has been proposed as a potential solution.

## **Abstract**

In this research paper, we will explore the use of quantum machine learning algorithms for the prediction of heart disease. We will first provide an overview of the current state of the field, including a review of classical machine learning approaches for heart disease prediction. Overall, our research suggests that quantum machine learning algorithms have the potential to significantly improve the accuracy and efficiency of heart disease prediction, and could play a crucial role in the development of more effective prevention and treatment strategies.

## **Methodologies and Data Preprocessing**

We will also review some of the challenges and limitations associated with the use of quantum machine learning algorithms for heart disease prediction, including the need for specialized hardware and the current limitations of quantum computing. Next, we will present the results of our own research on the use of quantum machine learning algorithms for heart disease prediction. We will then discuss the potential advantages of quantum machine learning algorithms, including their ability to handle large amounts of data and their potential for improved accuracy. This will include a description of the data set used, the quantum machine learning algorithm employed, and the results obtained. Finally, we will conclude with a discussion of the potential impact of this research on the field of heart disease prediction and prevention, as well as future directions for research in this area. In this process, raw data is cleaned, transformed, and prepared for analysis, in order to improve the accuracy and efficiency of the machine learning model.

Results: