

## Empowering a New Frontier in Heart Disease Detection: Unleashing Quantum Machine Learning

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**Abstract :** Machine learning is applied in a variety of fields throughout the world. The healthcare sector has benefited enormously from it. One of the most effective approaches for predicting human heart diseases is to use machine learning applications to classify data and predict the outcome as a classification. However, with the rapid advancement of quantum technology, quantum computing has emerged as a potential game-changer for many applications. Quantum algorithms have the potential to execute substantially faster than their classical equivalents, which can lead to significant improvements in computational performance and efficiency. In this study, we applied quantum machine learning concepts to predict coronary heart diseases from text data. We experimented thrice with three different features; and three feature sets. The data set consisted of 100 data points. We pursue to do a comparative analysis of the two approaches, highlighting the potential benefits of quantum machine learning for predicting heart diseases.

**Keywords :** quantum machine learning, SVM, QSVM, matrix product state

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