**A Comparative Study of Machine Learning for Predicting Multiple Diseases**

This research is presented to the Department of Computer Science and Engineering at Jahangirnagar University as a partial fulfillment of the requirement for the degree of Bachelor of Science and Engineering.

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MAY-2023

**Abstract**

Our everyday lives' most crucial aspect is how well we are mentally and physically. Heart disease, diabetes, and pneumonia are merely a few of the health issues that have recently become more common in our daily lives and in the field of healthcare. And this expenses humanity an enormous quantity of time. Based on the available data, machine learning can be used to detect such situations. The work, which is called "Multiple Disease Prediction" attempts to demonstrate how machine learning can be used to model the collection of data. The model is then applied to identify if a person is suffering from the disease or not. We employed a variety of methods, including decision trees, K-nearest neighbors (KNN), support vector machines (SVM), naïve bayes, and linear regression. Results of these algorithms are compared using their accuracy, precision, recall, and F1-score. The confusion matrix is used to plot the ROC curve. The technique with the best accuracy, precision, recall, and F1-score is taken into consideration for determining the optimum algorithm for illness detection after these algorithms are compared for accuracy, precision, recall, and F1-score.

# Declaration

The project work **" A Comparative Study of Machine Learning for Predicting Multiple Disease"** iscompleted at Department of Computer Science and Engineering, Jahangirnagar University is unique and conforms to the university's regulations.

We are aware of the University's plagiarism policy and certify that no component of this project has been plagiarized or previously submitted for the granting of any degree or diploma.

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# Acknowledgement

All thanks and praise are due to Allah, who made it possible for us to complete this project successfully with the help of his heavenly blessing.

We are grateful to Dr. Israt Jahan, our esteemed supervisor, who is a professor in the department of computer science and engineering at Jahangirnagar University, for her patient counsel, astute direction, insightful instruction, and creative suggestion throughout the project's duration. This undertaking would not be possible without her invaluable aid. She has consistently been a source of inspiration and encouragement for us to put in a lot of effort.

Finally, we had want to give a shout-out to all of our friends who are truly dear to our hearts. We will never be willing to find the perfect words to express our gratitude to our loving parents, who have committed moral support and fortification in the completion of the project.