Department of Electrical and Computer Engineering

North-South University

Senior Design Project

Machine Learning Powered Stroke Predicting Web Application

Eshan Ahmed 1712918642

Redwan Ahmed 1721279042

Shahriar Hossain 1712852642

Faculty Advisor:

Md. Shahriar Hussain

Lecturer

ECE Department

Summer, 2021

LETTER OF TRANSMITTAL

May 2022

Md. Shahriar Hussain
Lecturer
Department of Electrical and Computer Engineering
North South University

Subject: Submission of the Final Project Report

Dear Sir,
Assalamu Alaikum, Sir. This is to inform you that we have been doing our final project report under the academic curriculum as a course CSE499A and CSE499B. This project report is to fulfill a Computer Science and Engineering (CSE) Bachelor's degree requirements. It has been proved very effective as we completed our final project.

We have completed our final project report on "Machine Learning Powered Stroke Predicting Web Application." In the report, we have tried to accommodate your valuable comments and suggestions.

Thank you for your kind cooperation. Without your support, we would not have completed this report. So, we are submitting the final version of the final project report and requesting your acceptance.

Regards,

.....
Eshan Ahmed,
Redwan Ahmed,
Shahriar Hossain,
ECE Department
North South University, Bangladesh

APPROVAL

Eshan Ahmed (ID# 1712918642), Shahriar Hossain(ID #1712852642) and Redwan Ahmed (ID # 1721279042) from Electrical and Computer Engineering Department of North South University, have worked on the Project titled “Machine Learning Powered Stroke Predicting Web Application.” under the supervision of Md. Shahriar Hussain partial fulfillment of the requirement for the degree of Bachelors of Science in Engineering and has been accepted as satisfactory.

Supervisor’s Signature

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Md. Shahriar Hussain

Lecturer
Department of Electrical and Computer Engineering
North South University

Chairman’s Signature

.....
Dr. Mohammad Rezaul Bari

Associate Professor
Department of Electrical and Computer Engineering
North South University

DECLARATION

We solemnly declare that the project report on "MACHINE LEARNING POWERED STROKE PREDICTING WEB APPLICATION" is based on our work carried out during our study under the supervision of Md Shahriar Hussain. We assert that the statements made and conclusions generated are an outcome of our research work. No part of this work was submitted elsewhere partially or fully to award any other degree or diploma. Any material reproduced in this project has been adequately acknowledged.

Students' Names Signatures

1. Eshan Ahmed

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2. Redwan Ahmed

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3. Shahriar Hossain

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ACKNOWLEDGEMENT

We would like to express our most profound appreciation to all those who provided us the possibility to complete this report. Special gratitude to our final year project supervisor, Mr. Hussain, whose contribution in stimulating suggestions and encouragement helped us coordinate our project, especially in writing this report.

We are grateful to all of the lecturers who have assisted us in completing the project with our full knowledge by offering technical knowledge and ethical assistance.

We are grateful to the North South University, ECE Department for providing this course CSE499.

We appreciate our family's support.

ABSTRACT

Machine Learning Powered Stroke Predicting Web Application

Stroke is one of the major causes of severe health issues and death cases in the world. A chance of strokes may develop gradually in one person's body. Early prediction of stroke is useful for prevention, so it is possible to reduce the chance of stroke by taking regular checkups. The main objective of our project is to detect the possibility of stroke by machine learning which is a subfield of artificial intelligence. This machine learning part will be a significant part of our work. Another important component of our work is that we built a web platform based on machine learning. Here users will be able to make predictions simply by putting some values on our stroke prediction form. Again, the required values are user-friendly, so one will not need to go through any unnecessary hassle to collect them. All of the required attributes are related to one's lifestyle and overall general health condition. After getting the user's required attributes' value, our system will analyze those by our machine learning model, which we built earlier. Then our system will send a response if the user has any chance of having a stroke or not. Among all attributes or features, some crucial attributes play a significant role in having a stroke in the future. Our system will also prompt the user to predict which aspects of their health they should pay attention to. Our system will also store users' input attributes and their corresponding prediction results. This will help our users to keep track of their health conditions. We built and tested our whole system with utmost precision so that it can help our users to predict stroke before it happens.