

EARLY PREDICTION OF LIFESTYLE DISEASES USING MACHINE LEARNING

A PROJECT REPORT

Submitted by,

Mr. Deekshith D L	- 20201CSD0153
Mr. Mithun R	- 20201CSD0182
Ms. Madhushree A	- 20201CSD0187

Under the guidance of,

Mr. LAKSHMISHA S K

in partial fulfillment for the award of the degree

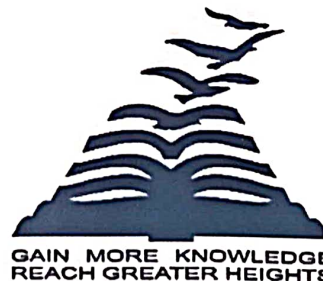
of

BACHELOR OF TECHNOLOGY

IN

COMPUTER SCIENCE AND ENGINEERING (DATA SCIENCE)

At



PRESIDENCY UNIVERSITY

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PRESIDENCY UNIVERSITY

SCHOOL OF COMPUTER SCIENCE & ENGINEERING

CERTIFICATE

This is to certify that the Project report “**EARLY PREDICTION OF LIFESTYLE DISEASES USING MACHINE LEARNING**” being submitted by **Deekshith D L, Mithun R, Madhushree A** bearing roll number(s) **20201CSD0153, 20201CSD0182, 20201CSD0187** in partial fulfilment of requirement for the award of degree of Bachelor of Technology in Computer Science and Engineering (Data science) is a bonafide work carried out under my supervision.




Mr. LAKSHMISHA S K
Assistant Professor
School of CSE&IS
Presidency University



Dr. JAYACHANDRAN ARUMUGAM
Professor & HOD
School of CSE&IS
Presidency University



Dr. C. KALAIARASAN
Associate Dean
School of CSE&IS
Presidency University



Dr. SHAKKEERA L
Associate Dean
School of CSE&IS
Presidency University



Dr. SAMEERUDDIN KHAN
Dean
School of CSE&IS
Presidency University

PRESIDENCY UNIVERSITY




SCHOOL OF COMPUTER SCIENCE & ENGINEERING

DECLARATION

We hereby declare that the work, which is being presented in the project report entitled **EARLY PREDICTION OF LIFESTYLE DISEASES USING MACHINE LEARNING** in partial fulfilment for the award of Degree of Bachelor of Technology in Computer Science and Engineering (Data Science), is a record of our own investigations carried under the guidance of **Mr. LAKSHMISHA S K , ASSISTANT PROFESSOR, School of Computer Science & Engineering , Presidency University, Bengaluru.**

We have not submitted the matter presented in this report anywhere for the award of any other Degree.

Deekshith D L	- 20201CSD0153
Mithun R	- 20201CSD0182
Madhushree A	- 20201CSD0187

ABSTRACT

Healthcare is a domain where the integration of machine learning (ML) techniques has the potential to revolutionize diagnostics and prognosis. This project presents a comprehensive approach to ML-based disease prediction, focusing on user accessibility and real-time prediction through the deployment of a Flask-based web application.

The project encompasses various stages, beginning with data collection and detailed statistical analysis to understand demographic and vital statistics. A robust data preprocessing pipeline is established to handle missing values and outliers, ensuring the quality of input for subsequent phases.

Feature engineering is critical for extracting relevant information from the dataset, contributing to the creation of an effective ML model. The model development phase involves choosing suitable ML algorithms tailored to the healthcare context. Following this, the models are trained using historical data, and their performance is rigorously evaluated through validation techniques.

Privacy measures are implemented to ensure the secure handling of sensitive health-related data, addressing concerns associated with the deployment of healthcare applications. The deployment of the model into a Flask-based web application enables users to input their health parameters and receive real-time disease predictions.

The prediction results are analyzed, and the models are refined based on the insights gained. Continuous improvement is facilitated through feedback mechanisms and the incorporation of new data, ensuring the adaptability and relevance of the predictive models over time.

This project not only contributes to the growing field of ML in healthcare but also emphasizes the practical implementation of such models through a user-friendly web interface. The Flask integration allows for seamless accessibility, making disease prediction more immediate and actionable for users. The project's success lies in its ability to bridge the gap between advanced ML techniques and practical, user-oriented healthcare applications.

ACKNOWLEDGEMENT

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Deekshith D L

Mithun R

Madhushree A