Final Project Report

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Overview

The project I made was ml-based project named as "Diabetes Prediction using machine learning". I did used the code and the dataset from Kaggle website

[Diabetes Prediction using Machine Learning | Kaggle](#)

Reason of choosing this project

I have always been interested in applying computers/programming and merging it with the medical field hence I found this project very interesting. Although the application of computers in the field of medical is very extensive but I just wanted to play a small part in it

Description

Diabetes is a chronic medical condition that affects millions of people worldwide. The ability to predict the onset of diabetes can be incredibly valuable, as it can enable healthcare providers to intervene early and prevent the onset of the disease. My machine learning-based project on diabetes prediction utilizes a dataset of clinical and demographic information to build and train a predictive model that can accurately identify patients who are at risk of developing diabetes. By leveraging the power of machine learning algorithms and statistical analysis, my project aims to provide healthcare providers with a powerful tool for early

detection and prevention of diabetes, ultimately leading to improved patient outcomes and quality of life.

The dataset is sourced from Kaggle and is called the "Diabetes Dataset". It consists of 768 records and 9 columns, which represent different characteristics of female patients who are at least 21 years old and of Pima Indian heritage. The dataset was originally created by the National Institute of Diabetes and Digestive and Kidney Diseases.

For this project, I used a decision tree algorithm to build a predictive model. The model achieved an F1 score of 92%, indicating its effectiveness in accurately identifying patients at risk of developing diabetes. This is a significant achievement and shows the potential for the model to be a valuable tool for healthcare providers in early detection a Diabetes is a chronic medical condition that affects millions of people worldwide. The ability to predict the onset of diabetes can be incredibly valuable, as it can enable healthcare providers to intervene early and prevent the onset of the disease. My machine learning-based project on diabetes prediction utilizes a dataset of clinical and demographic information to build and train a predictive model that can accurately identify patients who are at risk of developing diabetes. By leveraging the power of machine learning algorithms and statistical analysis, my project aims to provide healthcare providers with a powerful tool for early detection and prevention of diabetes, ultimately leading to improved patient outcomes and quality of life.

Conclusions

This project has highlighted the importance of leveraging the power of machine learning with the addition of SE concepts and in healthcare to improve patient outcomes and quality of life. The insights gained from this project can be utilized to inform clinical decision-making and improve patient care.