AI-Based Diabetes Prediction System

Introduction

Diabetes is a chronic disease that affects millions of people worldwide. Early detection and prediction of diabetes can help prevent or delay the onset of complications, improving the quality of life for patients and reducing healthcare costs. Our proposed project, "AI-Based Diabetes Prediction," aims to develop a machine learning model that can predict the likelihood of diabetes based on patient data.

Methodology

Our project will use the dataset provided by Kaggle, which contains demographic and clinical information for patients with diabetes and non-diabetes. We will preprocess the data by cleaning, normalizing, and transforming it into a format suitable for machine learning.

Feature Engineering

We will identify relevant features from the dataset and engineer new features as needed. This may include:

* Demographic information (age, gender, BMI, etc.)
* Clinical information (blood pressure, cholesterol levels, etc.)
* Laboratory results (glucose levels, hemoglobin A1c, etc.)

Model Selection and Training

We will select an appropriate machine learning algorithm based on the characteristics of the data and the goals of the project. We will train the model using the preprocessed data and evaluate its performance using metrics such as accuracy, precision, and recall.

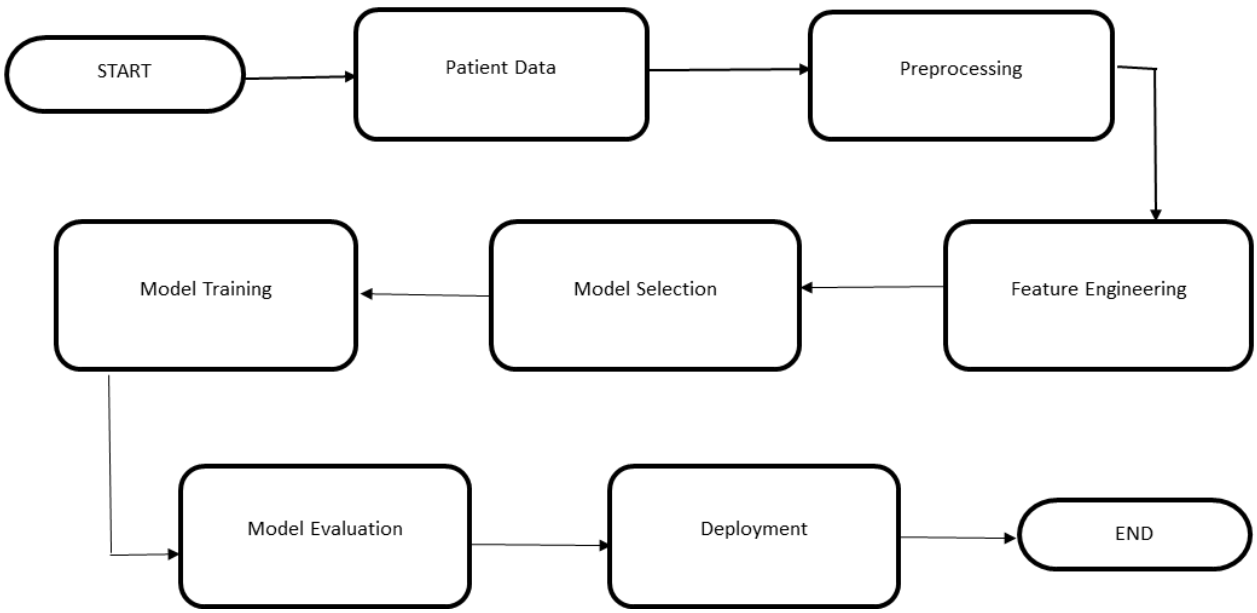
Model Evaluation

We will evaluate the performance of the model using a test set of data that was not used during training. We will also compare the performance of our model to existing models in the literature to determine its effectiveness.

Deployment

Once the model has been trained and evaluated, we will deploy it as a web application that can be accessed by healthcare providers and patients. The application will take in patient data and output a prediction of the likelihood of diabetes.

Flow Chart



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