Diabetes Prediction using Support Vector Machine (SVM)

This repository contains code for a Diabetes Prediction model using Support Vector Machine (SVM). The model is trained on a dataset containing various health metrics of individuals, and it predicts whether a person is diabetic or not based on those metrics.

Table of Contents

- [Dataset](#dataset)
- [Dependencies](#dependencies)
- [Installation](#installation)
- [Usage](#usage)
- [Results](#results)
- [Contributing](#contributing)

Dataset

The dataset used for training and testing the model can be found in the `Diabetic prediction with ML` folder. The dataset is a CSV file named `diabetes.csv`, which contains various health metrics and a binary 'Outcome' column (0 for non-diabetic, 1 for diabetic).

Dependencies

The following Python libraries are required to run the code:

- `numpy`
- `pandas`
- `scikit-learn` (for `StandardScaler`, `train_test_split`, and `svm`)
- `scipy`

Installation

1. Clone the repository:

https://github.com/Bhumi025/Diabetic_prediction_with_ML.git

2. Install the required dependencies:

```
pip install numpy pandas scikit-learn scipy
```

Usage

1. Open the Jupyter notebook `Diabetes_Prediction.ipynb` to view and execute the code.
2. The notebook contains explanations at each step to guide you through the code.
3. Run the cells sequentially to load the dataset, preprocess the data, train the SVM model, and make predictions.

Results

After executing the code, you will get the following results:

- Accuracy of the SVM model on the training data.
- Accuracy of the SVM model on the test data.
- Prediction for a new input data point (health metrics of an individual).

Contributing

Contributions are welcome! If you find any bugs or have suggestions for improvements, please feel free to open an issue or submit a pull request.