

Read Me:

- Test.ipynb :- Python file to test both the optimized models.
- MLP Final.ipynb :- Python file with MLP baseline and optimisation and results.
- SVM Final.ipynb :- Python file with SVM baseline and optimisation and results.
- Data Preprocessing Final.ipynb :- Preprocessing of Data is performed in it.
- resultsMLP.csv :- Result table of the GridSearch with all the parameters for MLP.
- resultsSVM.csv :- Result table of the GridSearch with all the parameters for SVM.
- MLP_optimised.joblib :- Serialised Optimised model stored for MLP.
- SVM_optimised.joblib :- Serialised Optimised model stored for MLP.
- requirements.txt :- all the python packages installed at the time of doing the project.
- X_train_smote.csv:- X train balanced data(using SMOTE),used for training the models.
- y_train_smote.csv:- y train balanced data(using SMOTE),used for training the models.
- X_test.csv :- Testing Data Set : Features.
- Y_test.csv :- Testing Data Set : Output.
- Diabetes.csv :- Original Dataset

Set up instructions:-Python Python 3 (3.9.12)

Extract files from zip, make sure everything is in the same folder,
For packages requirements 'pip install -r requirements.txt' can be done.

To Run: Testing the model: X_test.csv , y_test.csv,MLP_optimised.joblib and
 SVM_optimised.joblib should be there in the same folder
 Or in MyDrive if using google collab,

Run Test.ipynb.

Training the model: Run Data Preprocessing Final.ipynb

It will create : 'X_train_smote.csv', 'y_train_smote.csv' ,
'X_test.csv' , 'Y_test.csv'

Then Run: SVM Final.ipynb , it will take about 1000 sec to optimize,
and then it will store the optimal model in 'SVM_optimised.joblib'
and results in 'resultsSVM.csv'

Then Run: MLP Final.ipynb , it will take about 1000 sec to optimize,
and then it will store the optimal model in 'MLP_optimised.joblib'
and results in 'resultsMLP.csv'