Diabetes Prediction using Machine Learning techniques

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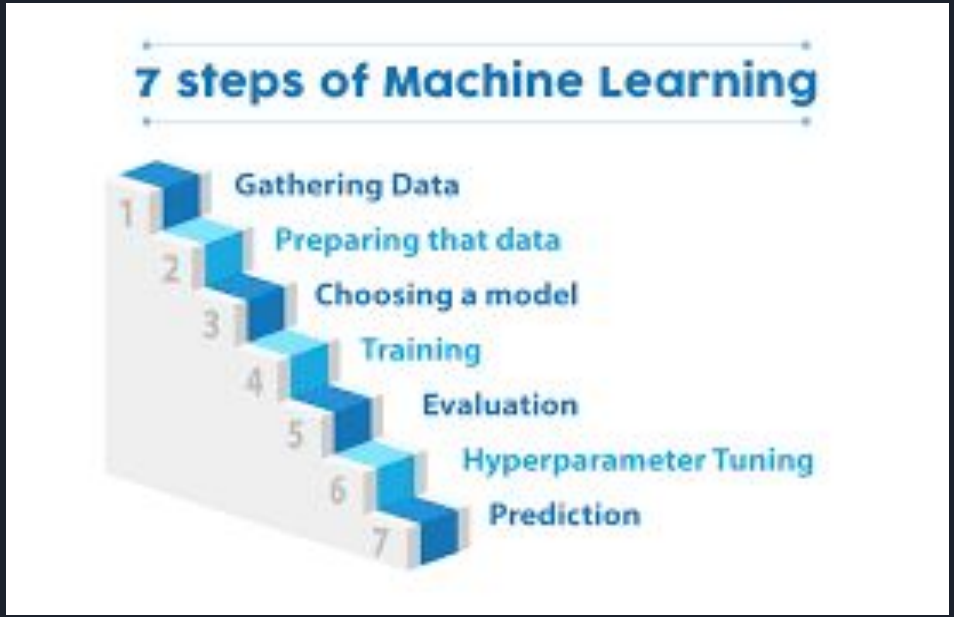
- Diabetes has become one of the major causes of national disease and death in most countries.
- Machine learning techniques can find the risky factors of diabetes and reasonable threshold of physiological parameters to unearth hidden knowledge from a huge amount of diabetes-related data, which has a very important significance for diagnosis and treatment of diabetes.
- So this project provides a survey of machine learning techniques that has been applied to diabetes data screening and diagnosis of the disease.

Machine Learning

- Machine Learning is field of study that gives computer capability to learn without explicitly programmed.
- Two types
    - Supervised learning
    - Unsupervised learning


7 steps of Machine Learning
1
Gathering Data
2
Preparing that data
3
Choosing a model
4
Training
5
Evaluation
6
Hyperparameter Tuning
7
Prediction

Classification Models applied

- Logistic Regression
- Random Forest
- Support Vector Machine
- K nearest neighbors

Observations

- The accuracy score for Logistic Regression model is 77.92%.
- The accuracy score for K Nearest Neighbors model is 79.22%.
- The accuracy score for Random Forest model is 77.49%.
- The accuracy score for Support Vector Machine model is 78.79%.

Conclusion

- K Nearest Neighbors performed best accuracy wise we can have different evaluation metrc too.
- The main aim of this project was to design and implement Diabetes Prediction Using Machine Learning Methods and Performance

  Analysis of that methods and it has been achieved successfully.

THANKS