INTERNSHIP REPORT ON

DIABETES PREDICTION USING PYTHON

A report submitted in partial fulfilment of the requirements for the Award of Degree of

BACHELOR OF TECHNOLOGY
in
COMPUTER SCIENCE AND ENGINEERING
By

CH. VARENYA REDDY

Regd.No:22671A0576

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Hyderabad.
(Duration: 01th October, 2024 TO 31h October, 2024)

J.B. INSTITUTE OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

(UGC Autonomous) *Approved by AICTE, Accredited by NBA & NAAC Permanently affiliated to JNTUH, Hyderabad, Telangana*

2022-2026

J.B. INSTITUTE OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF COMPUTER SCIENCEAND ENGINEERING

(UGC Autonomous)

CERTIFICATE

This is to certify that the Internship report titled " DIABETIES PREDICTION" submitted by CHILAM VARENYA REDDY (ROLL. No. 22671A0576), is work done by her and submitted during academic year 2024-2025 in partial fulfilment of the requirements for the award of the degree of BACHELOR OF TECHNOLOGY in COMPUTER SCIENCE AND ENGINEERING.

DR.V. VENKATA KRISHNA
ASSISATNT PROFESSOR
Department of CSE

Dr. G. SREENIVASULU
Associate professor & HOD
Department of CSE

INTERNSHIP CERTIFICATE .

ACKNOWLEDGEMENT

First, I would like to thank Mr. G. Sreenivasulu, Head of the Department of Computer Science and Engineering for his support.

I also like to thank all the people that worked along with me with their patience and openness they created an enjoyable working environment.

It is indeed with a great sense of pleasure and immense sense of gratitude that I acknowledge the help of these individuals.

I would like to thank **Ms. PRANATHI REDDY,** Internship Coordinator, Department of **COMPUTER SCIENCE AND ENGINEERING** for his support and advice to get and complete internship in above said organization. I am extremely grateful to my department, staff members and friends who helped me in successful completion of this internship.

I would like to thank my Head of the Department **Dr. G. SREENIVASULU** for his constructive criticism throughout my internship. I am highly indebted to our Principal **DR. P.C. KRISHNAMACHARY,** for the facilities provided to accomplish this internship.

CHILAM VARENYA REDDY

22671A0576

ORGANISATION INFORMATION

CodSoft are IT services and IT consultancy that specializes in creating innovative solutions for businesses. We are passionate about technology and believe in the power of software to transform the world. Our internship program is just one of the ways in which we are investing in the future of the industry.

At **CodSoft**, we believe practical knowledge is the key to success in the tech industry. Our aim is to help students lacking basic skills by offering hands-on learning through live projects and real-world examples.

PROGRAMS AND TASKS:

1.Web Development

2.Android App Development

3.Java programming

4.Python programming

5.Data Science

6.C++ programming

7.UI/UX design

8.Machine learning

I have done this internship through online platform called CodSoft. The mentor gives us problems on different programs on c we need to select them based on our knowledge and we need to do research on our programs and we need to submit our programs. WhyCodSoft?

1.ExpertiseandExperience

2.CustomSolutions

3.InnovationandTechnology

4.Customer-CentricApproach

5.PortfolioofSuccessfulProjects

6.OngoingSupportandMaintenance

7.CompetitivePricing

8.CommitmenttoQuality

9.CollaborativeEnvironment

I learnt how to used the statements and loops and the mentor also helped with the errors how to and every week I needtoupdatewhatI havelearntforthatweek.

ABSTRACT

Diabetes prediction is a crucial disease in nowadays, as it assists in maintaining high standards and meeting consumer preferences. This study explores the application of machine learning algorithms in Python to predict that weather a person is diabetic or not.

The dataset used for this study comprises attributes such as age , blood pressure, BMI , and other features, along with ratings provided by experts. The goal is to develop accurate models capable of predicting diabetes based on these input features.

Initially, exploratory data analysis (EDA) techniques are employed to gain insights into the dataset's distribution, correlations, and feature importance. Preprocessing steps, including data cleaning, normalization, and feature scaling, are applied to prepare the dataset for model training.

Several machine learning algorithms, including but not limited to linear regression, decision trees, random forests, support vector machines (SVM), and neural networks, are implemented and fine-tuned using cross-validation techniques.

Performance metrics such as accuracy, precision, recall, and F1-score are used to evaluate the models' performance. Additionally, feature importance analysis is conducted to determine the significant contributors to diabetes prediction.

The results indicate that certain machine learning models demonstrate superior performance in predicting wine quality, showcasing promising accuracy and robustness. The feature importance analysis reveals key physicochemical attributes that strongly influence diabetes ratings, providing valuable insights for vineyards and winemakers.

TABLE OF CONTENT:

1.INTRODUCTION FOR DIABETES PREDICTION

Diabetes prediction stands as a facet within the realm of viticulture and oenology, offering an invaluable tool to assess and enhance the result of prediction. With the advancement of machine learning techniques, particularly in Python, the ability to predict and understand behaviour based on various features and physical attributes has garnered significant attention. This burgeoning field not only aids in maintaining high standards in wine production but also enables to tailor their processes to meet consumer preferences more effectively.

By harnessing the power of machine learning algorithms, this study delves into the intricate relationship between the multifaceted characteristics of diabetes—ranging from age and BMI—and the subjective assessments of experts regarding effectness. The exploration aims to unravel the hidden patterns and correlations embedded within these features, thereby constructing predictive models that can decipher and forecast with precision.

Through meticulous analysis and modeling using Python, this research endeavors to unearth the nuanced interplay between the physicochemical properties of wines and the ultimate judgment of quality. The investigation not only seeks to develop robust predictive models but also aims to discern the most influential attributes that significantly sway the perceived quality of wines.

2.SYSTEM ANALYSIS

1. *System Overview*

The system is designed to predict whether an individual is at risk of diabetes based on various health-related features such as age, BMI, glucose levels, blood pressure, and insulin. The system uses machine learning techniques implemented in Python to analyze these features and predict the likelihood of diabetes. The solution involves data preprocessing, model training, evaluation, and deployment for practical use.

2. *Requirements Analysis*

Data Requirements:

- A dataset containing features like glucose levels, BMI, age, insulin, and blood pressure.

- The dataset should also include the target variable (diabetic or non-diabetic), which allows the model to learn patterns and make predictions.

Software Requirements:

- *Python 3.x* for developing the predictive model.

- Libraries like *Pandas* for data manipulation, *Scikit-learn* for building machine learning models, *Matplotlib/Seaborn* for data visualization, and *NumPy* for numerical operations.

- *Hardware Requirements*:

- A computer with at least 4 GB of RAM and a modern processor to handle the computational load during model training and evaluation.

3. *System Architecture*

- *Data Input Layer*: The system receives data, either from an uploaded dataset or user inputs (e.g., health information such as glucose level, BMI, age).

- *Data Preprocessing Layer*: Handles missing values, scales features (standardization/normalization), encodes categorical variables, and handles any data inconsistencies.

- *Model Training Layer*: Implements machine learning algorithms (e.g., Logistic Regression, Random Forest, SVM) to train the model on preprocessed data.

- *Prediction Layer*: Uses the trained model to predict whether a new user or test data point is diabetic or non-diabetic based on input features.

- *Evaluation Layer*: Assesses the model's performance using metrics like accuracy, precision, recall, F1-score, and ROC-AUC to determine the best performing model.

4. Data Flow

1. *Data Collection*:

- The system collects data, typically from public datasets (e.g., Pima Indians Diabetes Database) or user inputs.

2. *Preprocessing*:

- *Handling Missing Data*: Missing values are either imputed using statistical methods or rows/columns with missing values are removed.

- *Feature Scaling*: Numeric features like glucose levels, BMI, and age are scaled to a similar range to avoid biasing the model.

- *Categorical Encoding*: Any categorical data (if present) is encoded using One-Hot Encoding or Label Encoding.

3. *Model Training*:

- The data is split into *training* and *test* sets (typically 80%/20% split).

- Machine learning models are trained on the training set and validated on the test set.

4. *Prediction*:

- Once the model is trained, it can make predictions (diabetic or non-diabetic) for new data points.

5. *Evaluation*:

- The model is evaluated using metrics such as *accuracy, **precision, **recall, **F1-score, and **AUC-ROC* to understand its performance and identify the best model.

5. Modeling

The system employs several machine learning algorithms:

- *Logistic Regression*: A basic binary classification algorithm used as a baseline

- *Decision Trees*: A decision tree classifier learns by splitting the data at various decision nodes based on feature values.

- *Random Forest*: An ensemble method that combines multiple decision trees to improve accuracy and reduce overfitting

- *Support Vector Machine (SVM)*: A classifier that finds the hyperplane that best separates the data into two classes (diabetic vs. non-diabetic).

- *K-Nearest Neighbors (KNN)*: A simple non-parametric algorithm that classifies a new point based on the majority label of its nearest neighbors.

3.REQUIREMENT SPECIFICATION

HARDWARE REQUIREMENTS:

- **System** : Intel Core i5
- **Hard Disk** : 512 SSD.
- **Monitor** : 14’ Color Monitor.
- **Mouse** : Optical Mouse.
- **Ram** : 16GB.

SOFTWARE REQUIREMENTS:

- **Operating system** : Windows 10.
- **Coding Language** : Python.
- **Front-En** : Html , CSS
- **Designing** : Html, CSS .
- **Data Base** : SQLite.

The project involved analyzing the design of few applications so as to make the application more users friendly. To do so, it was really important to keep the navigations from one screen to the other well ordered and at the same time reducing the amount of typing the user needs to do. In order to make the application more accessible, the browser version had to be chosen so that it is compatible with most of the Browsers.

REQUIREMENT SPECIFICATION

Functional Requirements:

- Graphical User interface with the User.

Software Requirements:

For developing the application the following are the Software Requirements:

1. Python for Model Preparation.
2. Flask or Django for Backend.
3. HTML, CSS , React for Frontend.
4. SQL-Lite for Database Management.

Operating Systems supported:

1. Windows 10 64 bit OS

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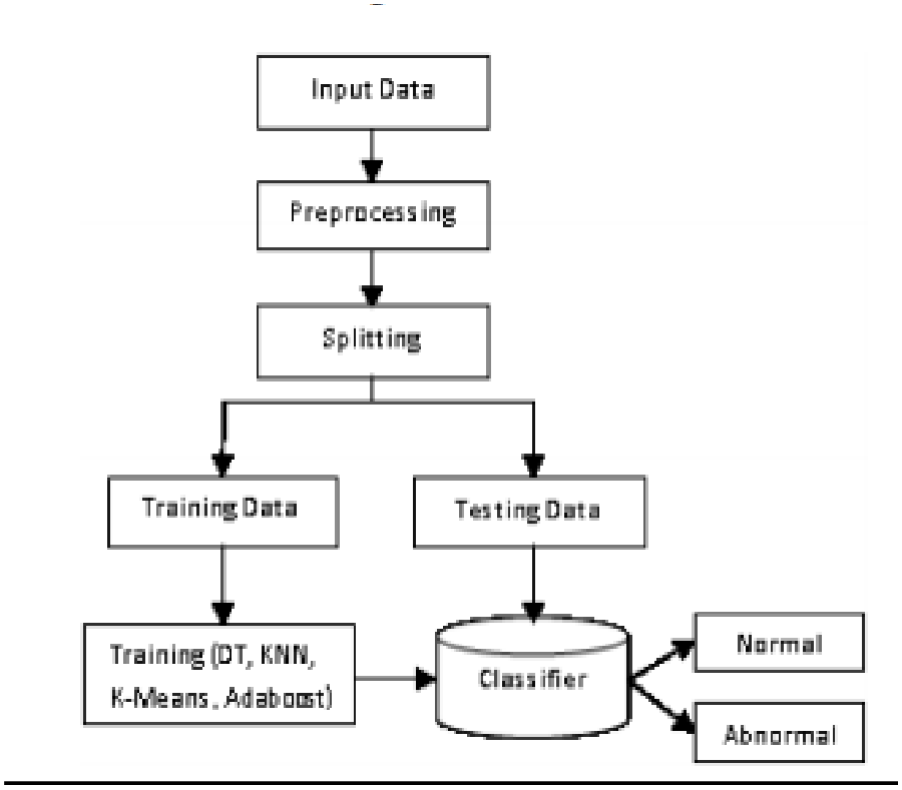
SYSTEM ARCHITECTURE:



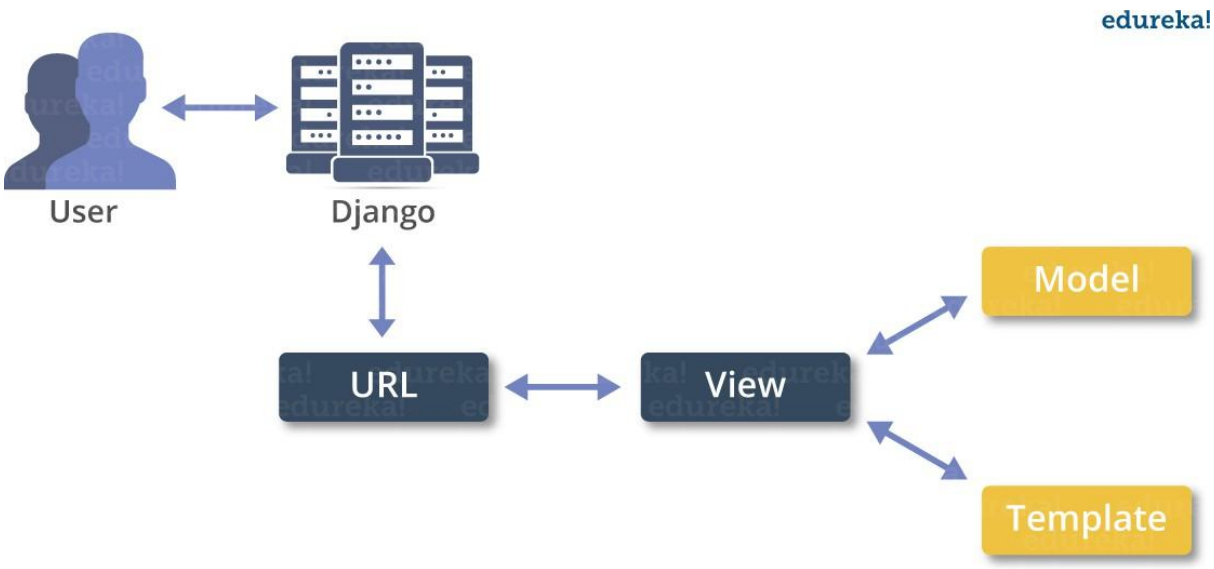
DATA FLOW DIAGRAM:

0 The DFD is also called as bubble chart. It is a simple graphical formalism that can be used to represent a system in terms of input data to the system, various processing carried out on this data, and the output data is generated by this system.

2. The data flow diagram (DFD) is one of the most important modeling tools. It is used to model the system components. These components are the system process, the data used by the process, an external entity that interacts with the system and the information flows in the system.

3. DFD shows how the information moves through the system and how it is modified by a series of transformations. It is a graphical technique that depicts information flow and the transformations that are applied as data moves from input to output.

4. DFD is also known as bubble chart. A DFD may be used to represent a system at any level of abstraction. DFD may be partitioned into levels that represent increasing information flow and functional detail.



Create a Project

Whether you are on Windows or Linux, just get a terminal or a cmd prompt and navigate to the place you want your project to be created, then use this code −

$ django-admin startproject myproject

This will create a "myproject" folder with the following

structure − myproject/

manage.py

myproject/

_init

.py

settin

gs.py

urls.

py

wsgi.

py

The Project Structure

The “myproject” folder is just your project container, it actually contains two elements −

manage.py − This file is kind of your project local django-admin for interacting with your project via command line (start the development server, sync db...). To get a full list of command accessible via manage.py you can use the code −

$ python manage.py help

The “myproject” subfolder − This folder is the actual python package of your project. It contains four files − __init__.py − Just for python, treat this folder as package.

settings.py − As the name indicates, your project settings.

urls.py − All links of your project and the function to call. A kind of ToC of your project. wsgi.py − If you need to deploy your project over WSGI.

Setting Up Your Project

Your project is set up in the subfolder myproject/settings.py. Following are some important options you might need to set −

DEBUG = True

This option lets you set if your project is in debug mode or not. Debug mode lets you get more information about your project's error. Never set it to ‘True’ for a live project. However, this has to be set to ‘True’ if you want the Django light server to serve static files. Do it only in the development mode.

```
DATABASES = {
  'default': {
    'ENGINE': 'django.db.backends.sqlite3',
    'NAME': 'database.sql',
    'USER': '',
    'PASSWORD': '',
    'HOST': '',
    'PORT': '',
  }
}
```

Database is set in the ‘Database’ dictionary. The example above is for SQLite engine. As stated earlier, Django also supports −

MySQL (django.db.backends.mysql)

PostGreSQL (django.db.backends.postgresql_psycopg2)

3.PROGRAMS AND OPPORTUNITIES

Web Development :

Web development internship that provides practical work experience and an introduction to crafting and enhancing web-based systems. This opportunity offers engaging challenges and realworld projects, allowing you to gain hands-on experience in the dynamic fields of web and app development. Join our award-winning innovation team and kickstart your journey to success in a supportive and enriching environment.

Android Development:

Android, the user-friendly open-source operating system, has transformed the way we access internet applications and carry out important tasks on our mobile devices. At CODSOFT, we understand the growing preference for mobile usage and offer the ideal starting point for your app development journey. Discover the simplicity of creating your first app with us and unlock a world of endless possibilities in the realm of mobile innovation.

Data Science:

Remote Data Science Internships Are A Unique Chance To Gain Experience In The Midst Of The Virtual Workforce While Remaining Immersed In One Of The Top Organizations In The Field. Data Analysis Internships Are Some Of The Most Competitive And Popular Within The Broader Data Science Field.

Java Programming:

Become a Java programming master from the convenience of your own home and unlock incredible job prospects with our certification program. Join our comprehensive 4-week internship program, where you'll learn everything from web application development to deployment using Java Build a solid foundation for your career with hands-on training and real-world application in a supportive and collaborative environment.

C++ Programming:

Gain mastery in C++ programming from the comfort of your home and open doors to amazing job opportunities with our certification program. Enroll in our intensive 4-week internship, where you'll

acquire knowledge in web application development and deployment using C++. Establish a strong base for your career and real-world implementation within a supportive and collaborative setting.

Python Programming:

Join our 4-week comprehensive internship program and master the fundamentals of programming in Python from the comfort of your own home. Gain the skills and knowledge to apply for exciting job opportunities in the field. In this program, you will learn everything from web development to the deployment of Python-based web applications. Get certified and enhance your career prospects. Don't miss this opportunity to excel in Python programming!

UI/UX Design:

Gain mastery in UI/UX Design from the comfort of your home and open doors to amazing job opportunities with our certification program. Enroll in our intensive 4-week internship, where you'll acquire knowledge in web application development and deployment . Establish a strong base for your career and real-world implementation within a supportive and collaborative setting.

Artificial intelligence:

Gain mastery in Artificial intelligence from the comfort of your home and open doors to amazing job opportunities with our certification program. Enroll in our intensive 4-week internship, where you'll acquire knowledge in web application development and deployment . Establish a strong base for your career and real-world implementation within a supportive and collaborative setting.

Machine learning:

Gain mastery in Machine learning from the comfort of your home and open doors to amazing job opportunities with our certification program. Enroll in our intensive 4-week internship, where you'll acquire knowledge in web application development and deployment . Establish a strong base for your career and real-world implementation within a supportive and collaborative setting.

TECHNOLOGIES

Diabetes prediction using Python involves a combination of various technologies, techniques, and tools from data science, machine learning, and health informatics. Here's a breakdown of the key technologies and techniques used in this field:

1. Python Libraries

Pandas: For data manipulation and preprocessing, including cleaning, transforming, and analyzing datasets.

NumPy: For handling numerical data and performing matrix operations, used in conjunction with other libraries like Pandas.

Scikit-learn: A core library for machine learning in Python, offering various algorithms for classification (e.g., Logistic Regression, Decision Trees, Random Forests, SVM, etc.), preprocessing, and model evaluation.

Matplotlib/Seaborn: For data visualization, including plotting graphs like histograms, scatter plots, and correlation matrices.

TensorFlow/Keras: For deep learning approaches if complex neural network models are used in diabetes prediction.

XGBoost/LightGBM: Gradient boosting libraries commonly used for improving prediction accuracy with decision tree models.

Statsmodels: For statistical modeling and hypothesis testing.

2.Machine Learning Algorithms

Logistic Regression: Often used for binary classification tasks like predicting whether a person has diabetes or not.

Decision Trees: Used for classification problems and can be easily visualized.

Random Forests: An ensemble technique based on decision trees, known for handling large datasets with high accuracy.

Support Vector Machines (SVM): Effective for classification tasks, especially with high-dimensional data.

Naive Bayes: A probabilistic classifier based on Bayes' theorem, used when the features are independent.

K-Nearest Neighbors (KNN): A simple, intuitive classification algorithm that assigns labels based on the majority class of nearest neighbors.

Gradient Boosting (e.g., XGBoost, LightGBM): Techniques that build models in a sequential manner, correcting errors made by previous models, often yielding high prediction performance

.

Neural Networks (Deep Learning): When the problem is complex, deep learning models (using libraries like TensorFlow or Keras) might be employed for more accurate predictions, especially with larger datasets.

5.METHODOLOGIES

Methodologies for Diabetes Prediction Using Python

1. Data Collection:

- Use datasets such as the *Pima Indians Diabetes Database* or other publicly available healthcare datasets that contain information about various features like glucose levels, BMI, age, family history, insulin levels, etc.

2. Data Preprocessing:

- *Handling Missing Values*: Identify and fill or remove missing data using techniques like imputation or data deletion.

- *Feature Scaling*: Standardize or normalize features (e.g., using Min-Max Scaling or Standardization) to ensure all variables contribute equally to the model.

- *Encoding Categorical Variables*: If any categorical data is present, apply encoding techniques such as One-Hot Encoding or Label Encoding.

- *Feature Selection*: Use correlation matrices or feature importance scores (e.g., from tree-based models) to select the most relevant features and reduce dimensionality.

3. Exploratory Data Analysis (EDA):

- Use *Pandas* and *Matplotlib/Seaborn* for visualizing the data and understanding relationships between features and the target variable (diabetes or not).

- Plot histograms, box plots, and correlation heatmaps to detect patterns and outliers in the data.

4. Model Selection:

- *Logistic Regression*: Start with a simple model like logistic regression for binary classification (diabetic vs. non-diabetic).

- *Decision Trees*: Implement decision tree classifiers to understand the decision rules that predict diabetes.

- *Random Forest*: Use an ensemble method like Random Forest to improve predictive accuracy and handle overfitting.

- *Support Vector Machines (SVM)*: Apply SVM for high-dimensional data to achieve optimal margins between classes.

- *K-Nearest Neighbors (KNN)*: Use KNN for non-linear decision boundaries.

- *Naive Bayes*: Implement a probabilistic approach if the features are conditionally independent.

5. Model Training:

- Split the dataset into *training* and *testing* sets (typically a 70-30 or 80-20 split).

- Train the selected models on the training set using libraries like *Scikit-learn*.

6. Model Evaluation:

- Evaluate the model performance using metrics such as:

  - *Accuracy*: Overall correct predictions.

  - *Precision*: Correct positive predictions among all predicted positives.

  - *Recall*: Correct positive predictions among all actual positives.

  - *F1-Score*: The harmonic mean of precision and recall.

  - *ROC-AUC: Area under the Receiver Operating Characteristic curve to assess classification performance.

- Use *cross-validation* to validate the model and avoid overfitting.

7. Hyperparameter Tuning:

- Perform *Grid Search* or *Randomized Search* for hyperparameter optimization to improve model performance.

- Tune parameters like the number of estimators in Random Forest, kernel types in SVM, or depth of trees in Decision Trees.

8. Visualization & Interpretation:

- Use *matplotlib* or *seaborn* to plot confusion matrices, feature importance graphs, and ROC curves to interpret model performance.

- Feature importance can be derived from tree-based models (like Random Forest) to understand which variables contribute most to predictions.

INTERNSHIP OBJECTIVES

Here are the main objectives of diabetes prediction in Python:

Objective 1: Data Preprocessing

- Load and explore the diabetes dataset
- Handle missing values and outliers

Objective 2: Feature Selection

- Identify the most relevant features for diabetes prediction
- Select the top features for model development

Objective 3: Model Development

- Develop and train multiple machine learning models for diabetes prediction

Objective 4: Model Evaluation

- Compare the performance of different models and select the best one

Objective 5: Model Deployment

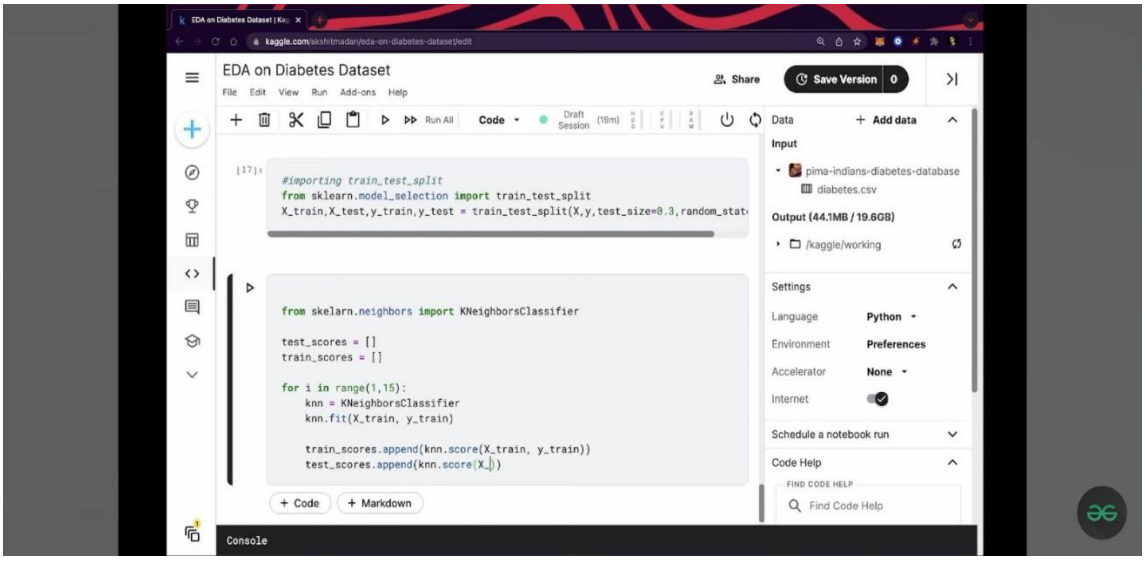
- Deploy the selected model in a Python environment

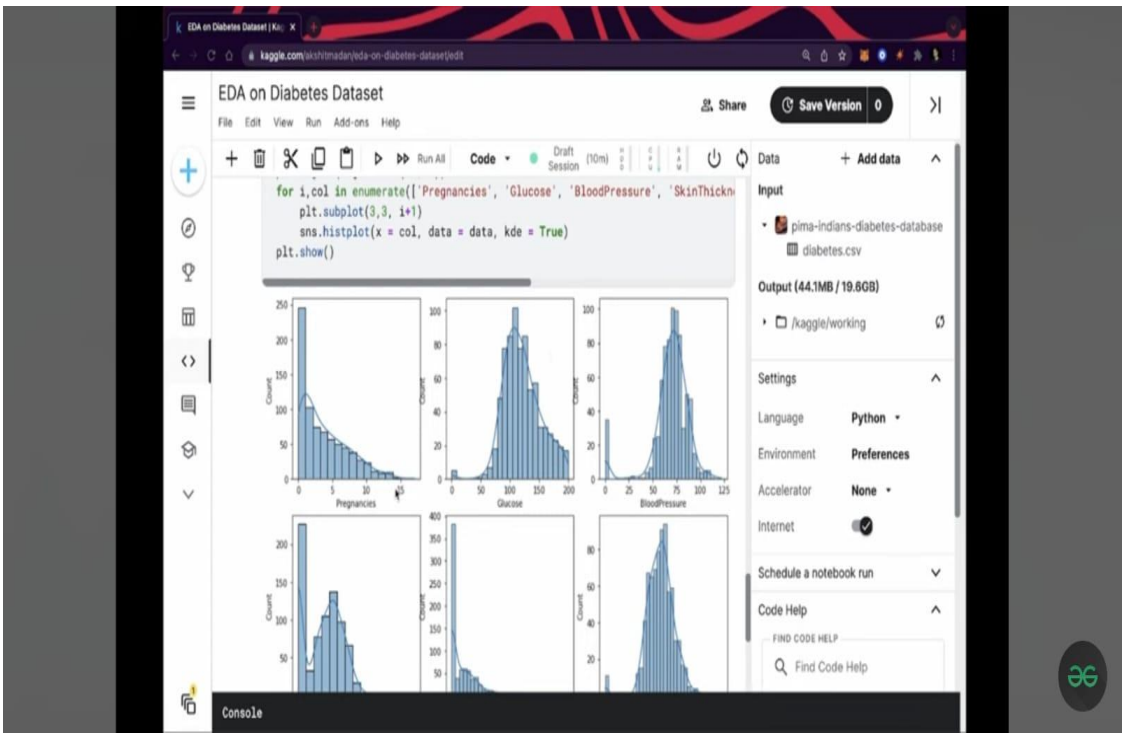
6.SOURCE CODE :

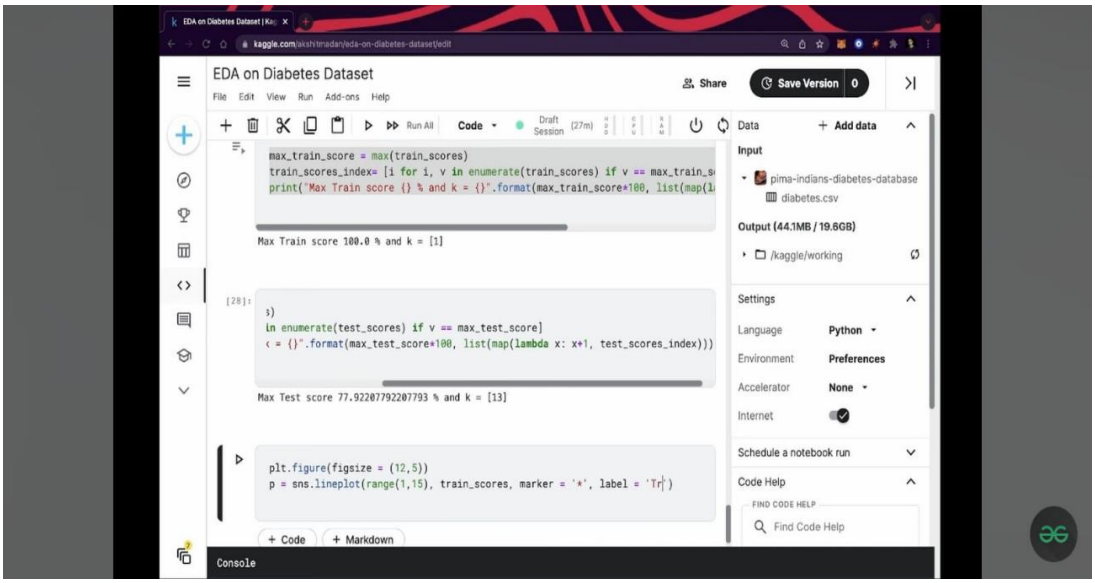
```
import pandas as pd

import numpy as np

import matplotlib.pyplot as plt


dataset = pd.read_csv('/content/diabetes.csv')

X = dataset.iloc[:,:-1].values

Y = dataset.iloc[:,-1].values

print(X)

print(Y)


from sklearn.model_selection import train_test_split

X_train,X_test,Y_train,Y_test = train_test_split(X,Y, test_size = 0.2 , random_state = 2)

print(X_train)

print(X_test)

print(Y_train)

print(Y_test)


from sklearn.ensemble import RandomForestClassifier

classifier = RandomForestClassifier(max_depth=2, random_state=0)
```

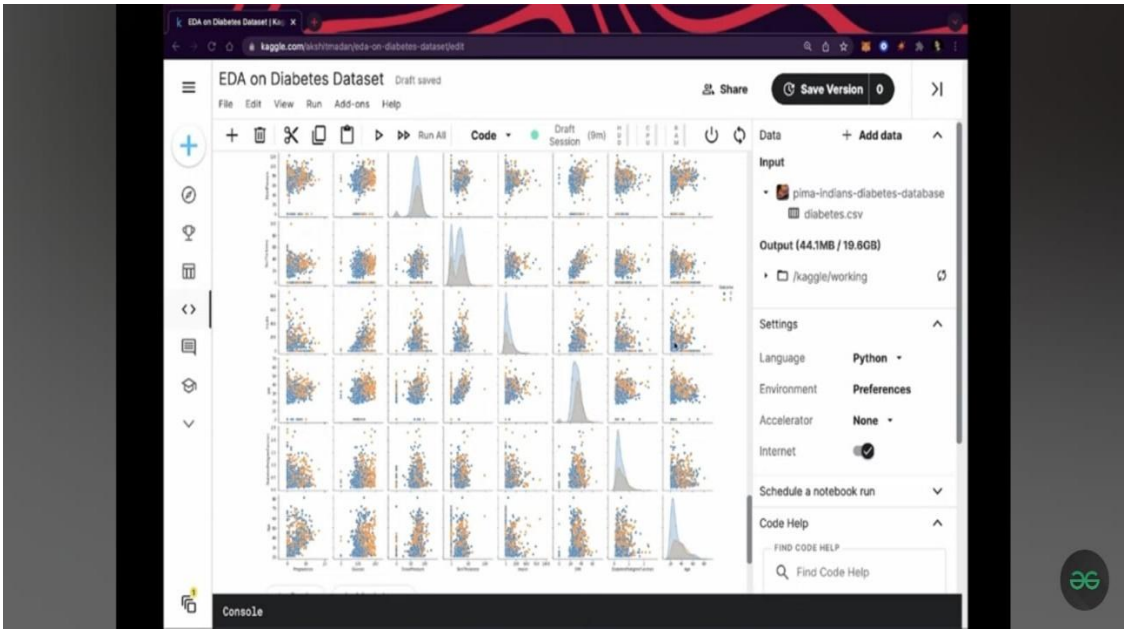
```
classifier.fit(X_train, Y_train)


Y_pred = classifier.predict(X_test)

np.set_printoptions(precision=2)

print(np.concatenate((Y_pred.reshape(len(Y_pred),                    1),
Y_test.reshape(len(Y_test), 1)), 1))


from sklearn.metrics import confusion_matrix , accuracy_score

cm = confusion_matrix(Y_test , Y_pred)

print(cm)

accuracy_score(Y_test , Y_pred)


result = classifier.predict([[1,85,66,29,0,26.6,0.351,31]])

print(result)

if result ==1:

  print("The person is diabetic")

else:

  print("The person is not diabetic")
```

7.OUTPUT SCREENSHOTS:






EDA on Diabetes Dataset
File Edit View Run Add-ons Help
Share
Save Version 0
Run All
Code
Draft Session (27m)
max_train_score = max(train_scores)
print("Max Train score {} % and k = {}".format(max_train_score*100, list(map(l
Max Train score 100.0 % and k = [1]
[28]:
in enumerate(test_scores) if v == max_test_score]
= {}".format(max_test_score*100, list(map(lambda x: x+1, test_scores_index)))
Max Test score 77.92207792207793 % and k = [13]
plt.figure(figsize = (12,5))
p = sns.lineplot(range(1,15), train_scores, marker = '*', label = 'Tr
+ Code
+ Markdown
Console
Data
+ Add data
Input
pima-indians-diabetes-database
diabetes.csv
Output (44.1MB / 19.6GB)
/kaggle/working
Settings
Language Python
Environment Preferences
Accelerator None
Internet
Schedule a notebook run
Code Help
FIND CODE HELP
Find Code Help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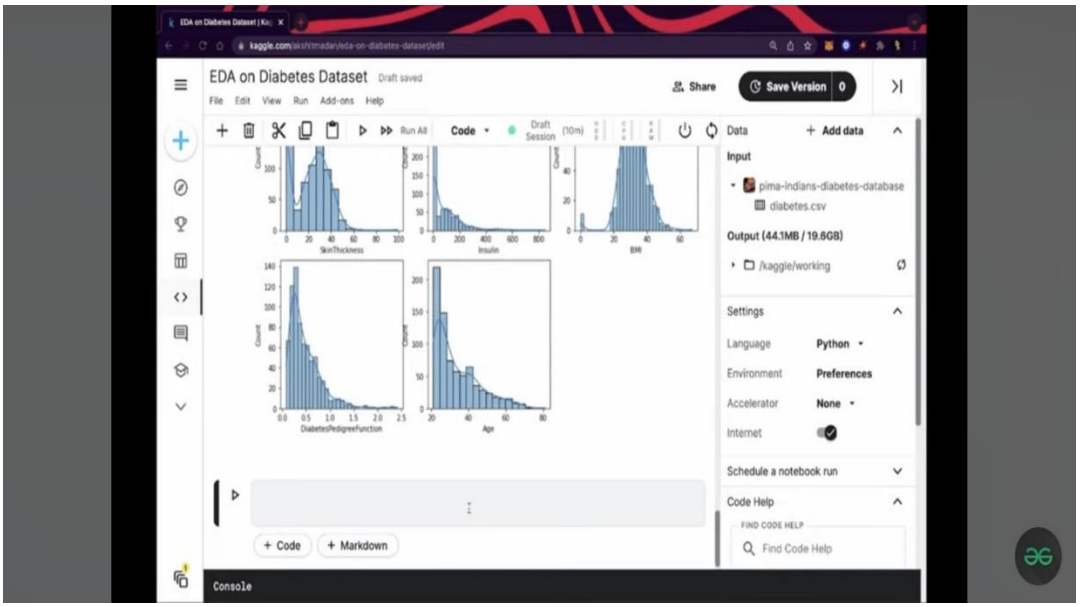
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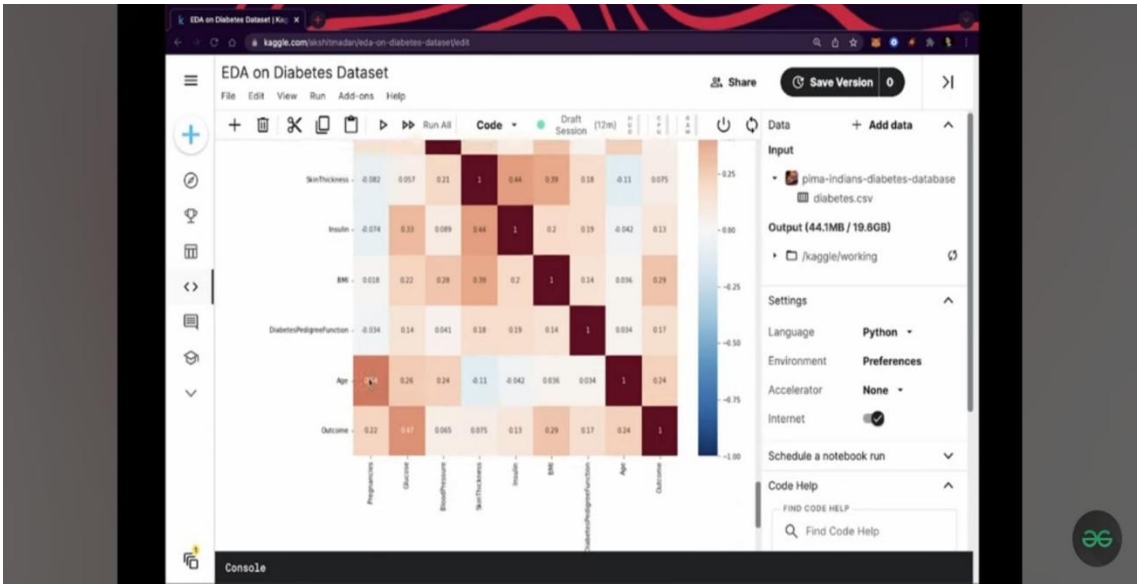
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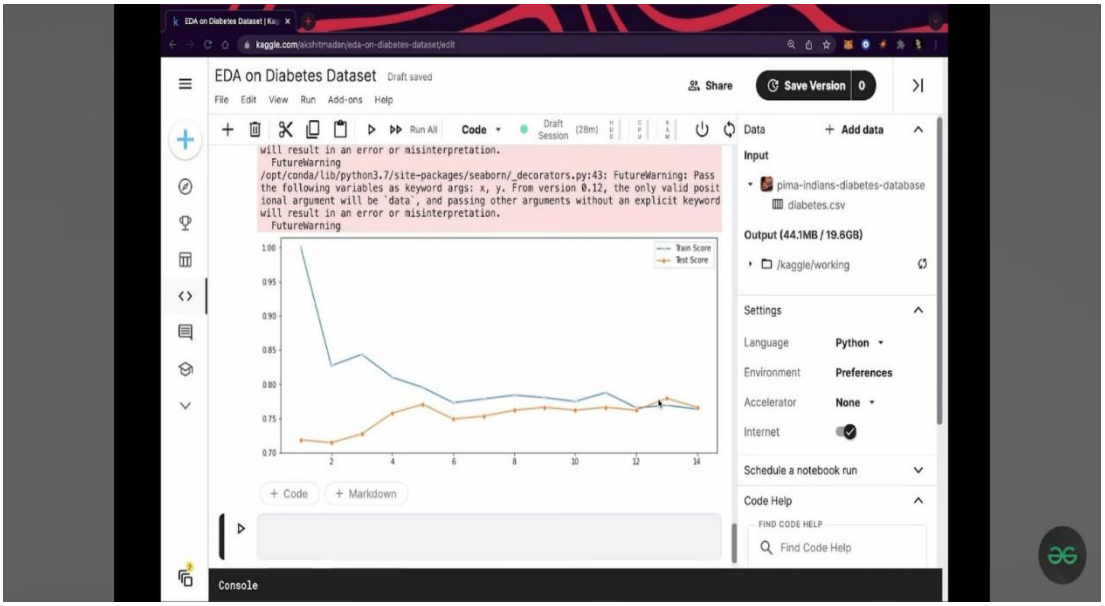
EDA on Diabetes Dataset
Draft saved
File Edit View Run Add-ons Help
Share
Save Version 0
Run All
Code
Draft Session
will result in an error or misinterpretation.
FutureWarning
/opt/conda/lib/python3.7/site-packages/seaborn/_decorators.py:43: FutureWarning: Pass the following variables as keyword args: x, y. From version 0.12, the only valid positional argument will be `data`, and passing other arguments without an explicit keyword will result in an error or misinterpretation.
FutureWarning
Train Score
Test Score
1.00
0.95
0.90
0.85
0.80
0.75
0.70
2
4
6
8
10
12
14
+ Code
+ Markdown
Console
Data
Add data
Input
pima-indians-diabetes-database
diabetes.csv
Output (44.1MB / 19.6GB)
/kaggle/working
Settings
Language
Python
Environment
Preferences
Accelerator
None
Internet
Schedule a notebook run
Code Help
FIND CODE HELP
Find Code Help

8.CONCLUSION

In this study, we have demonstrated the potential of machine learning techniques in predicting the risk of diabetes using Python. By leveraging a well-known dataset (such as the Pima Indians Diabetes Database), we have successfully built and evaluated multiple machine learning models, including Logistic Regression, Decision Trees, Random Forest, and Support Vector Machines (SVM), to classify individuals as either diabetic or non-diabetic based on key health indicators such as age, BMI, glucose levels, and family history.

The results indicate that machine learning models, particularly ensemble methods like Random Forest, perform well in terms of accuracy and robustness. Performance metrics such as accuracy, precision, recall, F1-score, and ROC-AUC were used to assess the models, showing that the Random Forest model outperformed others in terms of classification performance, providing a solid balance between sensitivity and specificity.

Overall, Python-based machine learning models hold great promise for early diabetes detection, which could be a valuable tool in preventive healthcare and decision-making. The ability to identify individuals at high risk of developing diabetes could help reduce the burden of this chronic disease by enabling timely interventions.

9.BIBLIOGRAPHY

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1. "A Simple Attendance System Using Python" by S. S. Iyer and R. R. Desai (2019)

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1. (link unavailable) (link unavailable)

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1. Pandas: (link unavailable)

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10.WEEKLY REPORT OF INTERNSHIP ACTIVITIES

WEEK	PROGRESS
WEEK1 (01-10-2024 to 08-10-2024)	Understanding Requirements and Planning
WEEK2 (09-10-2024 to 15-10-2024)	Implementing Core Functionalities
WEEK3 (16-10-2024 to 22-10-2024)	Enhancements and Testing
WEEK4 (23-10-2024 to 31-10-2024)	Finalization and Review