**TASK STATUS PROGRESS UPDATE**

**Task 1: Diabetes Dataset Acquisition** ✅ **(Completed).**

* ☑ Government-accredited open-source healthcare dataset website.
* ☑ Column header of dataset ***Demographics:*** (Age & Pregnancies), ***Clinical Measurements:*** (Glucose, Blood Pressure, Skin Thickness, Insulin & Body Mass Index), ***Genetic Risk:*** (Diabetes Pedigree Function), and ***Target***: Outcome.
* ☑ Columns: 9 & Rows: 768.

**Task 2: Diabetes Data Cleaning & Preprocessing** ✅ **(Completed).**

**Objective:** Ensure the dataset is clean and ready for EDA.  
**Key Actions:**

* ☑ Remove duplicates.
* ☑ Remove Empty Cells.
* ☑ Handle missing values.
* ☑ Standardize formats.

**Task 3: Data Transformation** ✅ **(Completed).**

**Task 4: Loading Cleaned & Processed Version of Breast Cancer Dataset** ✅ **(Completed).**

**Task 5: Exploratory Data Analysis** ✅ **(Completed).**

**Objective:** Implementation of EDA before data modeling.  
**Key Actions:**

* ☑ Renaming column header, getting summary information of the dataset.
* ☑ Checking & removing any duplicate values and empty cells.
* ☑ Addition of a new column from an existing column in the data set.
* ☑ Converting Categorical values into Numerical values.
* ☑ Basic Visualization using matplotlib & seaborn python library.
* ☑ Resetting dataset index using Python to save output in Excel & CSV format.
* ☑ Modeling.

**Task 6: Data Modeling** ✅ **(Completed).**  
**Objective:** Choosing the best-fit algorithm or model for the dataset.

**Key Actions:**

* ☑ **Evaluate different algorithms** (**📉** Logistic Regression, ⚖ Support Machine Vector (SVM), **🌲** Decision Tree & **🌲🌲🌲** Random Forest) — in testing phase.
* ☑ **Select and justify the best model** based on dataset characteristics.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Metric** | **📉 Logistic Regression** | ⚖ **Support Machine Vector (SMV)** | **🌲 Decision Tree** | **🌲🌲🌲 Random Forest** |
| **Accuracy** | 70.78% | 70.78% | 35.06% | ✅71.43% |
| **Precision** | ✅59.14% | 56.92% | 35.06% | 57.35% |
| **Recall** | 66.67% | 68.52% | ✅100% | 72.22% |
| **F1-Score** | 61.54% | 62.18% | 51.92% | ✅63.93% |

* ☑ Model Training.
* ☑ **Data Engineering** & **Model Implementation** after selecting the best-fit model.
* ☑ Model Deployment Using Streamlit.

**Task 7: Data Visualization & Communication** ✅ **(Completed).**

* ☑ Power BI Visualization Report.
* ☑ PDF Visualization Report.
* ☑ Image Visualization Report.

**Task 8: Project Review** ✅ **(Completed).**

**Task 9: Project Upload to GitHub** ✅ **(Completed).**

**Task 10: Project Task Report Submission** ✅ **(Completed).**

***Developer:*** Abduljabbar Nuhu

📞 **Phone:** 09036259681.

📩 Email: [nuhuabduljabbar5@gmail.com](mailto:nuhuabduljabbar5@gmail.com?subject=Email)

**🔗 GitHub:** [Diabetes Prediction App](mailto:https://diabetespredictivemodeling.streamlit.app/?subject=Streamlit%20App) ***💯***