**TASK STATUS PROGRESS UPDATE**

**Task 1: Heart Disease Dataset Acquisition** ✅ **(Completed).**

* ☑ Government accredited open-source healthcare dataset website.

**Task 2: Heart Disease Dataset Cleaning & Preprocessing** ✅ **(Completed).**

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

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

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

**Task 4: Loading Cleaned & Processed Version of Heart Disease 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 new column from existing column in the data set.
* ☑ 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 algorithms or model to be used on the dataset.

**Key Actions:**

* ☑ **Evaluate different algorithms** (**📉** Logistic Regression, ⚖ Support Machine Vector (SVM), **🌲** Decision Tree & **🌲🌲🌲** Random Forest) — in testing phase

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Metric** | **📉 Logistic Regression** | ⚖ **Support Machine Vector (SMV)** | **🌲 Decision Tree** | **🌲🌲🌲 Random Forest** |
| **Accuracy** | ✅85.87% | 84.24% | 80.98% | 84.24% |
| **Precision** | ✅85.85% | 85.44% | 83.17% | 84.76% |
| **Recall** | ✅89.22% | 86.27% | 82.35% | 87.25% |
| **F1-Score** | ✅87.50% | 85.85% | 82.76% | 85.99% |

* ☑ **Select and justify the best model** based on dataset characteristics.
* ☑ Model Training.
* ☑ **Data Engineering** & **Model Implementation** after selecting the best fit model.

**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 💯).**

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**🔗 GitHub:** ***Completed* 💯**