**List of Project’s for Learners-(Third Year )**

Dataset Link - https://drive.google.com/drive/folders/10kw2baP4dwn1ZcBuy-GiQxlQQBiAwlP1?usp=share\_link

|  |  |
| --- | --- |
| **Sl. No** | **Project Name** |
| 1 | Breast Cancer identification using classification algorithm. |
| 2 | Classify fetal health in order to prevent child and maternal mortality. |
| 3 | Rice type classification using machine learning algorithm. |
| 4 | Graduate admissions analysis and prediction. |
| 5 | Classification of patients based on the chance of affecting diabetics. |
| 6 | Classification of airline passengers based on the general information and feedback provided. |
| 7 | Prediction of Insurance amount based on the medical condition of the patient. |
| 8 | Classification of Glass type using machine learning algorithm. |

**Project Deliverables**

Given Below are important steps of each of the project

**[PROJECT 1 &2]**

|  |  |
| --- | --- |
| **Breast Cancer identification using classification algorithm.** | **Classify fetal health in order to prevent child and maternal mortality.** |
| **Planning the Model and Import the relevant libraries.**  **DATA PROCESSING STAGES**  **Data Acquisition: Import the Dataset** | **Planning the Model and import the relevant libraries.**  **DATA PROCESSING STAGES**  **Data Acquisition: Import the dataset** |
| **Data Processing: Load the data.**  **Data Visualization: Description of the dataset to get the basic insight on the data.**  **Use pandas for data processing and report the time required for the execution.** | **Data Processing: Load the data.**  **Data Visualization: Description of the dataset to get the basic insight on the data.**  **Use pandas for data processing and report the time required for the execution.** |
| **Use Modin for data processing and report the time required for the execution.** | **Use Modin for data processing and report the time required for the execution.** |
| **Apply the Relevant Algorithm.**  **Split The dataset and Train the Model**  **Perform the Classification on the Testing dataset.** | **Apply the Relevant Algorithm.**  **Split The dataset and Train the Model**  **Perform the Classification on the Testing dataset.** |
| **Evaluate the Model: Evaluate the model with related evaluation metrics.** | **Evaluate the Model: Evaluate the model with related evaluation metrics.** |
| **Apply Intel Extension for Sklearn : Evaluate the model using sklearnex. Calculate model training time and testing time with sklearnex.** | **Apply Intel Extension for Sklearn : Evaluate the model using sklearnex. Calculate model training time and testing time with sklearnex.** |
| **Evaluate the model performance on different accelerators: CPU,GPU, FPGA** | **Evaluate the model performance on different accelerators: CPU,GPU, FPGA** |
| **Dataset Link: breastcancer.csv** | **Dataset Link: fetal\_health.csv** |

**[PROJECT 3 & 4]**

|  |  |
| --- | --- |
| **Rice type classification using machine learning algorithm.** | **Graduate admissions analysis and prediction.** |
| **Planning the Model and Import the relevant libraries.**    **DATA PROCESSING STAGES** **Data Acquisition: Import the Dataset** | **Planning the Model and import the relevant libraries.**  **DATA PROCESSING STAGES**  **Data Acquisition: Import the dataset** |
| **Data Processing: Load the data.**  **Data Visualization: Description of the dataset to get the basic insight on the data.**  **Use pandas for data processing and report the time required for the execution.** | **Data Processing: Load the data.**  **Data Visualization: Description of the dataset to get the basic insight on the data.**  **Use pandas for data processing and report the time required for the execution.** |
| **Use Modin for data processing and report the time required for the execution.** | **Use Modin for data processing and report the time required for the execution.** |
| **Apply the Relevant Algorithm.**  **Split The dataset and Train the Model**  **Perform the Classification on the Testing dataset.** | **Apply the Relevant Algorithm.**  **Split The dataset and Train the Model**  **Perform the Classification on the Testing dataset.** |
| **Evaluate the Model: Evaluate the model with related evaluation metrics.** | **Evaluate the Model: Evaluate the model with related evaluation metrics.** |
| **Apply Intel Extension for Sklearn : Evaluate the model using sklearnex. Calculate model training time and testing time with sklearnex.** | **Apply Intel Extension for Sklearn : Evaluate the model using sklearnex. Calculate model training time and testing time with sklearnex.** |
| **Evaluate the model performance on different accelerators: CPU,GPU, FPGA** | **Evaluate the model performance on different accelerators: CPU,GPU, FPGA** |
| **Dataset Link: riceClassification.csv** | **Dataset Link: Admission\_Predict.csv** |

Note: Participants are free to use another dataset based on similar theme as well

**Projects 5 & 6**

|  |  |
| --- | --- |
| **Classify the patients based on the chance of getting diabetics by analysing the diagnostic parameters.** | **Classify the airline passengers based on the satisfaction level by analysing the data and feedback.** |
| **Planning the Model and Import the relevant libraries.** | **Planning the Model and import the relevant libraries.** |
| **Data Processing: Load the data**  **Data Visualization: Description of the dataset to get the basic insight on the data.**  **Use pandas for data processing and report the time required for the execution.** | **Data Processing: Load the data**  **Visualization: Description of the dataset to get the basic insight on the data.**  **Use pandas for data processing and report the time required for the execution.** |
| **Use Modin for data processing and report the time required for the execution.** | **Use Modin for data processing and report the time required for the execution.** |
| **Apply The Relevant Algorithm**  **Split The dataset and Train the Model**  **Perform the Classification on the Testing dataset.** | **Apply The Relevant Algorithm**  **Train the Model**  **Perform the Classification on the Testing dataset.** |
| **Evaluate the Model: Evaluate the model with related evaluation metrics.** | **Evaluate the Model: Evaluate the model with related evaluation metrics.** |
| **Apply Intel Extension for Sklearn : Evaluate the model using sklearnex. Calculate model training time and testing time with sklearnex.** | **Apply Intel Extension for Sklearn : Evaluate the model using sklearnex. Calculate model training time and testing time with sklearnex.** |
| **Evaluate the model performance on different accelerators: CPU,GPU, FPGA** | **Evaluate the model performance on different accelerators: CPU,GPU, FPGA** |
| **Dataset Link:diabetes.csv** | **Dataset Link:Airline\_passengers.csv** |

**Projects 7 & 8**

|  |  |
| --- | --- |
| **Based on the parameters given based on medical condition of the patient predict the insurance amount using linear regression** | **Classification of Glass type using machine learning algorithm.** |
| **Planning the Model and Import the relevant libraries.** | **Planning the Model and import the relevant libraries.** |
| **Data Processing: Load the data**  **Data Visualization: Description of the dataset to get the basic insight on the data.**  **Use pandas for data processing and report the time required for the execution.** | **Data Processing: Load the data**  **Visualization: Description of the dataset to get the basic insight on the data.**  **Use pandas for data processing and report the time required for the execution.** |
| **Use Modin for data processing and report the time required for the execution.** | **Use Modin for data processing and report the time required for the execution.** |
| **Apply The Relevant Algorithm** | **Apply The Relevant Algorithm**  **Split The dataset and Train the Model**  **Perform the Classification on the Testing dataset.** |
| **Evaluate the Model:**  **Evaluate the model with related evaluation metrics.** | **Evaluate the Model:**  **Evaluate the model with related evaluation metrics.** |
| **Apply Intel Extension for Sklearn : Evaluate the model using sklearnex. Calculate model training time and testing time with sklearnex.** | **Apply Intel Extension for Sklearn : Evaluate the model using sklearnex. Calculate model training time and testing time with sklearnex.** |
| **Evaluate the model performance on different accelerators: CPU,GPU, FPGA** | **Evaluate the model performance on different accelerators: CPU,GPU, FPGA** |
| **Dataset Link: insurance.csv** | **Dataset Link: glass.csv** |