## Front End Engineering-II /Artificial

## Intelligence and Machine Learning

Project Report

Semester-IV (Batch-2022)

Train Dataset With

MYSQL CONNECTION

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Description automatically generated with low confidence

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**Description About the case study**

**Display Top 5 Rows of the Dataset:**

**How can we view the top 5 rows of our dataset?**

**Check Last 3 Rows of the Dataset:**

**How can we check the last 3 rows of our dataset?**

**Find Shape of Our Dataset (Number of Rows & Number of Columns):**

**Can you provide the shape of our dataset? How many rows and columns does it have?**

**Get Information About Our Dataset:**

**What information can you provide about our dataset, such as the total number of rows, total number of columns, data type of each column, and memory requirement?**

**Get Overall Statistics About the DataFrame:**

**How can we get overall statistics about the dataframe, such as mean, standard deviation, minimum, maximum, and quartiles for numerical columns?**

**Data Filtering:**

**How can we filter the data to select specific rows based on certain conditions?**

**Check Null Values in the Dataset:**

**Are there any null values present in our dataset? If yes, in which columns and how many null values are there?**

**Drop the Column:**

**How can we drop a specific column from our dataset?**

**Handle Missing Values:**

**How can we handle missing values in our dataset, for example, by replacing them with the mean of each column?**

**Categorical Data Encoding:**

**How can we encode categorical data into numerical format, for example, using one-hot encoding?**

**What is Univariate Analysis:**

**What does univariate analysis entail, and how can we perform it on our dataset?**

**How Many People Survived and How Many Died Plot on Graph:**

**Can you provide a visualization showing the number of people who survived and the number of people who died?**

**How Many Passengers Were in Each Passenger Class Plot on Graph:**

**Can you visualize the number of passengers in each passenger class?**

**Number of Male and Female Passengers:**

**How can we determine the number of male and female passengers in our dataset?**

**Bivariate Analysis:**

**What is bivariate analysis, and how can we perform it to analyze relationships between variables in our dataset?**

**How Has Better Chance of Survival: Male or Female:**

**Can you analyze and visualize the survival rate by gender to determine if males or females had a better chance of survival?**

**Which Passenger Class Has Better Chance of Survival (First, Second, or Third Class):**

**How can we analyze and visualize the survival rate by passenger class to determine which class had a better chance of survival?**

**Feature Engineering:**

**How can we create new features from existing ones to improve our analysis, for example, by combining 'SibSp' and 'Parch' to create a 'total\_family\_members' feature?**

**Library**

* **Pandas**
* **Mysql Connector**
* **Matplotlib**

**Method**

**Display Top 5 Rows of the Dataset:**

**head() method from pandas DataFrame.**

**Check Last 3 Rows of the Dataset:**

**tail() method from pandas DataFrame.**

**Find Shape of Our Dataset (Number of Rows & Number of Columns):**

**shape attribute from pandas DataFrame.**

**Get Information About Our Dataset:**

**info() method from pandas DataFrame.**

**Get Overall Statistics About the DataFrame:**

**describe() method from pandas DataFrame.**

**Data Filtering:**

**Boolean indexing or using methods like query() from pandas DataFrame.**

**Check Null Values in the Dataset:**

**isnull().sum() method from pandas DataFrame.**

**Drop the Column:**

**drop() method from pandas DataFrame.**

**Handle Missing Values:**

**Methods like fillna() from pandas DataFrame.**

**Categorical Data Encoding:**

**get\_dummies() method from pandas DataFrame.**

**What is Univariate Analysis:**

**Analyzing a single variable at a time. Various statistical methods and visualizations can be used for this purpose.**

**How Many People Survived and How Many Died Plot on Graph:**

**Visualization using methods like value\_counts() followed by plot().**

**How Many Passengers Were in Each Passenger Class Plot on Graph:**

**Visualization using methods like value\_counts() followed by plot().**

**Number of Male and Female Passengers:**

**value\_counts() method from pandas Series.**

**Bivariate Analysis:**

**Analyzing two variables simultaneously. Grouping and aggregation functions like groupby() followed by statistical analysis and visualizations are common methods.**

**How Has Better Chance of Survival: Male or Female:**

**Statistical analysis and visualization using methods like groupby() followed by plot().**

**Which Passenger Class Has Better Chance of Survival (First, Second, or Third Class):**

**Statistical analysis and visualization using methods like groupby() followed by plot().**

**Feature Engineering:**

**Creation of new features from existing ones. This can involve arithmetic operations, combining columns, or creating dummy variables.**