Project ID:

Project Title:

1. Introduction
   1. Background:

(Briefly discuss the background and importance of the research topic)

* 1. Research Problem:

(Define the problem your research addresses)

* 1. Objectives:

(State the primary objectives of the research)

|  |  |  |
| --- | --- | --- |
| It Number | Objective | Objective number |
|  |  | 1 |
|  |  | 2 |
|  |  | 3 |
|  |  | 4 |

1. Data Exploration
   1. Data Collection

(Explain how data was collected)

* 1. Dataset Description:

(Describe datasets, including sources, size, and key attributes)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data source | Description | Resource | Size | Key attributes |
|  |  |  |  |  |

* 1. Suitability Analysis
     1. Relevance to Individual Research Objectives:

(Explain how well each dataset aligns with your research problem and objectives)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | 1 | 2 | 3 | 4 |
| Data source 1 | x |  | X |  |
| Data source 2 |  |  |  |  |
|  |  |  |  |  |

1. Methodology
   1. Data Preprocessing:

(Mention data transformation techniques done in each dataset for each objective.)

Ex:

Data Cleaning, Data Normalization, Data Standardization, Data Encoding (e.g., One-Hot Encoding, Label Encoding), Handling Missing Data (e.g., Imputation or Removal),

Data Aggregation, Feature Engineering, Outlier Detection and Handling, Data Scaling,

Data Discretization, Dimensionality Reduction (e.g., PCA), Date/Time Transformation,

Data Integration (Merging or Joining), Data Mapping, Data Type Conversion.

**Objective 1**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Transformation technique | | | | | | | |
|  | Data Cleaning |  |  |  |  |  |  |  |
| Data source 1 | x |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |

* 1. Scalability

(Assess whether each dataset size is sufficient and scalable for analysis.)

* 1. Feature extraction

(Mention steps followed to evaluate the key features and attributes in datasets for each objective)

1. Modelling and Results

The results section should present the key findings derived from analyzing the data. It should answer the research questions or hypotheses posed at the beginning of the study, based on the methods and techniques applied during the analysis.

* 1. Key Insights:

(Summarize key findings from each dataset exploration and analysis. Provide an in-depth exploration of the data using visualizations such as charts, graphs, and plots. Describe patterns, trends, and correlations between variables)

* 1. Challenges Faced During Data Analysis:

(Discuss any challenges encountered in working with the datasets, e.g., missing data, outliers, or computational limits.)

1. References

(List all academic references, datasets, and other sources used in the report, following the chosen IEEE citation style.)