Phase-3 Submission Template

Student Name: [Enter Your Name]

Register Number: [Enter Your Register Number]

Institution: [Insert College Name]

Department: [Enter Your Department Name]

Date of Submission: [Insert Date]

Github Repository Link: [Update the project source code to your Github Repository]

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1. Problem Statement

[Clearly define the real-world problem you're solving.Explain its importance and business relevance.Specify whether it's a classification, regression, clustering, etc. problem]

2. Abstract

[Summarize your entire project in 5–7 sentences.Include problem, objective, approach, and outcome]

3. System Requirements

Specify minimum system/software requirements to run the project:

- ***Hardware***: *Minimum RAM, processor (if heavy computation is needed)*
- ***Software***: *Python version, required libraries, IDE (Colab, Jupyter)*

4. Objectives

[What exactly are you trying to achieve?State expected outputs, predictions, or insights.Link your goals to the problem and business impact]

5. Flowchart of Project Workflow

[Include flowchart from:

- *Data Collection → Preprocessing → EDA → Feature Engineering → Modeling → Evaluation → Deployment*

Tools you can use:

- *draw.io, Lucidchart, Canva, PowerPoint, Figma*

Insert image of your flowchart]

6. Dataset Description

- *Source (Kaggle, UCI, API, etc.)*
- *Type (public, private, synthetic)*
- *Size and structure (number of rows/columns)*
- *Include* `df.head()` *screenshot*

7. Data Preprocessing

- *Handle missing values, duplicates, outliers*
- *Feature encoding and scaling*
- *Show before/after transformation screenshots*

8. Exploratory Data Analysis (EDA)

- *Use visual tools like histograms, boxplots, heatmaps*
- *Reveal correlations, trends, patterns*
- *Write down key takeaways and insights*
- *Include screenshots of visualizations*

9. Feature Engineering

- *New feature creation*
- *Feature selection*
- *Transformation techniques*
- *Explain why and how features impact your model*

10. Model Building

- *Try multiple models (baseline and advanced)*
- *Explain why those models were chosen*
- *Include screenshots of model training outputs*

11. Model Evaluation

- *Show evaluation metrics: accuracy, F1-score, ROC, RMSE, etc.*
- *Visuals: Confusion matrix, ROC curve, etc.*
- *Error analysis or model comparison table*
- *Include all screenshots of outputs*

12. Deployment

- *Deploy using a free platform:*
    - *Streamlit Cloud*
    - *Gradio + Hugging Face Spaces*
    - *Flask API on Render or Deta*
- *Include:*
    - *Deployment method*

- *Public link*
- *UI Screenshot*
- *Sample prediction output*

13. Source code

[Provide the complete set of source code files developed during the project.]

14. Future scope

[Clearly articulate at least 2–3 meaningful future enhancements that demonstrate forward thinking and awareness of project limitations.]

13. Team Members and Roles

[List the team members who were involved, and clearly define the responsibilities each member undertook. For every task carried out during the project, specify the team member who was responsible for its execution.]