Hackathon Submission Template (Sample)

Use Case Title: [Insert the Title of the Use Case Here]

Student Name:

Register number:

Institution: [Insert College Name]

Department: [Enter Your Department Name]

Date of Submission: [Insert Date]

1. Problem Understanding and Overview

Provide a clear understanding of the problem presented in the use case. Summarize the business challenge and the objectives of the task.

Problem Summary:

- What is the problem the company is facing in terms of product recommendations?
- What specific challenges exist in delivering relevant, personalized recommendations to users?
- How does this impact customer experience, engagement, or sales?

Business Goals:

- What are the business goals to be achieved by solving this problem?
- How would enhanced product recommendations align with broader business objectives, like customer satisfaction, sales growth, or brand loyalty?

Objectives:

[List the key objectives that need to be fulfilled as part of the solution, such as improving recommendation accuracy, increasing conversion rates, reducing churn, etc.]

2. Proposed Solution

Explain the solution you are proposing using generative AI techniques for personalized product recommendations. Clearly detail how your solution addresses the business problem.

2.1 Solution Overview

- Provide a high-level overview of your generative AI-based personalized product recommendation solution.
- What AI and machine learning models or modules are used? (e.g., recommendation engines, NLP models, customer segmentation algorithms, reinforcement learning, etc.)
- How does your solution enhance the personalization process?
- In what ways does this solution optimize the business process? (e.g., improving customer experience, increasing sales, reducing time to recommend, etc.)

2.2 Step-by-Step Approach

Break down your solution into clear, actionable steps.

Describe how each part of the solution will be implemented using AI tools and technologies.

Steps:

[Step 1 - Describe what is done and how]

Example: Collect and preprocess customer interaction data, such as browsing behavior and past purchases.

[Step 2 - Describe what is done and how]

Example: Train and fine-tune the generative model to personalize product recommendations based on customer preferences.

[Step 3 - Describe what is done and how]

Example: Deploy the model into the recommendation engine to provide real-time personalized suggestions to customers.

2.3 Data and Input Sources

- Identify the data sources required for implementing the generative AI solution.
- What data will be used? (e.g., user demographics, purchase history, browsing behavior, customer reviews)
- How will this data be processed and integrated into the AI system for recommendations?
- What methods will ensure the data remains up-to-date and relevant for real-time recommendations?

3. Key Features of the Solution

Detail the main features of your generative AI-based personalized recommendation solution. How does your solution improve the existing business process?

Key Features:

[Feature 1 - Describe its importance]

Example: Real-time recommendation updates based on user behaviour, enhancing the relevance of suggested products.

[Feature 2 - Describe its importance]

Example: Context-aware product recommendations that consider a customer's browsing history, preferences, and recent interactions.

[Feature 3 - Describe its importance]

Example: Scalable model architecture allowing recommendations to adjust dynamically across various customer segments and seasonal trends.

4. Expected Outcomes and Benefits

Explain the expected outcomes of your generative AI solution. What benefits will the company gain?

4.1 Business Benefits

How will the solution enhance customer engagement and satisfaction?

How will it increase conversion rates, average order value, or customer lifetime value?

In what ways will this solution optimize marketing efforts and reduce costs? (e.g., less reliance on traditional marketing, improved targeting)

4.2 Risk Management

What potential risks are associated with implementing this generative AI solution? (e.g., data privacy concerns, model bias, scalability issues)

How does your solution mitigate these risks?

Example: Implementing robust data privacy measures, regularly updating the AI model to reduce bias, and ensuring infrastructure scalability to handle real-time recommendations.

5. Conclusion

Summarize the key points of your generative AI solution.

Restate how your solution addresses the business problem: Highlight how personalized recommendations improve customer engagement, enhance relevance, and drive sales.

Why is this solution effective? Emphasize how generative AI offers dynamic, context-aware recommendations that adapt to customer behaviour, providing a competitive edge in personalization.

6. References (if any)

[List any references used, such as generative AI model documentation, industry whitepapers, articles on recommendation systems, etc.]

Example: Research papers on recommendation algorithms, articles on customer behaviour analysis, and case studies of AI-driven personalization.