Analytics Odyssey

"Analytics Odyssey" conveys the idea of an adventurous and transformative journey through the world of data analytics, filled with exploration, discovery, and insight.

Example Project: Analyzing Sales Data for a Retail Company

1. Identify domain. Understand and frame the problem.
   a. What is the main problem or challenge presented in the identified case study?
   b. How does this problem impact the organization or stakeholders involved?
   c. Eg: What trends and patterns can you identify in the sales data over the past five years? How do seasonal variations affect sales?
2. Data Collection real/synthetic/scraping
   a. What types of data are available or needed to address this problem?
   b. How would you go about collecting this data? Method and justification
   c. Eg: What data sources will you use (e.g., sales databases, market research reports)? How will you ensure the data is comprehensive and up-to-date?
3. Data Cleaning and preparation
   a. What steps would you take to clean and prepare the data for analysis?
   b. Are there any potential issues with data quality that need to be addressed?
   c. Eg. Handling missing or incomplete data entries. Data transformations are necessary for analysis?
4. Data Analysis
   a. What analytical techniques or methods would you use to analyze the data? How it is suitable for the problem?
   b. How would you ensure the analysis result is accurate and reliable?
   c. Eg. Statistical methods to analyze sales trends/ Segment the data to identify key customer groups?
5. Visualization and Presentation
   a. How would you visualize the data to effectively communicate your findings?
   b. What tools or software would you use for data visualization? How the selected tool contributes in understanding of data and analysis result.
   c. Eg. Suitable charts or graphs to represent your findings(line charts, bar graphs or innovative chart)
6. Recommendations
   a. Based on your analysis, what recommendations would you make to address the problem?
   b. How feasible and practical are these recommendations?
   c. Eg. What strategies can the company implement to increase sales? How can the company optimize inventory management based on sales data?
7. Reflection
   a. What challenges did you face while analyzing the data?
   b. How will you use this analysis to inform future decisions?
   c. Eg. Challenges faced while analyzing sales data, propose future business decisions

Roles:

1. Define each member roles and responsibility (Plan, Monitor, Implementation, Data collection, knowledge generation, report preparation, ect,.)
2. How do you monitor the progress?
3. Measure the success of completed project.
4. Analyze the professional strength and weakness of the team. Brief how it is relevant to the completion.

Evaluation Criteria

Evaluation Rubrics -ETE - Component -V		
Rubrics	**Rubrics**	**Marks**
Group (40 Marks)	R1-Participation/Involvement in discussion	10 Marks
	R2-Team Work-Plan, Execution, coordination	10 Marks
	R3-Implementation– Problem statement, method and provided solution, Result discussion	15 Marks
	R4-Presentation Way of presenting result	05 Marks

Titles

1. Education: Predictive Analytics for Student Success
2. E-commerce: Personalized Recommendations
3. Manufacturing: Predictive Maintenance for Equipment
4. Health Care: Predictive Analytics for Patient Admissions
5. Text analytics: Budget-2024 (public opinion)

Final Presentation

Prepare your work for evaluation using PPT or GUI(Streamlit,ect)

Materials required for evaluation: Dataset, CODE with output in .pdf file, PPT/GUI

Presentation duration:20 Mins

Expected Information(check previous page for more details)

1. Introduction
2. Problem Statement
3. About Dataset
4. Data Preparation
5. Data Analysis
6. Visualization and Presentation
7. Recommendations
8. Reflection
9. Team Roles and Responsibilities