Planning & Scheduling Assistant Project

Take-Home Project: Predictive Planning & Scheduling Assistant

Timeframe:

Complete within 5–7 days

📂 Background:

Our company manages sales and logistics across regions, reps, and thousands of product types. We frequently deal with order delays and want to develop a tool that:

- Learns from historical order behavior
- Predicts potential delays or completion timelines
- Surfaces insights on patterns of lateness
- Helps non-technical teams interact with the data via an assistant-style tool

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📊 Dataset Description:

Each row represents an individual order line. You will receive a CSV with the following fields:

Column	Description
Top Level Branch	Sales branch managing the order
Top Level Sold To	Client account
Zone / Region Zone	Geographic segments
Top Level Order / Line / Shipment Numbers	Order identifiers
Last Next Status	Status of the order
TL SO Alert	Alerts or flags (e.g., URGENT)
ECD	Actual Completion Date
ECD Notes	Notes on delay reason or notes
Line Creation	When the order was created

Column	Description
Schedule Pick Date	Planned pickup date
Promised Delivery Date	Promised completion date
Top Level Item / Description / Type	Product information
SRP1	Unit price
Line Amount	Total dollar amount
SC Rep	Sales contact

📊 Business Objective:

Create an AI assistant that:

1. Identifies historical patterns in late deliveries
2. Predicts either:
    a. Time until completion
    b. Probability of lateness
3. Surfaces actionable insights for business users
4. Provides an interactive experience using Streamlit

🏅 Project Requirements:

1. **Evaluation of the Data**
2. **Enable LLM-Based Chat Q/A Session –** give the LLM access to use the historical data so the user can ask the chatbot data-informed questions
3. **Predict / Suggest Delivery Estimates based on the Historical Data –** bonus if you can explain *why* a prediction was made
4. **Simple Streamlit UI –** allowing Q/A user sessions and displays the data
5. **Walkthrough & Communication—**provide 3-5 screenshots or slides to explain:
    a. What insights you found data-wise
    b. Your prediction approach
    c. Areas of improvement if you had more time
