Assignment: AI-Powered Dispute Assistant

Context

The company provides reconciliation and settlement services for fintechs and banks. You're building an AI assistant that helps resolve **payment disputes** raised by customers (e.g., failed payments, chargebacks, duplicate transactions, missing credits).

The goal of this task is to:

1. Classify the disputes
2. Suggest appropriate resolutions
3. Enable prompt-based insights for support agents

Tasks

Task 1: Dispute Classification: Build a rule-based or ML model to classify each dispute into one of:

- **DUPLICATE_CHARGE**
- **FAILED_TRANSACTION**
- **FRAUD**
- **REFUND_PENDING**
- **OTHERS**

Output1: classified_disputes.csv with columns: dispute_id, predicted_category, confidence, explanation

Task 2: Resolution Suggestion: Based on the predicted category and available data, suggest the next action:

- Auto-refund
- Manual review
- Escalate to bank
- Mark as potential fraud
- Ask for more info

Output2: resolutions.csv with dispute_id, suggested_action, justification

Task 3: Implement a simple CLI or notebook interface to handle prompts like:

- “How many duplicate charges today?”
- “List unresolved fraud disputes”
- “Break down disputes by type”

Optional : Add LLM prompt integration using OpenAI/HF API

Bonus:

- Add fuzzy matching logic to detect duplicate transactions from a synthetic transaction dataset (transactions.csv)
- Visualize dispute trends over time (bar chart or timeline)
- Add case history tracking (status updates)

Submission

- GitHub link or zipped folder
- Include: README.md, classified_disputes.csv, resolutions.csv, source code
- Bonus: notebook or Streamlit interface for prompt querying