Forge Task 4.

Create Presentation to Stakeholders.

What you'll learn:

- Design AI-powered, autonomous debt-management system.
- role of agentic AI in automating financial decision-making.
- Strategies to ensure compliance (company adhers to certain laws & rules), transparency & fairness.
- Align AI driven insights with financial industry regulatory standards.

What I should do:

- Design presentation outlining a framework for an AI powered collections system.
- Identify guardrails (rules & limitations of business) to prevent unfair or biased decision making.
- know how agentic AI can adapt changes in delinquency patterns.

* How to design an AI-powered, autonomous debt-management system:

Agentic AI should be able to:

- Ingest predictive risk scores
- Determine best course of action
- Personalise timing & messaging based on customer behaviours
- Monitor outcomes & adjust future actions.

Key components of autonomous systems:

① Data lifeline: Feeds the system real-time customer information.
Ex:- customer demographics, transaction history, real time payment activity etc...

② Decision Engine: Applies business rules & model outputs to make autonomous decisions.
Ex:- uses rules-based logic, machine learning models, or a combination of both to get optimal action.

③ Action layer: Executes interventions.
Ex:- sending personalized SMS reminders, offering payment deferrals, initiating phone calls

④ learning loop: Monitors outcomes and feeds them back into the model to refine future decisions.
Ex:- tracking metrics such as repayment rates, customer engagement, and cost of collections to evaluate the effectiveness of its actions and adjust its strategies.

Important considerations:

① Integration with existing systems (eg:- CRM, payment processing)

② Human oversight:
Where & Why its needed.

③ Guardrails for compliance, fairness & accountability

compliance: adhering laws & regulations
fairness: preventing discriminatory outcomes
accountability: establishing responsibility for system actions
transparency: providing explainable decisions

* Understanding the role of agentic AI in financial decision-making:

Agentic AI :- Unlike rule-based automation, executes dynamically.

Why is it related to debt collection :
involves decision making

Agentic AI systems are capable of :-
- Personalizing actions based on real-time customer profiles.
- Adjusting strategies
- Handling complexity
- Making trade-offs in line with business rules, prioritizing high risk cases without compromising fairness.

Agentic AI enables system to :
① Interpret patterns
② Select optimal interventions
③ Balance competing objectives
④ learn from success/failure and improve over time

* Strategies for ensuring compliance, transparency & fairness in AI-driven financial services.

You will come across two terms in Bias detection & mitigation:
- re-weighting ⇒ A bias mitigation technique where certain data points (often from underrepresented groups) are assigned higher importance during training, ensuring that the model does not disproportionately learn patterns from majority-group data.
- adversarial debiasing ⇒ Involves training a secondary model (an adversary) that actively detects and

minimizes biased patterns in the primary model's decision-making process. This helps frequent models from learning unintended discriminatory correlations.

Continuation Notes of task 4 in GitHub.

Task4.pdf