AI-Powered Collections Strategy

Leveraging Agentic AI for Scalable, Fair, and Effective Debt Management at Geldium

How the System Works

- **WORKFLOW:**

1. **Inputs**: customer's age, income, credit score, credit utilization, missed payments, DTI ratio, employment status, account tenure, payment history of last 6 months

2. **Decision Logic**: Use the ML model to flag high/low-risk, and then apply business rules for moderate cases

3. **Actions**: Relief options such as payment deferrals, loan extension will be provided to vulnerable customers facing different hardships such as job loss or medical emergencies. Aside from those high risk customers will be denied of exclusive services with an opportunity to provide additional information or appeal the decision.

How the System Works

4. **Learning**: Monthly re-evaluation of risk model, Customer feedback loop through focus groups or app based feedback and A/B testing for best intervention techniques (e.g. sms or email based alerts)

Role of Agentic AI

- **Fully automated decisions**
  -Flagging the customers as high/moderate/low risk
  -Sending regular sms/email reminders to customers with lagging payments
  -using backpropagation from performance metrics such as accuracy, recall from previous loops
- **Human-reviewed actions**
  -Selecting key variables for risk analysis in Inputs section
  -Deploying risk team for assessing moderate cases flagged during model detection
  -Engaging customer support teams to address high-risk customer queries and communicate denial justifications clearly
  -Setting dedicated feedback collection teams for learning loop

Responsible AI Guardrails

- Confusion matrix for comparing actual inputs vs predicted outputs and keeping an adverserial model for checking groupwise biasing
- Using simple predictive models whenever possible and documenting how the system arrives at key decisions
- Deploying regulatory compliance checking teams at every stage of work flow starting from model evaluation to customer support systems
- Assigning case specialists to review queries of high-risk customers

Expected Business Impact

- **Quantitative outcomes:**

  -Increase revenue per customer over the next 12 months through targeted lending strategies guided by AI and pre-enstablished rules

  -Reduce the delinquency rate in 6 months using AI-based early intervention

  -Achieve a 4x ROI on AI implementation within 12 months by calculating cost savings from automation vs. model maintenance costs

Expected Business Impact

- **Qualitative outcomes:**

  - Keep customer churn low by proactively identifying at-risk customers through model predictions and offering tailored support

  - Maintain low model performance degradation when scaling from 5,000 to 50,000 customers while preserving fairness and compliance

  - Keep adversary model’s accuracy for sensitive attribute prediction below 50% over the next 3 months to ensure model representations are not encoding sensitive group information.

END OF PRESENTATION

THANK YOU