**Reassessment of Alipay: Model vs. Non-Model**

**Introduction** This document provides a reassessment of the Alipay fraud detection system to determine its classification as either an AI/ML model or a rule-based system.

Based on the documents shared by the vendor, it was initially presumed that Alipay maintains two technical fraud detection platforms powered predominantly by local regulator rules, machine learning, graph techniques, AI, and real-time detection techniques. Both platforms use extensive datasets containing information about customers, their transactions, and other relevant data points.

**Definition of an AI/ML Model vs. Rule-Based System** An AI/ML model typically refers to a system that employs statistical, machine learning, or AI-based algorithms to generate predictive or probabilistic outcomes based on input data. Models generally involve data transformations, probability scoring, statistical weighting, or complex feature engineering to arrive at a decision.

In contrast, a rule-based system operates based on predefined rules, deterministic logic, or simple matching processes without employing statistical learning, data-driven optimization, or predictive analytics.

**Rationale for Classifying the Alipay Fraud Detection System as a Non-Model**

1. **Rule-Based System Without Predictive Analytics**
   * The Alipay fraud detection system functions using predefined risk rules rather than statistical modeling or machine learning.
   * Transactions are evaluated against fixed fraud detection rules and thresholds rather than dynamically calculated risk probabilities.
   * The system does not generate risk scores based on historical fraud patterns or probability-based assessments.
2. **Deterministic Logic Instead of Machine Learning**
   * The fraud detection process follows explicitly defined rules and thresholds to assess transaction risk.
   * The decision-making logic does not involve statistical modeling techniques such as regression, decision trees, or neural networks.
   * Transactions are either approved, flagged for manual review, or declined based on rule-based criteria rather than probability-driven classification.
3. **No Model Training or Optimization**
   * Predictive models require training, calibration, and ongoing performance monitoring to improve accuracy.
   * The Alipay fraud detection system relies on static fraud detection rules that are manually configured and updated by fraud experts.
   * No machine learning algorithms are used to adjust fraud detection thresholds based on transaction patterns over time.
4. **Absence of Back-Testing and Forecasting**
   * Model-based fraud detection systems require back-testing to evaluate performance and predictive accuracy.
   * The Alipay system does not produce forward-looking fraud risk forecasts but instead applies fixed logic to assess current transactions.
   * Since the system does not involve probability estimations or scoring methodologies, back-testing is not applicable.

**Final Classification Decision**

* Based on the reassessment and vendor communication, the Alipay fraud detection system is classified as a non-model.
* The vendor has confirmed that this is a rule-based system that does not involve the calculation of risk scores through quantitative techniques.
* The system relies on expert-defined rules to detect suspicious transactions and flag them for manual review rather than employing statistical modeling or predictive analytics.

**Conclusion** The Alipay fraud detection system has been reassessed and classified as a rule-based system because it functions as a fraud prevention tool rather than a statistical or machine learning model. It does not involve predictive analytics, does not generate risk probabilities, and does not learn from historical data. The system determines transaction risk using fixed logic rather than adaptive modeling, confirming its non-model classification.