Fiserv FraudNet Monitoring Plan

# Background

Fiserv FraudNet is a real-time fraud detection tool deployed by the digital bank to monitor ACH and Bill Pay transactions initiated through digital banking channels. The model evaluates each transaction using a logistic regression-based scoring model that is enhanced by a rule-based overlay, which incorporates emerging fraud patterns and business logic. This layered approach allows the model to dynamically adjust its predictions based on new fraud trends and behaviors observed in the bank’s transaction data.  
  
The output of the model is a fraud score that represents the likelihood of a transaction being fraudulent. When this fraud score exceeds a predefined threshold (default: 40), the transaction is flagged as potentially fraudulent, triggering an alert for further review or action. The fraud risk score helps determine the appropriate decision—whether to approve, hold, or block a transaction—either directly within the system or through downstream processes, including manual review.

# Objective

The objective of this monitoring plan is to validate the model's stability, fraud detection performance, and business outcomes using aggregated and anonymized data. It aims to ensure accurate fraud detection, minimize false positives, track model stability, and assess the business impact, such as operational efficiency and customer experience.

# Monitoring Area

| Monitoring Area | Objective |
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| Alert Verification Rate | To track the success rate of fraud alerts (i.e., % of alerts that correspond to confirmed fraud). |
| Missed Fraud Rate | To monitor confirmed fraud transactions that were not flagged by the model (false negatives). |
| Alert Volume and Threshold Sensitivity | To assess whether the fraud score threshold (default: 40) is generating an appropriate number of alerts. |
| Score Distribution Stability | To detect shifts or drifts in fraud score distribution over time that could affect performance. |
| Rule Override Rate | To evaluate the extent to which post-score rules override the base model decision. |
| Rule Effectiveness | To confirm that rule adjustments contribute positively to fraud detection and are not redundant. |
| Latency Monitoring | To ensure fraud scores are generated in real time (<500ms), preserving user experience. |
| Exception Rate | To track transactions that fail to receive a fraud score due to system or data issues. |
| Decision Mix Monitoring | To analyze the distribution of transaction outcomes (Approved / Blocked / Held). |
| Threshold Band Monitoring | To monitor model sensitivity near the threshold (e.g., scores between 35–45). |
| Alert Rate by Channel/Type | To assess alert trends by transaction type (ACH vs Bill Pay) or user segment. |
| Score Drift / Population Shift | To monitor long-term changes in fraud scores that may indicate model degradation or behavior shift. |