CedarBridge Financial

# 02 | AI & Model Inventory

Financial-services AI governance engagement

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| Engagement type | Simulated portfolio case study |
| Organization | CedarBridge Financial, fictional mid-sized consumer lender and digital bank |
| Scope | Enterprise AI and model governance across credit, fraud, customer service, marketing, and operations |
| Primary scenario | CreditPath consumer credit underwriting model and ClearSignal fraud-AI vendor |

This artifact uses fictional systems and synthetic data. It is designed to show governance judgment, model-risk discipline, consumer-protection awareness, and operational evidence rather than to represent any real company or vendor.

## Purpose

The inventory is the authoritative register of AI systems and models used or proposed at CedarBridge. It supports enterprise visibility, risk classification, aggregate model-risk analysis, third-party oversight, and board reporting.

## Inventory fields

Each record captures: system ID, name, use case, lifecycle stage, owner, model type, vendor, input data, output, decision influence, consumer impact, retention, upstream dependencies, downstream systems, risk tier, approval status, validation status, monitoring cadence, and next review date.

## Enterprise AI and model register

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|---|---|---|---|---|---|---|---|
| AI-001 | CreditPath v3.2 | Consumer credit underwriting and pricing | Credit application - approve/decline, APR band, credit limit recommendation | Bank-owned ML model with vendor data feeds | Application data, credit bureau, income verification, transaction-derived affordability | Critical | Conditional approval - remediation required |
| AI-002 | ClearSignal FraudGuard | Real-time fraud detection and transaction hold recommendations | Debit card and digital payments fraud screening | Third-party gradient-boosting fraud model | Transaction history, device fingerprint, IP risk, merchant risk, behavioral velocity | High | Approved w controls |
| AI-003 | BridgeAssist LLM | Customer-service answer drafting and chat support | Digital customer service and complaint triage | Vendor-hosted LLM with retrieval over approved KB | Customer question, account context token, knowledge-base passages | Moderate | Pilot only |
| AI-004 | MarketWise Segments | Marketing segmentation and next-best-offer propensity | Email and app marketing targeting | In-house propensity model | Deposit product use, channel activity, region, lifecycle stage | Moderate | Approved |
| AI-005 | OpsCopilot | Internal operations summarization and drafting | Back-office policy search and meeting notes | Enterprise GenAI workspace tool | Internal documents; no consumer account data permitted | Low | Approved to controls |
| AI-006 | CollectPrioritize | Collections contact prioritization | Collections queue ranking and hardship outreach priority | Bank-owned model | Delinquency status, payment history, account age, prior contact result | High | Assessmen required |
| AI-007 | AML Pattern Monitor | Suspicious activity pattern detection | BSA/AML alert generation | Bank-owned rules + anomaly model | Transaction patterns, customer profile, counterparty risk, geography | Critical | Independen validation scheduled |

## Risk heat map by lifecycle and tier

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|---|---|---|---|---|---|
| Credit underwriting | 0 | 0 | 0 | 1 | ECOA/adverse action, fair lending, explainability, pricing impact |
| Fraud and financial crime | 0 | 0 | 1 | 1 | False positives, account restrictions, regulatory reliance, vendor transparency |
| Customer service | 0 | 1 | 0 | 0 | Hallucinated answers, complaint handling, privacy and recordkeeping |
| Marketing | 0 | 1 | 0 | 0 | Targeting fairness, sensitive inference, opt-out/consent, UDAAP risk |
| Internal operations | 1 | 0 | 0 | 0 | Confidentiality, prompt hygiene, overreliance, record retention |
| Collections | 0 | 0 | 1 | 0 | Consumer harm, fair treatment, hardship handling, contact strategy |

## Aggregate findings

- Two critical systems require executive visibility: CreditPath and AML Pattern Monitor.
- CreditPath has the highest consumer-impact profile because the model directly influences approval, pricing, credit limit, and adverse-action reasons.

- Two vendor-influenced systems require enhanced third-party controls: ClearSignal FraudGuard and BridgeAssist LLM.
- Collections and fraud tools can create customer harm even when they do not formally decide credit eligibility.
- Inventory completeness requires quarterly attestations from Credit, Fraud, Marketing, Customer Operations, Engineering, Procurement, and Data Science.

## Immediate actions

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| Complete CreditPath remediation and approval pack | Chief Credit Officer | 30 days | AIA, validation memo, adverse-action testing, monitoring thresholds |
| Formalize vendor AI addendum for ClearSignal | Procurement + Legal | 45 days | Signed addendum with audit rights, change notice, incident terms |
| BridgeAssist pilot guardrails | Customer Ops + Privacy | 21 days | Prompt policy, escalation workflow, QA results |
| Quarterly inventory attestation | AI Governance Office | Quarterly | Signed inventory attestation and change log |

## Reference basis

This simulated package is informed by the 2026 Revised Guidance on Model Risk Management issued by the Federal Reserve, OCC, and FDIC, NIST AI RMF 1.0, the CFPB circular on adverse-action notices for complex credit algorithms, CFPB guidance on specificity of adverse-action reasons, and the 2023 interagency guidance on third-party relationships. These references are used as design inputs for a portfolio artifact, not as legal advice.