

Black Swan Labs: Month-End Close Exception Finder

AI-powered anomaly detection for financial close processes



Hybrid Detection Engine



Statistical Baseline

Z-Score analysis flags extreme outliers (3.0σ) and moderate drift (1.5σ)



Business Rules

Catches new vendors and first-time GL codes instantly



Isolation Forest ML

Unsupervised learning finds hidden patterns in high-dimensional data



Generative AI

Gemini/Gemma translates alerts into plain English explanations



☆ KEY

FEATURES

Professional Audit Platform



AI Copilot

- Plain English audit notes
- Self-healing API fallback chain
- Executive summaries & action plans

Smart Reporting

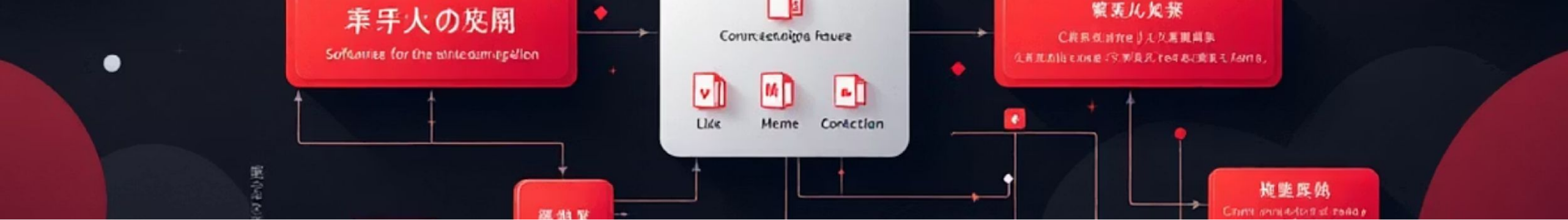
- One-click PDF audit reports
- Key metrics dashboard
- Color-coded severity indicators

Flexible Input

- Synthetic demo mode with fraud scenarios
- CSV upload (SAP, Oracle, QuickBooks)

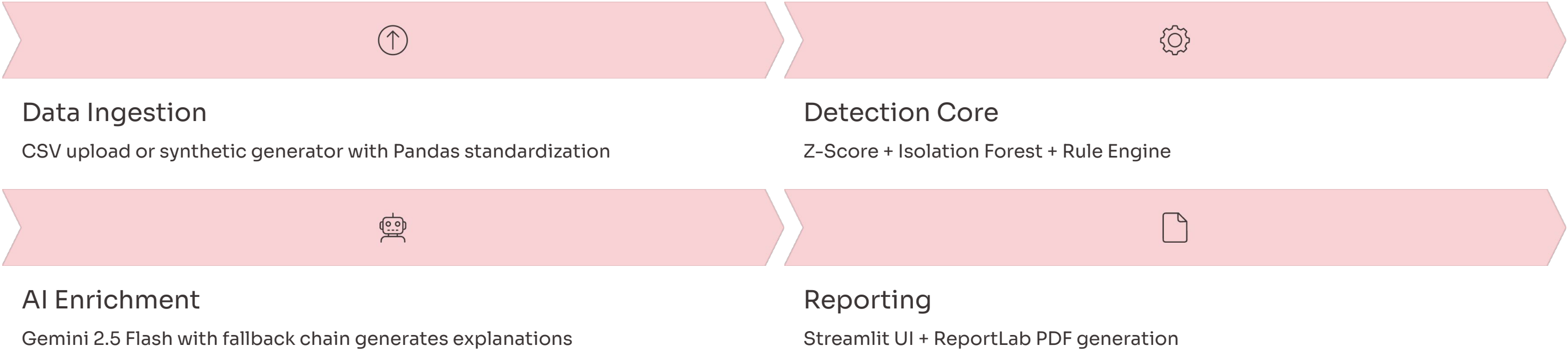
Streamlit Dashboard

- Priority exception queue
- Visual diagnostics with badges
- Full transaction drill-down



ARCHITECTURE

System Workflow



 **Tech Stack:** FastAPI • Streamlit • Google GenAI SDK • Scikit-Learn • Pandas • ReportLab

Business Impact & Future Roadmap

100%

Anomaly Detection

Catches material anomalies and hidden fraud patterns

90%

Faster Close

Automates hours of manual review into seconds

Explainable AI empowers junior auditors with white-box transparency

Next Steps

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1 ERP Integration

Direct API connectors for SAP, Oracle, QuickBooks

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2 Custom Rule Builder

Controllers define specific logic patterns

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3 Feedback Loop

Retrain models based on false positive marking

