Client Health Intelligence & Churn Prevention System

An AI-powered predictive analytics platform that transformed reactive crisis management into proactive client retention.

420%
24-Month ROI

85%+
Prediction Accuracy

£4.6M
Revenue Protected

£78.5K
Project Value

Client: FinBridge Solutions Ltd | Industry: Banking-as-a-Service | Timeline: 16 Weeks

Crisis Situation

£4.6M Lost in 18 Months

FinBridge Solutions, serving 47 UK building society clients, lost millions due to undetected churn signals across 11 disconnected systems.

£2.1M
Coastal Community
340% ticket increase undetected

£1.7M
Yorkshire Mutual
67% API drop unnoticed

£800K
Harbor Community
Payment delays ignored

Data Fragmentation Crisis

- 11 disconnected enterprise systems
- No unified view of client health
- Warning signs invisible in real-time
- 60% time spent on manual research

Business Impact

- 5:1 cost disadvantage vs retention
- £180K avg. client acquisition cost
- 9-month sales cycle for replacements
- Reactive churn discovery only

Client: FinBridge Solutions Ltd | Industry: Banking-as-a-Service

Unified Client Intelligence Platform

AI-powered predictive analytics delivering 6-12 month advance churn warning with 85%+ accuracy.

01

Multi-System Integration

- Real-time connectivity to 11 systems
- Automated entity matching
- 24-month historical analysis
- 15-minute data refresh

02

Predictive Analytics

- 47-metric health scoring
- ML-powered churn models
- 6-12 month forecasting
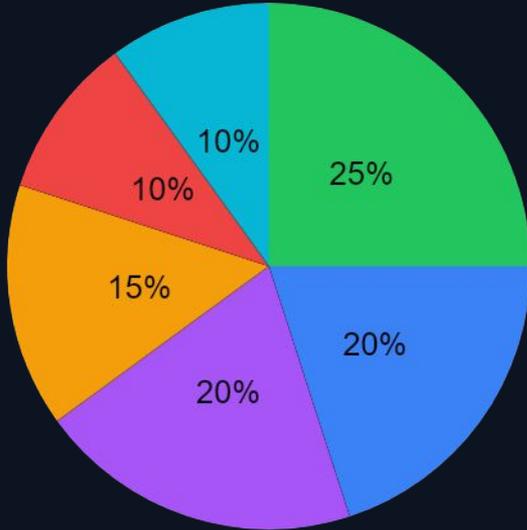- Continuous improvement

03

Automated Alerts

- Multi-tier alert framework
- Automated task assignment
- Action recommendations
- CRM workflow integration

04

Executive Dashboard

- Portfolio health visualization
- Revenue-at-risk tracking
- Competitive assessment
- Performance metrics

47-Metric Health Scoring

6 key dimensions across client lifecycle

25% **Transaction & Usage Health**

API calls, volume trends, feature adoption

20% **Support & Satisfaction**

Ticket volume, resolution time, NPS scores

20% **Relationship & Engagement**

Meeting frequency, response times, stakeholder access

15% **Financial & Contract**

Payment patterns, contract terms, revenue trends

10% **Technical Health**

10% **Strategic & Market**

Multi-Tier Alert Framework

TIER 1: EXECUTIVE

Trigger Conditions
Health score below 65 or churn probability above 40%

Required Action
Immediate executive attention and strategic intervention

Response: Immediate

TIER 2: ACCOUNT MANAGER

Trigger Conditions
15+ point score drop in 30 days or 200%+ ticket increase

Required Action
Proactive outreach and relationship assessment

Response: 24-48 hours

TIER 3: TEAM MONITOR

Trigger Conditions
25%+ usage decline or engagement metrics dropping

Required Action
Monitor trends and prepare intervention strategies

Response: Weekly review

Less than 10% False positive rate   **70%+** Early intervention success   **CRM** Workflow integration

Technical Architecture

Real-Time Data Infrastructure

Apache Kafka, Kafka Streams, Apache Airflow, Spark 3.0+, Apache Camel

Database Architecture

PostgreSQL 15+, InfluxDB 2.0+, MinIO (S3), Redis Cluster

Machine Learning Pipeline

Scikit-learn, XGBoost, TensorFlow, tsfresh, SHAP, Optuna, alibi-detect

NLP and Text Analysis

spaCy, HuggingFace Transformers, BERT Sentiment Analysis

Integration Layer

FastAPI (Python 3.11+), OAuth 2.0 + JWT, WebSocket, Temenos T24, Salesforce, ServiceNow

Infrastructure

Google Cloud Platform, Kubernetes, Docker, Terraform, GitLab CI/CD

Pattern Recognition

Historical churn analysis, multi-system signal correlation

Real-Time Processing

Event-driven architecture with sub-15 min latency

Advanced Analytics

Ensemble ML models, SHAP interpretability

Security and Compliance: SOC 2 Type II, TLS 1.3 / AES-256 Encryption, GDPR Compliant, MFA + RBAC

16-Week Implementation

PHASE 1: Weeks 1-4 | **PHASE 2: Weeks 5-8** | **PHASE 3: Weeks 9-12** | **PHASE 4: Weeks 13-16**

Foundation

- Cloud infrastructure deployment
- 3 primary system integrations
- Basic data pipeline setup
- Quality assessment framework

Integration

- 8 remaining system connections
- 24-month data backfill
- Cross-system entity matching
- Real-time streaming enabled

Analytics

- ML model development
- 47-metric health scoring
- Alert system configuration
- Predictive model calibration

Production

- Executive dashboard build
- Production deployment
- User training program
- Documentation handoff

Key Deliverables

11-platform integration layer | ML churn prediction engine | Real-time streaming pipeline | Executive intelligence dashboard | Complete documentation

Measurable Business Outcomes

420%

24-Month ROI

£78.5K	**£4.6M+**	**4-6 Wks**
Investment	Protected	Payback

Operational Impact

Early Warning Improvement	**10x**
Churn Prediction Accuracy	**85%+**
Account Manager Productivity	**+40%**
Early Intervention Success	**70%+**
Crisis Management Reduction	**50%**
System Uptime SLA	**99.5%**

Expertise Demonstrated

Business and Architecture Skills

Technical Skills

Core Technologies

Python | FastAPI | Machine Learning | XGBoost | TensorFlow | NLP

Data and Infrastructure

Kafka | Airflow | Spark | PostgreSQL | InfluxDB | Redis

Cloud and DevOps

GCP | Kubernetes | Docker | Terraform | CI/CD

Enterprise System Integration

Real-Time Data Streaming Architecture

Predictive Analytics and ML Pipeline Design

Microservices Architecture

Security and Compliance Implementation

ROI Modeling and Financial Analysis

Requirements Analysis and Solution Design

Stakeholder Communication

Change Management Strategy

Project Planning and Execution

Regulated financial services environment expertise

Transforming reactive crisis management into proactive relationship optimization

— protecting millions in revenue while establishing industry leadership

£4.6M   420%   4-6 Wks

Revenue Protected   24-Month ROI   Payback

PROJECT LEAD

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Thank You

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