CASE STUDY

AI-Enhanced Auto Insurance Fraud Detection

Client	Industry	Solution
Multi-State Auto Insurance Provider in Chicago, Illinois	Automotive Insurance Claims Management	AI-Powered Fraud Detection Investigation Support Platform

Challenge

Chicago auto insurer handling 75,000 annual claims experienced $12.4M in fraudulent claim payouts, 15% suspected fraud rate with limited detection capabilities, manual investigation process taking 3-4 weeks per case, investigator time spent on routine cases rather than complex fraud schemes, and difficulty identifying patterns across multiple related claims or repeat offenders across state lines.

AI Consulting Approach

• Historical Fraud Analysis: AI consultants analyzed five years of confirmed fraud cases, claim patterns, and investigator notes to identify detectable indicators using available data sources and machine learning techniques.

• Advanced Risk Scoring Implementation: Machine learning algorithms processing claim characteristics, claimant history, repair estimates, and incident details to flag potentially fraudulent submissions for investigator review.

AI Solution

• Fraud Risk Scoring Engine: AI application analyzing claim details, repair estimates, medical billing patterns, and claimant history to generate fraud probability scores with confidence intervals

• Pattern Recognition System: Machine learning identifying suspicious relationships between claims, including shared addresses, phone numbers, service providers, and incident locations

• Investigator Workload Prioritization: Advanced algorithm ranking flagged claims by fraud likelihood, potential dollar impact, and investigation complexity to optimize resource allocation

• Network Analysis Tools: Sophisticated analytics identifying potential fraud rings through shared contacts, locations, service providers, and timing patterns across multiple claims

Implementation (24 weeks total)

• Data Analysis (6 weeks)

• Risk Model Development (9 weeks)

• System Integration (7 weeks)

• Testing Validation (2 weeks)

Key Results

Fraud Detection:
• $7.8M prevented fraudulent payouts, 8.5% fraud rate (vs. 15%), 92% improvement in fraud detection accuracy compared to manual review processes

Investigation Efficiency:
• 70% reduction in time spent investigating legitimate claims, improved focus on high-value fraud cases, 85% faster case resolution for confirmed fraud

Business Impact:
• $9.2M annual value creation, strengthened fraud prevention capabilities, 285% consulting ROI, enhanced regulatory compliance and industry reputation

Technologies:
• Machine learning risk models
• network analysis algorithms
• investigator dashboard
• claims system integration
• pattern recognition engines