



Anti-Fraud Model for Third-Party Bodily Injury Claims



Executive Summary

Fraudulent insurance claims—particularly staged accidents and low-speed impact fraud—pose significant risks to insurers, both financially and operationally. These fraudulent patterns often go undetected in traditional claim processing, leading to increased payouts and distorted risk assessments.

To address this growing concern, Amlgo Labs developed an Anti-Fraud Model that uses machine learning to proactively identify suspicious claims. The model predicts the likelihood of fraud for third-party bodily injury claims by assessing specific behaviors linked to staged incidents and low-speed impacts. By embedding these insights into stakeholder workflows through intuitive Tableau dashboards, Amlgo Labs helped the insurer improve fraud detection, reduce leakage, and accelerate investigation timelines.

Goals & Approach

The primary goal was to enhance fraud detection capabilities using predictive modeling, specifically focusing on:

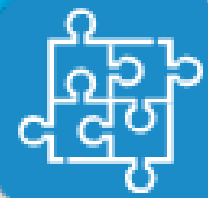
- **Staged Incidents:** Accidents that are intentionally planned to extract fraudulent compensation.
- **Low-Speed Impact Fraud:** Claims exaggerated or falsified from minor, often undetectable collisions.

Amlgo Labs adopted a machine learning-driven solution approach, aiming to:

- **Improve fraud capture rate by detecting high-risk claims early.**
- **Enhance conversion rates through targeted investigations.**

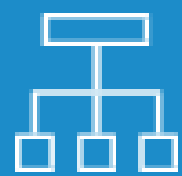
Our approach combined logistic regression modeling with domain-specific fraud indicators, resulting in a practical, scalable framework that seamlessly integrates into the insurer's daily operations.

Solution Approach



Integration with Claims Workflow

The model outputs were seamlessly integrated into the insurer's existing claims management system, ensuring investigators could access fraud insights directly within their daily workflow without disrupting operations.



Model Development

Amlgo Labs used logistic regression to build separate models for low-speed impact and staged incident fraud, identifying patterns in historical claims data.

Visualization & Accessibility

Model results were delivered via an intuitive Tableau dashboard, offering stakeholders clear, actionable insights.

Daily Portfolio Remediation

A daily report with updated fraud scores enabled timely detection and investigation of high-risk claims.

Scoring & Risk Segmentation

Each claim was given a fraud propensity score and classified as high, medium, or low risk, helping investigators focus on the most suspicious cases.



Key Insights & Highlights



Implementation

Logistic regression was successfully employed to model both low-speed impact and staged incident fraud scenarios



Model Outputs

Each claim received a propensity score, dynamically categorized into high, medium, or low fraud risk.



Portfolio Remediation

A daily fraud risk report was circulated to key stakeholders, supporting faster investigation and fraud containment.



Actionable Insights

Seamless integration into Tableau enabled clear visualization and accessibility for non-technical users.

Business Impact

Impact Area	Outcome
Improved Fraud Detection	Increased fraud capture rate by identifying high-risk claims proactively.
Operational Efficiency	Enabled targeted investigation through segmentation, reducing time and effort.
Better Conversion Rates	Focused remediation efforts led to higher fraud confirmation and resolution rates.
Stakeholder Enablement	Tableau dashboards democratized access to fraud analytics across teams.

Conclusion

The Anti-Fraud Model developed by Amlgo Labs delivered a scalable, intelligent, and proactive fraud detection system tailored for the insurance industry. By integrating predictive analytics with business operations, the insurer significantly improved its ability to identify and act on fraudulent claims involving staged incidents and low-speed impacts.

With daily insights, targeted risk segmentation, and intuitive reporting, the solution empowered stakeholders to make faster, smarter decisions—resulting in measurable cost savings and enhanced fraud governance.

Amlgo Labs: Turning Analytics into Action Against Insurance Fraud.

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