

Fraud in Auto Insurance Case Study

Brief Background Problem Statement and Objective

Month on month there has been a steady increase in Auto Insurance claims filing, and of course not all Auto Insurance Claims are genuine, a significant portion of these claims are devised, these can be strictly classified as a Fraudulent Insurance Claim to exploit the vulnerability in the Auto Claims Processing system for illegitimate gain.

Due to an ineffective existing Fraud Detection and Prevention Technique, the average TAT for claim processing has been on the rise, leading to genuine customer's dissatisfaction and an overall loss of good will in the market. Thus, it was necessary for the business to invest in revising the existing Fraud detection models and techniques, making them effective and efficient and continuously innovate to ensure relevance.

After considering the existing Fraudulent claims, the following are the key focus areas in Model development/fine-tuning:

- a) To correctly Identify fake or superficial road accident Insurance claims and to Reject such claims.
- b) Identify suspected Auto Insurance Fraud and Flag such Customers
- c) Risk Trajectory Analysis to identify Fraudulent Patterns and Networks in Data and append the findings to existing rules.

Some Challenges

Existing model being used by Business was traditional and didn't adapt to the newer techniques such as AI driven data mining and real time ML implementation in claims process (and consequently the existing model performed poorly in detecting and relating patterns with sudden spikes in higher volume and high value claims). Business was mildly hesitant in testing the New proposed technique incorporating AI and ML due to following reasons:

- a) New Fraud Reject Model would have immediate impact on claim settlement ratio. IE beyond a certain margin, genuine claims would be Rejected by the Model and thus the need for manual underwriting process which is an additional cost to the Business
- b) Moreover, the New Model incorporates multiple search algorithms which would require much higher and significantly better computing bandwidth.

Solution Offered

Rule Based Decisioning Model developed using AI and ML techniques and implemented to effectively identify and reject fraudulent claims.

Additionally, big volume (historical and up-to-date) data cube prepared and maintained which promotes better Fraud pattern matching.

Final Model Developed using a combination of Variables from the below sources:

- Customer Application
- Employment and Income Details
- Claim Details
- Claim COP Details
- Loss Information

Business Benefits

AI and ML Driven Rules continues to validate and add to Data Cube in Real Time Fraud Detection

Fraudulent claims reduced by ~50% within 6 months of Strategy Implementation
