



ParametricAI Predictive Analytics Software

Background

The global predictive analytics market is rapidly growing at a compound annual growth rate of 24.5% and is expected to reach USD \$21.5 billion by 2025. Companies across all industries and particularly, the fin-tech industry are investing in this technology to mine their transactional databases to gain better customer insight, forecast sales more accurately and improve their market competitiveness. The insurance industry is in most need of predictive analytics as its business model heavily relies on effective forecasting. Predictive analytics empowers insurers to deliver exactly the right product, at the optimal cost, to the right customer, at the right time and through the right channel. Predictive analytics can flag anomalous consumer behaviour and protect against insurance fraudulent which cost at least \$80 billion in fraudulent losses each year in America.

Description of the invention

ParametricAI's predictive analytics software offers a novel way of analysing large sets of discrete data aggregated as a time sequence of histograms and accurately predict how the sequence responds to extraneous factors for forecasting purposes. The methodology is designed to support Bayesian-based artificial intelligence algorithms in the context of accurately estimating conditional probabilities, especially arising from extreme events. Current competitive tools rely on methodologies that have either oversimplified the problem or inconsistently replicated how the histogram changes its location, scale or shape through time; therefore, generating less accurate forecasts.

Waterloo's software addresses all of these issues and has been validated in a water demand use case. Specifically, this technology was able to forecast mean water consumption to within measurement accuracy under anticipated price and weather conditions based on analysis of a large volume of utility-wide residential water meter readings from sequential billing periods.

Reference

10143

Patent status

Issued US 10/977,336, Canadian patent pending

Stage of development

Prototype developed, looking for industry partners to validate results

Contact

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Advantages

- Maximize the utility of your historic record of audited claims by correcting for trends in consumers fraudulent activity.
- Minimize the need to manually audit ongoing claims for fraudulent activity with *ParametricAI's* highly accurate algorithm.
- Accurately track the probability of extreme outliers or exceptions in consumer behaviour, and predict the occurrence in future events.
- Novel algorithm enables more insightful strategic planning and provides the foundation for optimized operations.

Potential applications

- Forecasting and predictive analytics in supply chain industry, high frequency trading and other applications in fin-tech industry, e-commerce industry (macro-level customer analytics).