Algorithmic Insurance
Using Machine Learning and Artificial Intelligence to Make Better Decisions

The Insurance industry continues to undergo significant transformation, with new technologies, business models, and competitors entering the market at an increasing rate. To be successful in attracting and retaining the most valuable customers, insurance companies must innovate and increase the speed at which they respond to customer demands. Traditionally, the insurance software market was dominated by a handful of specialist vendors with products that were initially expensive, difficult to deploy, costly to maintain, and did not provide the speed needed for today's market.

Now there has been a shift away from these "black box" applications to platforms that allow insurers to make their algorithmic IP available to business users, allowing much faster response to business demands. The algorithmic platform approach also comes at a fraction of the cost of black box solutions, while delivering advanced analytical techniques like Machine Learning and Artificial Intelligence (AI).

A DIGITAL NERVOUS SYSTEM

The TIBCO® Insight Platform fuses visual, predictive, and streaming analytics technologies to provide a tool suite for optimizing business operations. It also modernizes the IT environment in a way that lets you avoid risky and costly replacement of core applications. Working like a digital nervous system, it enables you to source the right data, analyze it through various techniques, and implement the resulting insights as a closed-loop solution with built-in continuous learning for use cases such as:

- Dynamic Pricing — Augment models with more sophisticated capabilities (such as Machine Learning) to better understand risk, and price appropriately.
- Predictive Claims — Ensure claims frequency is understood, and predictive analytical techniques are used to minimize the impact of unexpected claims.

TERR AND MACHINE LEARNING

TIBCO® Enterprise Runtime for R (TERR) provides a robust, fast, and enterprise-grade platform on which to run a huge variety of advanced analytics based on the popular R language. For example, the emerging class of Machine Learning algorithms that learn from data and construct the best possible model for each dataset can be used for advanced root cause analysis.

With Spotfire, building an application that leverages predictive analytics such as Machine Learning is a quick and easy process. It starts with a data scientist prototyping an analysis in their environment of choice (R, SAS, etc.), then deploying it to the TIBCO Spotfire® Statistics Services server. This makes it available to a Spotfire application developer who, without any coding or deep understanding of the analysis, can integrate it into a Spotfire application that can be shared with users across your organization.

- Real-time Fraud — Spot potential fraud and stop it before it impacts your organization.
- Contextual Customer Experience — Deliver the appropriate response based on recent interactions across all channels of communication.
- Operational Effectiveness — Automate to improve operational efficiencies.

AI-DRIVEN VISUAL ANALYTICS

Business leaders need information to be presented clearly so they can make decisions or act appropriately. This is where industry-leading data visualization and analytics software TIBCO Spotfire® helps. Spotfire dashboards provide easy to understand information to help quickly bring insights for better decision-making. Claims managers, actuaries, and underwriters can visually immerse themselves in the data and use advanced analytical techniques for quicker understanding and deeper insight.

ADVANCED PREDICTIVE ANALYTICS

Machine Learning methods available in Spotfire identify complex patterns in big data to help make highly accurate decisions. Relationships can be discovered that are otherwise left hidden by traditional analytic models. Using pre-built connectors, TIBCO's embedded engine for R code execution, TIBCO® Enterprise Runtime for R (TERR), projects built in PMML, H2O, and Apache® Spark® ML can also be easily incorporated. TERR has higher performance and more robust memory management and can handle larger data sets in comparison to open source R.

REAL-TIME DECISION-MAKING

Data discovery and big data analytics gives you a view of what happened in the past. Streaming analytics supplies information about the present. TIBCO StreamBase® compiles streaming data and analyzes it in real time. Based on this analysis, tweaks can be made to algorithms in real time, eventually leading to autonomous, real-time decision-making by the platform. Business leaders can then focus on customer experience instead of on the algorithm's ability to provide the right quote or correctly detect fraud cases. As the platform becomes self-sufficient, IT can focus on new innovations and technologies that will further increase the competitive edge that the TIBCO Insight Platform provides.

INSIGHT   ACTION

TIBCO Insight Platform: Closed-loop continuous learning to transform your business

TIBC○®

TIBCO fuels digital business by enabling better decisions and faster, smarter actions through the TIBCO Connected Intelligence Cloud. From APIs and systems to devices and people, we interconnect everything, capture data in real time wherever it is, and augment the intelligence of your business through analytical insights. Thousands of customers around the globe rely on us to build compelling experiences, energize operations, and propel innovation. Learn how TIBCO makes digital smarter at www.tibco.com.