

Automated Underwriting Engine using Big Data and ML

Problem Statement

In a time of change for the insurance landscape, outdated underwriting protocols are not navigating this fast-moving world well and are clearly ineffective, inefficient, and inconsistent. The current state of underwriting is manual, and often utilizes an outdated actuarial table and legacy IT systems. The most typical underwriting process involves the underwriter considering several variables on the customer (age, income, medical history, and policy type). With recent digitalization and proliferation of the insurance industry, we have seen substantial increases in applications, and the manual underwriting processes that populate these applications are creating significant backlogs, unnecessary higher operating costs and extended waiting urgency for solutions to these applications. Without intelligent automation and data driven decision making in underwriting, the insurance organization is not able to render the underwriting decisions that are necessary or warranted in the moment based on current real world risk exposure or evolving customer behavior. Ultimately the impact of this on customers is diminished experience, increased risk of fraudulent claims disbursements in claims processing, and significant level of risk misclassification for the insurance provider at the policy level.

To overcome these limitations, it is acutely necessary to develop an automated underwriting engine based upon big data technologies and machine learning. The underwriting engine could ingest structured and unstructured data on claim histories, income levels, health indicators, differences across cohorts, and churn. The engine could then be trained using machine learning models to evaluate and predict the underwriting risk of each applicant on a real-time basis. An automated underwriting engine would afford insurers the opportunity to make faster, more accurate, and consistent underwriting decisions. The provision of predictive analytics for researching underwriting risk within the underwriting workflow, not only decreases the level of manual processing in underwriting workflows, it subsequently reduces the number of customer commitment errors and the predictive analysis has the potential to elevate the fraud detection mechanisms. An intelligent underwriting engine ultimately helps insurers scale, enhance the personalized features of their offerings and reinforce customers' trust in the insurer as the competitive landscape heats up.