



White Paper

Importance of Continuous Explainable AutoML for Auto-Insurance

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Abstract

A leading international insurance company, specialized in auto insurance, uses TAZI Continuous AutomatedML platform for profit/loss micro-segmentation. The model provides insights on high and low profit micro-segments so that appropriate business actions such as price adjustments and risk updates can be taken on time.

Machine Learning can detect complex patterns in data and make accurate predictions. However, opaque reasoning or complexity of most ML approaches hampering their use and benefits in business practices. TAZI's AutoML system is designed from the ground up to be understandable by business experts, enabling them to trust machine learning and stay ahead of continuously changing business dynamics. TAZI's understandable machine learning includes understanding of machine learning models, as well as inputs, outputs and their business value. Business experts can also take or schedule actions through the model explanation interfaces.

This document describes how the TAZI platform's explainability supports a business user.



Problem

The customer wants to detect the continuously evolving Profit/Loss micro-segments for each policy they write. The profit/loss ratio in auto-insurance for a specific policy depends on the claim risk and also on the earned premium for the policy.

Profit and loss claim detection results must be available months ago, so that appropriate business actions can be taken. Thousands of policies are processed every month. In order to be able to take the appropriate business actions for each micro-segment of customers, the machine learning models used for profit/loss scoring must be understandable by the insurance experts.

The claim risk varies based on many parameters, such as, vehicle, driver, location, driving duration, traffic and weather conditions. Hence machine learning systems that are able to process different (heterogeneous) types of features are needed. In addition, since the regulations, behavior of people, properties of vehicles and environments change, both earned premiums and risk change in time, hence continuous machine learning is needed.

In addition, especially when there are abrupt changes in regulations or economy, risk and pricing also change. There might also be emerging micro-segments with small amounts of data and hence machine learning models have less confidence for those patterns. For both of these situations, the business experts need to be able to update the machine learning models for better performance.

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ABOUT TAZI

Artificial intelligence (AI) is a source of both huge excitement and apprehension, transforming enterprise operations today. It is more intelligent as it unlocks new sources of value creation and becomes a critical driver of competitive advantage by helping companies achieve new levels of performance at greater scale, growth, and speed than ever before, making it the biggest commercial opportunity in today's fast changing economy.

TAZI is a leading global Automated Machine Learning product/solutions provider with offices in San Francisco. TAZI is a Gartner Cool Vendor in Core AI Technologies (May 2019) and is considered as "[The Next Generation of Automated Machine Learning](#)" by Data Science Central.

WHO WE ARE

Founded in 2015, TAZI has a single mission which is to help businesses to directly benefit from Automated Machine Learning by using TAZI as a superpower, shaping the future of their organizations while realizing direct benefits like cost reduction, increasing efficiency, enhanced (dynamic) business insight, new business (uncovered), and business automation.



WHAT WE OFFER

Through its understandable continuous machine learning from data and humans, TAZI is supporting companies in banking, insurance, retail, and telco industries in making smarter, more intelligent business decisions.

TAZI solutions are based on a most compelling architecture that combines the experiences of 23 patents granted in AI and real-time systems, proven at different global implementations.

Some unique differentiators of TAZI products are:

- Business users can automatically configure custom ML models based on their KPI and the available data. TAZI's Profiler accelerates this process through data understanding and automated cleaning, feature transformation, engineering, and selection capabilities.
- TAZI models learn continuously, and are suitable for today's dynamic, realtime data environments.
- TAZI models are GDPR compliant (no black-box models). They provide an
- explanation in the business domain's terminology for every result they produce.
- TAZI supports multiple (heterogeneous) data sources, i.e.,: external, batch, streaming, and others.
- TAZI can learn both from human domain experts and from data, which speeds up accuracy improvement.
- TAZI's hyper parameter optimization feature reduces human time spent for model configuration. TAZI products contain algorithms that are developed and coded to be lean, efficient, and scalable.

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