Success Story

The Operationalization of Machine Learning Models

VW Financial Services reduces the number of manual checks of customer earnings statements by 80% using Machine Learning, enabled by ACTICO platform

actico
Smarter Decisions

Challenge
The high number of manual checks on earnings certificates ties up human resources, which could be better utilized in other tasks.

Solution
- Development of an ML-enabled statistical forecast model, which evaluates the probability of fraud in credit applications and thus, enables the targeted management of questionable applications.
- Operationalization of the forecast model.

Result
- Efficiency gains: the number of manual checks on earnings certificates was reduced by 80%.
- VW FS achieved an annual savings of over 1 million Euros.

The intelligent use of advanced analytics, automation and Machine Learning (ML) is becoming increasingly important for banks in fraud prevention. This approach enables analysis of huge amounts of data more efficiently than ever before, unearthing of suspicious patterns and thus, identifying potential risks at an early stage. This, in turn, reduces effort, increases efficiency and lowers costs.

The operationalization of ML models, in particular, presents companies with major technical challenges. This case study on automated earnings certificate control in the credit risk assessment process at Volkswagen Financial Services shows how the above approach can be optimally achieved by using ACTICO Platform – by the combination of expert judgement rule models and Machine Learning algorithms.

VOLKSWAGEN FINANCIAL SERVICES RELIES ON INTELLIGENT AUTOMATION

At Volkswagen Financial Services (VW FS), the digitalization and automation of business processes is advancing more and more. The global financial services company of Volkswagen AG specializes in sales promotion for Volkswagen Group vehicles. In this specific case, the aim is to improve fraud prevention by automating decisions in Credit Risk Management.

Auto financing – whether in the form of a classic loan or a lease – carries the risk of delinquency i.e. the customer might not pay his installments, as agreed. For this reason, the income situation of the end consumer is a key criterion for risk assessment and an important basis for decision-making when approving credit. A key input in the risk assessment process is the proof of earnings that helps verify creditworthiness, but also uncover possible attempts at forgery and fraud.

At VW FS, manual verification by specialists was very time-consuming and tied up valuable resources. In 2017 alone, 240,000 earnings certificates were checked manually. This is why the auto-financing giant envisioned the introduction of digital processes, Advanced Analytics (AA) and Machine Learning to reduce manual checks and thus, significantly increase efficiency.

The AA team at VW FS initially developed a highly selective forecasting model based on historical customer data – i.e. using applications that resulted in fraud. Machine Learning algorithms based on the widely used Python programming language were used.

CHALLENGES IN THE OPERATIONALISATION OF THE FORECAST MODEL

At the interface between the machine learning processes and the concrete IT applications, two 'incompatible' worlds collided: data scientists working with the Python programming language on one hand and Java-based IT applications on the other. This is where the ACTICO Platform came into play by forming a bridge and bringing the capability of operationalization of ML models over the entire lifecycle: from data collection to model training and monitoring. In this specific case, ACTICO enabled an execution instance for the Python code and thus, for the AA model on a platform already in use at VW FS.

Since then, the decision process that triggers manual checking of earnings certificates has been automated. From the vehicle financing processing system, the application data is transferred to the ACTICO Platform, where it is first validated and checked for completeness. Then comes the actual execution of the model via the Python code: The platform checks the application data for each credit applicant and determines a corresponding score value, which is fed back to the requesting system. The score value indicates whether or not the credit application needs to be manually checked again.

The model also learns continuously using the feedback from the financing process. In this way, the algorithm also detects unidentified fraud patterns, thus ensuring the model's sustained performance. In addition, the ACTICO Platform offers algorithms for explaining Machine Learning decisions that can be used to identify the concrete cause of fraud more quickly.

BUSINESS VALUE: VW FS SAVES OVER 1 MILLION EUROS PER YEAR

By using the AA model developed by VW FS in combination with ACTICO's high performance platform, the number of manual checks were reduced by 80%. This has increased employee productivity enormously, resulting in freeing up of 8.5 full time employees and making them available for other higher value activities within the auto financing giant. Overall, VW FS has been able to realize annual savings of over 1 million Euros with this automation initiative.

OUTLOOK

The case study demonstrates how significant the efficiency gains can be through the combined use of ML processes and intelligent automation. The ACTICO Platform offers an effective solution to overcome the hurdle of operationalizing ML models. It brings data scientists together with the IT department, creates a bridge between the programming languages, Python and Java, and ensures smooth functionality. This reveals a great potential for companies in all areas where ML models are used – regardless of industry, size or department.

Annual savings of 1 million euros *and number of manual checks* ***reduced by 80%.***

Volkswagen Financial Services

Volkswagen Financial Services are a business division of the Volkswagen AG group of companies and comprise Volkswagen Financial Services AG along with its associated companies, Volkswagen Bank GmbH, Porsche Financial Services, and the financial services companies in the USA and Canada that belong directly or indirectly to Volkswagen AG – with the exception of the financial services of the Scania brand and Porsche Holding Salzburg. The key business fields embrace dealer and customer financing, leasing, the bank and insurance business, fleet management and mobility offers.

Volkswagen Financial Services have a total of 16,571 employees worldwide – including 7,414 alone in Germany. Volkswagen Financial Services report total assets of around EUR 223.5 billion, an operating result of EUR 2.96 billion and a portfolio of around 21.5 million current contracts (as at: 31.12.2019)

VOLKSWAGEN FINANCIAL SERVICES

THE KEY TO MOBILITY

ACTICO is a leading international provider of software for intelligent automation and digital decisioning. Its scalable software combines rule-based technology and machine learning in a unique way and is totally audit-proof. It allows companies of all sizes to process huge amounts of data and make and automate AI-supported and rule-based decisions in real time. Through intelligent automation, ACTICO increases the business value of its customers by improving their operational decisions.

The company was originally set up as Innovations Software Technology, but it has been trading as ACTICO since 2015. Today, its customers include leading companies in 35+ countries, including Volkswagen Financial Services, ING and KfW. The company employs 140 people worldwide and has offices in Chicago and Singapore. Its head office is located in Immenstaad, Germany.

More information at www.actico.com

ACTICO

Europe
ACTICO GmbH
Ziegelei 5
88090 Immenstaad
Germany

Americas
ACTICO Corp.
141 W. Jackson Blvd.
Ste 300A
Chicago, IL 60604
USA

Asia & Pacific
ACTICO Pte. Ltd.
#11 - 04, The Arcade
11 Collyer Quay
049317 Singapore

info@actico.com
www.actico.com

actico
Smarter Decisions

06/2020