H₂O.ai

More Accurate, <mark>Real-time Risk Score</mark> with Fast Time-to-Market

airvantage

Highlights:

✓ 10,000 more advances approved per day

✓ Advance rejections reduced by 15%

✓ Evaluation to Production in one month

> *" With H2O Driverless AI's MOJO technology, we are able to integrate strongly with our current infrastructure. "*
>
> *– Marom Mishan, Actuarial Data Scientist, Airvantage*

Executive Summary

Airvantage, headquartered in South Africa, provides cellular telecommunication in over a dozen countries across Africa and the Americas. They offer leading-edge financial products and services which enable Airvantage customers to maintain and extend profitable relationships with their subscribers building loyalty and decreasing churn.

The Airvantage Prepaid Airtime Advance System (PAS) gives Mobile Network Operators the ability to advance airtime, data or mobile money to their subscribers. PAS uses AI to deliver proprietary profiling and a dynamic rules engine for flexible advancing, revenue maximisation, and customer loyalty.

Challenges

When a subscriber uses PAS, Airvantage creates a behavioural risk score. Prior to using H2O Driverless AI, PAS executed a series of static business rules, based on the subscriber's history, to make airtime advance decisions. Because the risk is directly borne by Airvantage, as authorisers of the advance, the business rules' risk score must be defensive to mitigate risk. The danger was not false positives – making advances with undue risk. The problem was false negatives – refusing credit inappropriately. Airvantage needed to know whether the current rule-engine-based risk model was overly cautious and was declining desirable customers. As a result, they used real-world customer data to train a new model that re-evaluates rejections. The Airvantage data science team evaluated over 30 data science toolkits and platforms, and performed Proof-of-Concepts (PoCs) for four of them.

Solution Powered by H2O Driverless AI

Airvantage quickly recognised that H2O Driverless AI best addressed their needs. H2O.ai's laser focus on engineering and solution-building, reflected in the world-leading H2O open-source libraries, gave Airvantage the confidence that this was a product built for real-world use and supported by world-class engineers and data scientists. Adopting Driverless AI meant the team could focus on business value, confident they would get the support they needed. The speed of feature development and modelling with H2O Driverless AI reduced development cycles from weeks to hours. The Airvantage data science team built their first production model within a month of completing the evaluation. The first customer deployment rolled out the model with live A/B testing to continue to test in-place. Because of the ease of deployment that H2O Driverless AI MOJOs offer, the team was able to quickly tune the model to achieve the best results. Airvantage are now approving thousands of additional advances every day with repayment rates that comfortably exceed their targets.
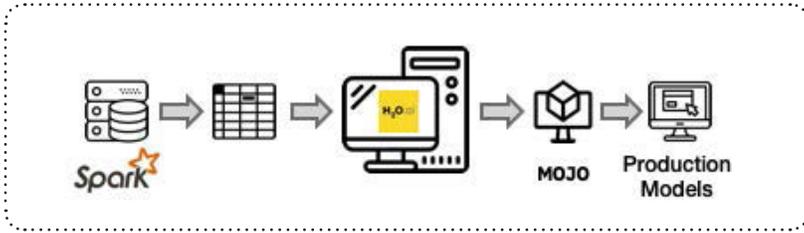
Solution Architecture

The risk model Airvantage built with H2O software augments the business-rules-based model that preceded it, and now delivers more accurate results but still within milliseconds2. The project is already delivering value to Airvantage and their customers. It also makes Airvantage's PAS product a more compelling offering to new customers with no compromise in performance while scaling. Driverless AI can run on very high-performance GPU clusters as well as conventional CPUs; on premises or in cloud deployments. But, in order to lower costs to customers and to respect the sensitive nature of their subscriber data sets, PAS is currently deployed on client premises.

Next Frontier in AI for Airvantage

The improved profitability of existing business and the enablement of new business far outweigh the cost of the project. In addition, the ease of use and the speed of model development means that Airvantage's data science team can now address new opportunities to move Airvantage ahead.

The next step is to roll out the current application to all Airvantage customers around the world and adapt the models to accommodate the very different subscriber behaviour in new markets. H2O Driverless AI addresses the widespread failure of data science projects–transition from development to production. Driverless AI makes it easy to deploy and redeploy tuned or variant models for different markets. The Airvantage data science team is exploring the previously approved advances and asking "Where can we increase the value of approved advances without increasing risk?" And we at H2O.ai look forward to supporting Airvantage and empowering them as they do so.

DATA	ENVIRONMENT
Training Data	**Hardware**
Raw data from customers for training and testing. Feedback from operational use.	Customer deployments are on prem; currently all CPUs. Training & testing on GPUs.
Test Data	**Data Management**
Raw data testing. Feedback from operational use.	Apache Spark.
Features	**Products**
Create many features. Let Driverless AI identify the best. Use about 10 to 20.	Driverless AI. MOJO.

Get Started Today

Driverless AI is helping marketing and advertising companies achieve real business benefits using AI. To learn more about H2O.ai and to get a 21-day free trial of Driverless AI visit us at www.H2O.ai.