

Credit Card Fraud Detection & Modeling

Reduce overall fraud exposure by the analysis of complex transaction data



THE AYASDI IMPACT

A quick analysis increased the fraud detection rate **from 28% to 99%** for a newly identified type of fraud. Increasing the rule stringency with these new parameters, the model still kept false positives at less than 1% while decreasing false negatives from **75% to 0%**. The specificity of the rules that Ayasdi developed made implementing the updated rule set straightforward, and easy to integrate into the pre-existing fraud detection system.

One of the top 5 consumer credit card issuers ("The Company"), with a portfolio of over 50 million accounts, engaged with Ayasdi to better understand and reduce risk and overall loss associated with fraud.

THE PROBLEM

In the United States fraud is a \$200+ billion problem for financial services organizations, merchants, and customers. These enormous losses point to an inherent problem in the way fraud departments currently model and flag fraudulent transactions.

A fundamental shift in spending, transferring, and managing money has occurred as currency has become digital. As the aggregate value of electronic transactions increases, fraud follows suit, and financial institutions are implored to improve their identification of subtle signals in data,

Existing statistical analysis techniques are often not sophisticated enough to detect the meaning of subtle fraud signals. Modelers are unable to evaluate the data in an unbiased manner, nor interact with the whole data set at once.

THE SOLUTION

Prior to engaging with Ayasdi, the Company used incumbent, industry-leading tools. However, these approaches failed to identify subtle, complex instances of fraud. By deploying Ayasdi, the Company was able to build new models, validate existing models, and detect complex fraud in near real time.

Ayasdi's Fraud Modeling Solution addresses the dual challenge of evolving fraud techniques and increasingly complex transaction data. The Company's modelers, empowered by Ayasdi's solution, were able to extract subtle fraud signals from disparate data sets. State of the art machine learning algorithms empowered by Ayasdi's unique Topological Data Analysis (TDA) quickly detect previously unidentified instances of fraud. The Ayasdi Fraud Modeling solution automates and streamlines the end-to-end fraud modeling process while empowering modelers to remove bias and redundant analytic processes.