

Real-time Mortgage Fraud Prevention Through Automation

CAPABILITIES SHOWN



Machine Learning



Data Insights & Actions



Data Management Services



Agile Services



Accelerated DevSecOps

ABOUT THE COMPANY

Navitas Business Consulting is an award-winning, woman and minority-owned, SBA 8(a) certified IT Consulting & Solutions Company. We value passion, integrity, commitment, and collaboration, provide the perfect combination of technology, people, innovation, and expertise, and are committed to helping you improve speed, achieve desired outcomes, and reduce costs. Our core capabilities include multi-cloud enablement, digital transformation, and data and intelligence.



CUSTOMER CHALLENGE

A leading mortgage provider responds to tips received from customers, law enforcement, and citizens on suspect loans and potential anomalous activity. Investigators responsible for fraud detection tried manually checking applications and analyzing datasets to gauge current mortgage fraud trends related to reported fraudulent activity. The client wanted to automate the fraud assessment process and identify, investigate, and prevent mortgage fraud using cutting-edge technology.

NAVITAS SOLUTION

The client engaged Navitas to provide a real-time fraud prevention solution. We formed a nine-member team of developers and an agile coach and started building the solution in a three-phased approach. In the first MVP phase, we built a cloud-native application with a self-service portal for consumers to report tips. We deployed and customized an ML-based COTS solution with classification models to detect prioritized scenarios for loan fraud with limited internal data. The MVP resulted in a quick win, improving internal identification by 200%.

In the second phase, we added integration with external data sources, built custom ML models with automated pipelines for CI/CD, and streamlined model development, deployment, and testing using ML Foundation accelerator built on open-source technologies. In the third phase, we leveraged entity resolution techniques to build an entity resolution model that connected various aspects of the data represented as Tuples and Dossiers. To accelerate the delivery of high-quality code, we used agile techniques, including test-driven development (TDD) and continuous integration and continuous delivery (CI/CD).

THE BENEFITS

10%

reduction in costs due to automation and fewer manual processes

80%

reduction in time spent manually checking the data

\$25

million annual savings on fraud losses

93%

improved accuracy in identifying and determining fraudulent loans