How Ally uses AI to approve auto loans

By Penny Crosman | May 05, 2021

Ally Financial says it has found a way to take much of the manual work out of processing auto loan applications.

It's using artificial intelligence software developed by a San Francisco fintech called Informed.IQ that verifies documents and data in real time. The technology extracts data points from loan documents and compares them with numerous databases to confirm identity, employment, income and other vital information.

Ally Financial in Detroit, which has $182 billion of assets, is not alone among consumer lenders in adopting AI.

According to a survey of nearly two dozen financial institutions by Leslie Parrish, senior analyst at Aite Group, 45% said they use AI in loan origination and 40% said they plan to do so. In addition, 55% said they use AI in fraud detection and 25% plan to do so. The survey was conducted in first quarter of this year and fourth quarter of 2020 and has not yet been published.

"Banks are increasingly using AI across their lending businesses or have plans underway," Parrish said. "They generally are doing so to create more personalized experiences for customers and drive efficiency in their back-office operations."

At Ally, the software deployment sprang from its work with fintechs, according to Dinesh Chopra, chief strategy and corporate development officer.
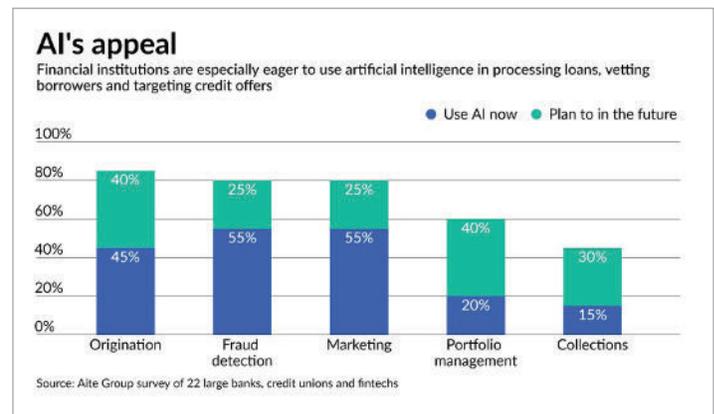
"We are always looking to find best-in-class solutions to provide to our customers, which include both consumers and dealers," Chopra said. "As part of that, we are always out there in the fintech ecosystem, evaluating companies." Ally is part of several accelerator programs, and it incubates fintechs in-house.

A few years ago, Ally bankers met the leaders of Informed. IQ at a technology conference, saw a demo of its technology, tested it for a year in a proof of concept and recently put the software into production.

"We're one of the largest auto lenders; we are always trying to figure out a way to automate" tasks that are routine and manual, Chopra said. "We are on a quest to innovate all parts of our auto value chain."

Ally is using the Informed.IQ software in its contract-processing centers. When dealers submit auto loans to Ally, most are approved in automated fashion because the loan data is simple and straightforward to verify.

But some loan applications trigger what the lender calls "stipulations." For instance, a loan might require a proof of income

AI's appeal
Financial institutions are especially eager to use artificial intelligence in processing loans, vetting borrowers and targeting credit offers

Legend: ● Use AI now ● Plan to in the future

	Origination	Fraud detection	Marketing	Portfolio management	Collections
Plan to in the future	40%	25%	25%	40%	30%
Use AI now	45%	55%	55%	20%	15%

Source: Aite Group survey of 22 large banks, credit unions and fintechs

or residence because the potential borrower recently changed jobs or moved.

When a stipulation occurs, in the past a manual intervention has been needed to clear the application to go to the next step.

Informed.IQ's software consults several databases to verify these data points. Now, far fewer loan documents need manual intervention, Chopra said, though he declined to share any numbers.

He sees three main benefits to the software:

- First, it's faster. "It's real-time verification instead of manually picking every document and checking things like the potential borrower's income," Chopra said.
- Second, it's more accurate than humans can be. AI can quickly check against many data sources and spot anomalies.
- Third, it reduces fraud. For instance, Informed.IQ's software can read all the relevant information off of supporting loan documents such as pay stubs and it can compare them to all the known fraudulent pay stubs that exist on the internet. "If you were to go to Google and search for fake pay stub generators, you'd get 400,000 different results," said Justin Wickett, founder and CEO of Informed.IQ. "A bank like Ally relies on Informed.IQ's AI to crawl the dark web, identify those known fraudulent templates that are ever changing and ascertain any similarity."

Informed.IQ's machine-learning models learn and become more intelligent over time, he said.

"We're able to use that feedback loop to drive decision-making for predictions around fraudulent pay stubs in the future," Wickett said.

One reason Ally chose Informed.IQ over other providers is its ability to integrate with banks' core systems.

"It doesn't require us to redo a procedure or modify the system of record," Chopra said.

It also works with the bank's policies, procedures and data models. "We found it was a turnkey solution that doesn't need rework to generate insights," Chopra said.

Informed.IQ's software also interacts with humans. Where the software cannot confidently verify data in an application, it allows for a credit analyst to be part of that workflow.

Chopra also liked the machine-learning aspect of the software.

"As more data is ingested, it constantly learns," Chopra said. "So it can provide checks and balances."

For instance, if a loan applicant claims to have a certain job, Informed.IQ's model analyzes the person's salary history and determines whether it aligns with what people are normally paid in that type of job.

Chopra would be open to using the software for other types of loans or digital applications.

"We are always open to using technologies that improve the experience for our work with humans and with dealers, and so far we have seen good results," he said.

Informed.IQ is looking to expand into other types of loans.

"We will definitely evaluate them for other loan products and even broadly in other parts of finance as well," Chopra said.

Wickett sees his company's software as modernizing verifications for financial institutions.

"The goal is to free up staff working in the financial institution's back office, enabling staff to focus on higher order functions like serving customers and servicing loans," he said.

Before starting Informed.IQ, Wickett spent a decade doing product management at tech-driven companies like Credit Karma and Lyft.

"It was really at Lyft where I watched drivers struggle through the process of obtaining financing" for their vehicles, he said. Sometimes loan officers would miss deposits on people's bank statements. There were Native Americans with tribal income and hairdressers who worked outside of their salon, getting deposits in their bank via Venmo or Cash App.

"The loan officer didn't know that those were real income deposits on the individual's bank statement," Wickett said. "It was a black-box process."

He and his team created a software product to turn documents into data and data into decisions in accordance with financial institutions' policies and procedures.

"We set out to democratize credit by enabling the biggest financial institutions to give real-time feedback to customers," Wickett said.

"We are always trying to figure out a way to automate" tasks that are routine and manual, says Dinesh Chopra, chief strategy and corporate development officer at Ally Financial. "We are on a quest to innovate all parts of our auto value chain."

The software analyzes the documents loan applicants download using a variety of different machine-learning models. It uses image processing, adjusting for skews and rotations and the like. It classifies documents, for instance by identifying pay stubs. It does entity extraction, pulling the key data points out of a document and assigning them their proper tag (name, company name, date of birth, Social Security number and so on).

It reads information off the documents and compares it against the application itself to make sure what the person says matches the documentation. Because it has processed more than 20 million documents, Wickett said, it has learned to recognize relationships, say, between a pharmacy and the company that bought it.

"Think of Informed.IQ as this giant contributory database whereby we can cross-reference an application against a multitude of different data points," Wickett said. "A lot of what we do is around enabling for lights-out funding and straight-through processing."

The lenders make the credit decisions.

"What we do with 99% accuracy in the case of, say, Ally Financial, is calculate applicant income on behalf of Ally Financial in accordance with Ally's policies," Wickett said. "So Ally will define when, for example, the data elements on a pay stub can and can't be used as part of an income calculation formula. Informed.IQ is automating that."

Informed.IQ started with auto loans because there are 35 million auto loans originated each year in the U.S. The company works with five of the top 10 auto lenders in the country, he said.