

Fintech Company Blocks Fraud Attacks for Financial Institutions With AI and NVIDIA GPUs

NVIDIA Inception member Featurespace uses AI to fight financial crime, including credit-card fraud and money laundering.

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E-commerce sales have skyrocketed as more people shop remotely, spurred by the pandemic. But this surge has also led fraudsters to use the opportunity to scam retailers and customers, according to David Sutton, director of analytical technology at fintech company Featurespace.

The company, headquartered in the U.K., has developed AI-powered technology to increase the speed and accuracy of fraud detection and prevention. Called ARIC Risk Hub, the platform uses deep learning models trained using NVIDIA GPUs to distinguish between valid and fraudulent transactional behavior.

“Online transactions are a prime target for criminals, as they don’t need to have the physical card to transact,” Sutton said. “With compromised card details readily available through the dark web, fraudsters can target large volumes of cards to commit fraud with very little effort.”

ARIC Risk Hub builds complex behavioral profiles of what it calls “genuine” customers by converging transaction and third-party data from across their lifecycle within a financial institution.

Fraud prevention has traditionally been limited by delays in detection — with customers being notified only after money had already left their bank accounts. But ARIC Risk Hub in less than 30 milliseconds determines anomalies in even the slightest changes in a customer’s behavior. It compares each financial event of a customer to their profile using AI-powered adaptive behavioral analytics.

The technology is deployed across 70 major financial institutions globally — and some have reported that it’s blocked 75% of its fraud attacks, Sutton said.

ARIC Risk Hub helps these institutions identify criminal behavior in near-real time — reducing their financial losses and operational costs, and protecting more than 500 million consumers from fraud and financial crime.

Featurespace is a member of NVIDIA Inception , a free, global program that nurtures cutting-edge startups.

Featurespace got its start over a decade ago as a machine learning consultancy. It was rooted in the research of University of Cambridge professor Bill Fitzgerald, who was looking to make a commercial impact with adaptive behavioral analytics, a technology he created.

Applied to the financial services industry, the technology quickly took flight.

“With this technology, you could build a deep learning model that learns from and understands what sorts of actions a person normally takes so that it can look for changes in those actions,” said Sutton.

In the past, it would take weeks for Featurespace to set up and train different deep learning models. With NVIDIA A100 Tensor Core GPUs , the company has seen up to a 100x speedup in model training, Sutton said.

“Compared to when we used CPUs, NVIDIA GPUs give us a really quick research-to-impact loop,” he added. “It’s electrifying to work with something that can have an impact that quickly.”

In the time that they used to run just 10 trials, Featurespace’s researchers and data scientists can now run thousands of tests, which bolsters the statistical confidence of their results, enabling them to deploy only the best, tried-and-tested models.

Sutton said even a 1% increase in fraud detection discovered using the deep learning model could save large enterprises \$20 million a year.

Featurespace typically uses recurrent neural-network architectures on data from streams of transactions. This model pipeline allows an individual's new actions to be assessed via behavioral context learned from their past actions.

Featurespace's deep learning models have prevented all sorts of fraud, including those that involve credit cards, payments, applications and money laundering.

The ARIC Risk Hub interface is customizable, so customers can select the most suitable subset of components for their specific needs. Users can then change analytics settings or review suspicious cases. If upon review a case is deemed to be a false positive, the deep learning model learns from its errors, increasing future accuracy.

Featurespace technology has been making a splash for payment processing companies like TSYS and Worldpay — as well as large banks including Danske Bank, HSBC and NatWest.

As Sutton put it, "Featurespace is using AI to make the world a safer place to transact."

"Our work is what brings a lot of people at Featurespace into the office every morning," he said. "If you're able to reduce the amount of money laundering in the world, for example, you can turn crime into something that doesn't pay as much, making it a less profitable industry to be in."

Featurespace will host sessions on preventing fraud, money laundering and cryptocrime at Money 20/20 , a fintech conference running Oct. 23-26 in Las Vegas.

Register free for NVIDIA GTC , running online Sept. 19-22, to learn more about the latest technology breakthroughs for the era of AI and the metaverse.

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