

Freddie Mac Advances Affordable Housing Goals and More than Doubles Analytics Productivity with AI

In its mission to support affordable, adequate housing, Freddie Mac has applied AI to more than double its analytics productivity – enabling data scientists to scale.

Challenge

Freddie Mac found business intelligence and manual practices didn't scale effectively across 100,000+ customers and nearly four terabytes of data.

Solution

The DataRobot AI Platform automates predictive analytics from data input to managing models in production – for faster insights that drive its mission of supporting affordable housing.

Result

Data scientists have proven concepts 2–10 times faster, saved 1,700+ hours per project, and gained 2.7 times the productivity – speeding time to market and advancing affordable housing goals.

The Limits of Conventional Analytics

Over the last 50 years, Freddie Mac has helped people realize their dream of owning a home more than 80 million times. The company has funded \$11.6 trillion in mortgages and financed \$6 million in rental units.

In 1970, Congress chartered Freddie Mac to support the U.S. housing finance system. Rather than lending directly to borrowers, Freddie Mac buys loans from approved lenders.

As market and economic conditions change, Freddie Mac must remain flexible and continuously deliver on its commitment to affordable, adequate housing. In a sea of unstructured and semi-structured data, it's challenging to achieve meaningful predictions and key insights to inform business decisions. Working with hundreds of thousands of customers, and mining nearly four terabytes of data, they found business intelligence and manual practices didn't scale.

Making Sense of Data – More Quickly and Accurately

Freddie Mac turned to the DataRobot AI Platform to automate predictive analytics from data input through managing models in production. The result: rapid insights that drive its mission.

“With DataRobot, we can analyze these large, complex datasets and gain valuable insights more quickly,” said Lakshmi Purushothaman, Vice President, Innovation in Data Science, Engineering, and Analytics.

The analytics team creates models that span across the organization, bringing value to internal teams, lenders, and their end customers.

AI helps the business make sense of the data. The platform extracts data elements from various text documents and images much more quickly and accurately than with the previous manual approach.



INDUSTRY

Insurance

PRODUCTS

[DataRobot AI Platform](#), [MLOps](#), [AutoML](#), [Auto Time Series](#)

SUMMARY

Freddie Mac makes home possible for millions of families and individuals by providing mortgage capital to lenders. Since its creation by Congress in 1970, we've made housing more accessible and affordable for homebuyers and renters in communities nationwide. We are building a better housing finance system for homebuyers, renters, lenders, investors and taxpayers.

Learn more at FreddieMac.com

Want more information on how you can get these results?

[Learn More](#)

Increasing Analytics Team Productivity by 2.7X

The agency modernized its AI and ML infrastructure, shrinking the MLDev and deployment cycle to deliver meaningful value to the business rapidly.

Ultimately, the Freddie Mac analytics team attributes significant efficiency to the platform:

- 2 to 10 times faster proof of concept
- 1700+ hours saved in model development time per analytics project
- A 2.7X productivity gain for a corresponding jump in time to market

This efficiency means that the data science team can focus on more use cases and scale more readily.

“We’ve been able to shorten the life cycle of development from months to days today with the DataRobot platform,” Purushothaman said.

“We’ve automated the stuff that data scientists didn’t really like doing so they can focus on what really drives change,” added Aravind Jagannathan, Chief Data Officer. “AI/ML has been critical in terms of the efficiency we’ve achieved by allowing us to scale massively.”

Managing Governance and Explainability with an AI Center of Excellence

The DataRobot AI platform offers essential interpretability and explainability for stakeholders and compliance teams. The team saves time and work because the DataRobot platform collects the needed documentation — available in one-click reports.

From the outset of the relationship to the current stage, data scientists work closely with the DataRobot team via office hours and deep-dive workshops to explore use cases and apply best practices throughout the process.

“When I think about how DataRobot has enabled us and supported us with our current use cases or ideas, it’s really tied to helping us with our objectives,” Jagannathan said. “From a customer perspective, I’ve found that’s rare in a partnership.”

Speed to Market at Lower Cost

As Freddie Mac looks ahead, the organization is optimistic about the power and potential of AI to drive its business goals.

“The value is ultimately making sure we’re oriented to the customer always,” said Tatyana Krol, Senior Director of Business Intelligence and Analytics. “We’re augmenting the decision-making with AI and letting people do what they’re best at. It’s definitely going to have a transformative value over the next several decades.”

“We’re reducing the time and the cost in the borrower and the lender experience when it comes to getting a mortgage,” said Michael Bradley, Senior Vice President. “We allow more people to get into homes that they can afford and keep.”



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Aravind Jagannathan
Chief Data Officer

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