



Realizing the Potential of AI in Financial Services

Overcome challenges and deliver on the full promise of AI with the NVIDIA AI Enterprise software suite



The Power of AI Meets the Problems of Scale

The financial services industry is embracing AI.

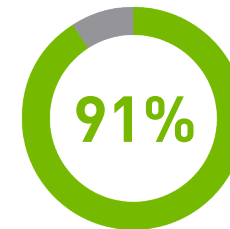
Nearly 80 percent of executives, developers, data scientists, engineers, and IT workers indicated that their companies are using AI-enabled applications, according to NVIDIA's 2022 "State of AI in Financial Services" survey. Across capital markets and consumer finance, a vast majority of those firms reported that AI has already increased annual revenues or reduced costs, some by more than 20 percent. Business Insider estimates that the potential for AI-driven cost savings for banks alone will reach \$447 billion by 2023. The ever-growing list of applications includes everything from fraud detection to portfolio optimization, and NVIDIA's survey showed that firms' deployment of AI in top use cases is skyrocketing.

But almost half of AI projects never make it to production¹, and implementation is hindered by familiar challenges.

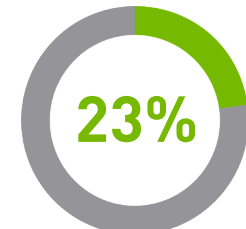
- > **Lack of infrastructure:** AI tooling can be difficult to deploy on legacy infrastructure, and the rise of AI apps is making IT management increasingly difficult.
- > **Data silos and shadow IT:** Investment often happens at a project or team level, on customized bare-metal infrastructure, creating pockets of AI outside central IT control.
- > **Trouble scaling and lagging performance:** Bare-metal infrastructure makes scaling AI more difficult, or data scientists waste weeks waiting for models to train on non-GPU systems.
- > **Cost control:** Disparate IT and unused infrastructure raise overhead and cost per workload.

¹ Gartner "P-19019 AI in Organizations," Claudia Ramos, Erick Brethenoux, 2020

The AI Enigma



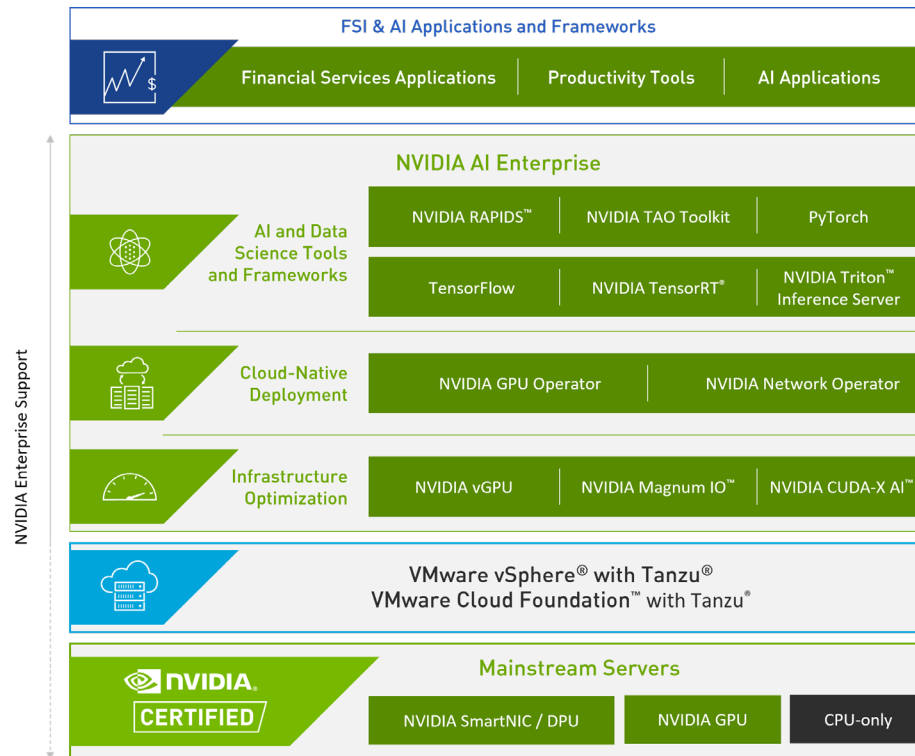
of financial services firms are driving critical business outcomes with AI



of executives trust that their firm can move AI from research to production

NVIDIA AI Enterprise: AI Simplified

NVIDIA and VMware's full-stack software suite overcomes the challenges of scaling and unlocks AI's value while providing quicker ROI. It's interoperable from the hardware to the application layer, offering shared infrastructure for both financial services apps and AI workloads.



Features and Benefits



Simplicity and scalability: NVIDIA-Certified Systems™ and VMware vSphere® with Tanzu®, the industry's leading virtualization platform, offer ease of deployment and scaling for AI workloads while providing a common system for both virtual machines and containers.



Manageability: The solution brings AI into the mainstream data center, eliminating data silos and shadow IT.



Reduced cost: Virtual GPUs and accelerators can be shared, driving down total cost of ownership.



Productivity and performance: Data scientists can focus on core work and train AI models at near-bare-metal speeds.

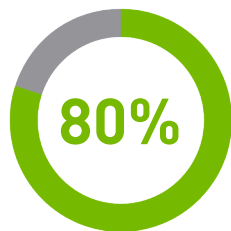
See Immense Savings with Better Fraud Detection

NVIDIA and VMware's enterprise solution allows firms to utilize AI to revamp their approach to many key business drivers.

With online fraud losses expected to reach \$48 billion annually by 2023, improved fraud detection and prevention is the top use case for AI in the financial services industry. Over 30 percent of firms in NVIDIA's 2022 survey reported investments in transaction and payment fraud prevention, making it a priority across banking and fintech—one that often provides the quickest ROI.

NVIDIA GPUs are essential to driving inference speeds in machine learning (ML) models that comb through troves of data. The models scan incoming digital payments in real time to compare them to those of a baseline user, finding anomalies that could signal fraud and may go unnoticed by non-AI systems. In general, AI can achieve 90 percent accuracy in fraud detection models and reduce the time spent on case reviews by a third.

AI apps are also beneficial for creating efficiencies and reducing compliance costs related to anti-money laundering (AML) regulations and know-your-customer (KYC) initiatives. Firms' investments in AI related to AML and KYC grew by 300 percent from 2021 to 2022.



Potential reduction in false positives from AI-powered fraud detection



Build Smarter Trading Systems and Save Resources

Hedge funds, asset managers, and exchanges increasingly look to AI for building algorithmic trading systems, which are powered by advances in GPUs and cloud computing. Unlike conventional algorithmic trading, which requires programmers to update rules, ML-based systems can learn peak trading patterns based on past data while also responding to current market conditions and continuously evaluating their own performance. Price and volume predictions are common uses, and ML models are also capable of adjusting quickly to market volatility.

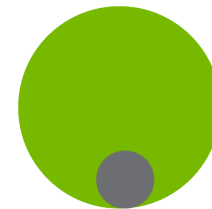
Meanwhile, analysts involved in portfolio optimization can use natural language processing (NLP) to extract a higher quantity of relevant information from unstructured data faster than ever before, reducing the need for labor-intensive research. AI is essential for mining knowledge from constantly updating sources—from brokerage reports to social media—with diligence and speed that can't be matched by staff. These capabilities provide quick, accurate insights that are now more accessible, even for non-technical financial managers.

Personalize Customer Engagement with Conversational AI

Within consumer finance, AI is helping companies create 360-degree views of customers to tailor services and identify new sales and marketing opportunities. Utilizing NLP, call center transcription applications can help evaluate agents, predict customer satisfaction scores, and understand consumer needs to better sell or develop new products.

Call center transcription falls into the larger category of conversational AI, which relies on significant computing power to train chatbots and virtual assistants. Retail banks use such bots and assistants to provide personalized, round-the-clock customer experiences, which frees staff for other high-value work.

Recommendations account for as much as 30 percent of revenue on large commercial internet platforms, so another popular customer-facing AI use is recommendation engines. Within banking, AI-powered recommender systems can improve cross-selling by suggesting best-fitting financial products based on a customer's credit usage, credit score, and account balances.



350%

Financial firms' increased investment in conversational AI from 2021 to 2022

Ready to Get Started?

See what NVIDIA AI Enterprise can do with immediate trial access to [NVIDIA LaunchPad](#), which runs on private accelerated computing infrastructure in VMware vSphere environments. It includes these hands-on labs for AI practitioners and IT staff:

- > Train and Deploy an AI Support Chatbot
- > Accelerate Data Processing, Tokenization, and Train an AI Model to Perform Sentiment Analysis
- > Configure and Optimize VMware vSphere for AI and Data Science Workloads

Learn more about NVIDIA AI Enterprise by visiting the [AI and HPC solutions for financial services webpage](#) and the [online solution brief](#).

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