

FINANCIAL SERVICES

5 Big Myths

About AI, Data, and Machine Learning in Financial Services

Demystify the role and potential of artificial intelligence (AI) and machine learning (ML) in powering positive outcomes for financial services institutions.

Since the release of OpenAI's ChatGPT, the ubiquitous terms AI and ML have been making a splash in the financial services industry.

Generative AI applications are more powerful and easier to use than ever, with use cases that span customer experience and financial operations. It can streamline financial transaction processing by automating routine tasks, managing investments by analyzing market performance, and revolutionizing the world of insurance underwriting.

The McKinsey Global Institute (MGI) estimates that across the global banking sector, generative AI could add between \$200 billion and \$340 billion in value annually, or 2.8% to 4.7% of industry revenues. And spending will only continue to grow: IDC predicts that worldwide spending on AI will reach \$632 billion in 2028.

The ROI of those investments — a historically painful metric to quantify for AI projects — is starting to crystallize as organizations expand to more sophisticated use cases. However, financial services institutions are reporting success. Our State of Observability research shows that ROI on AIOps tools exceeds expectations for 67% of financial services leaders.

Despite the promise of AI, an overall mistrust lingers. According to the Splunk [State of Security in Financial Services](#), 47% of financial services leaders believe that cyber adversaries will have the overall benefit of AI tools. Many are troubled by how adversaries will use generative AI, with 80% agreeing that it will expand the attack surface to a concerning degree.

But the benefits may outweigh the risks. AI tools can already detect complex instances of fraud, provide insight into trading, and assess customer credit profiles.

Now is the time to learn about AI and ML. It's important to clarify these common misconceptions before developing a thoughtful strategy considering the risks and benefits that can impact the financial sector.

47%

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Myth 1

AI, ML, and generative AI are all the same.

AI has created a gold rush effect.

Many products are described as being built with AI. As a result, the term has become a buzzword that has seemingly lost much of its meaning. So, let's try to get some of that meaning back by breaking down the term "AI" to understand what it means.

AI can be split into two categories:

Narrow artificial intelligence (NAI) is a collection of technologies that rely on algorithms and programmatic responses to simulate intelligence.

General artificial intelligence (GAI) is intended to think on its own. However, GAI is a new, complex, and varied category with numerous sub-branches, most of which are still research topics in a lab.

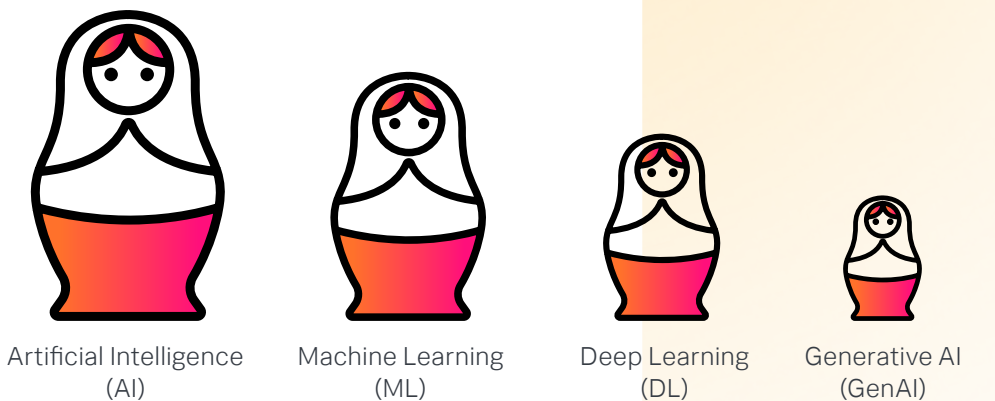
What is machine learning?

Machine learning (ML) is a subset of NAI focused on enabling systems to learn from data without reaching the level of GAI. ML uses rule-based logic, like if-then-else statements, to process data and draw conclusions from patterns, trends, and anomalies, which is particularly useful for detecting fraud in fields like financial services. ML encompasses various types, including supervised learning (using labeled datasets), unsupervised learning (identifying patterns in unlabeled data), and reinforcement learning (learning through trial and error). This allows systems to improve continuously based on feedback and data analysis.

What is generative AI?

Generative AI, also known as GenAI, is a type of ML that refers to algorithms that create content such as text, images, video, and more. While GenAI has existed since the 1960s, generative adversarial networks (GANs) in 2014 revolutionized the field. GANs use two neural networks — one to generate data and the other to detect fake from real data — in a feedback loop, creating highly realistic content, like customer email replies. As AI and ML evolve, their ability to solve business challenges depends on data availability for training.

While AI, ML, and GenAI are often used interchangeably, they are distinct concepts with unique capabilities. AI is the overarching category, with ML as a subset that focuses on learning from data and GenAI as a further specialization capable of creating new content. Understanding these differences is crucial, particularly in financial services, where these technologies can automate tasks, detect fraud, and enhance customer experience. As these fields evolve, the key takeaway is that businesses can leverage these tools to solve complex problems, provided they have the right data and strategy.



Like nesting dolls, generative AI sits within deep learning, a subset of machine learning, which sits within AI.

Myth 2

AI is a magic wand.

As exciting as an AI can be, it's not magic — and there is a time and a place for AI.

Data and proper training are key to successful AI outcomes. For example, a spam filter needs to learn how to differentiate between good and bad emails, and a voice assistant requires extensive exposure to spoken dialogue to interpret speech accurately. Quality matters — “garbage in, garbage out” applies to AI, as poor data leads to faulty decisions.

In financial services, inaccurate or incomplete data fed into an AI model can result in bad conclusions and misleading recommendations. AI is not a plug-and-play solution; it requires human oversight to define the problem, choose the right AI tool, train it properly, and continuously monitor results. Even the most advanced AI systems need careful management to deliver accurate, reliable insights.

AI is not a magic fix — it requires well-trained models and high-quality data to deliver accurate results. Human oversight is essential for defining problems, selecting the right tools, and ensuring ongoing accuracy. What is critical is that humans are in the loop, because AI is still just a tool — yes, a really advanced tool — not a magic wand.



Myth 3

You need a Ph.D to benefit from AI and ML.

While building your models may require a team and a doctorate, embedded AI can help anyone.

AI and ML are complex technologies that can seem inaccessible to the layperson. But you don't need an advanced degree to leverage AI and ML applications, and no use case is too small for smart technology.

Understanding the difference between building AI solutions from scratch and implementing existing tools is crucial. The former is difficult, while the latter is increasingly accessible. Consider the tools you use daily, like email clients and digital assistants; they're complex but manageable without technical expertise.

AI tools are becoming more user-friendly, with self-service analytics platforms and embedded AI features in existing tools, allowing non-technical employees to conduct analysis independently. Beginners can create ML models using pre-built algorithms and intuitive interfaces designed for those without extensive backgrounds in data science.

The push for the democratization of AI is strong, with significant investment in open-source and commercial tools from both legacy and emerging tech companies. Technologies tailored for specific tasks, like detecting fraud using behavioral biometrics, are now more accessible. Although we may not yet have a pure point-and-click AI system, these tools are available to anyone willing to learn.

56%

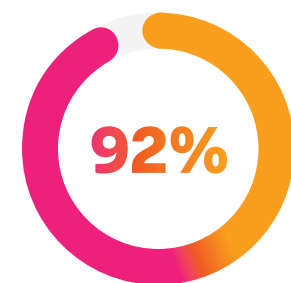
of financial services respondents are already using generative AI features in existing tools to manage downtime.

Myth 4

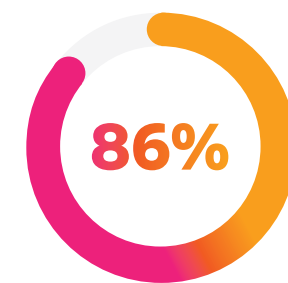
AI and ML will replace me.

Worried that AI will eliminate your job in the near future? You're not alone. In a recent IDC survey, 31% of financial institutions cited they would aggressively cut spending in other areas to fund their investments in generative AI.

But there is a fundamental truth to AI that should help calm your fears: it can't operate in a vacuum. It requires humans in the loop to develop, deploy, manage, and maintain it. That means jobs — even in financial services.



92% of financial services leaders say SOC personnel can lean on generative AI to develop their skills.



86% think generative AI can help them hire more entry-level talent.

AI doesn't have the innate knowledge of business strategy, process, or implementation to decimate employment as we know it completely. In an industry marked by constant change — navigating changing market conditions or migrating business processes to more flexible systems — transitions are often lengthy and require significant human intervention and soft skills to implement successfully. Additionally, a substantial amount of institutional knowledge about business operations, the financial landscape, and the competitive environment is needed. Only through a collaborative effort can an AI tool effectively recommend process automation and reconfiguration activities — all of which ensure that people will remain a key piece of the puzzle for the long haul.

For all of its intelligence, AI isn't always right. AI can not only go wrong — it can go catastrophically wrong. When an AI hallucination happens, a human (with intuition, experience, and the ability to react quickly) is invariably needed to overcome the problem or pick up the pieces. What's worse is that AI tools often don't even know they have made a mistake, which requires even more work from a human who can figure out how to prevent them.

Myth 5

You must have all the data and create your models to use AI and ML.

Spoiler: You don't need terabytes worth of data or teams of data scientists to take advantage of AI and ML.

While it's true that AI thrives on a large and accurate pool of data, your business doesn't need to have all of that data in-house for AI to be useful.

A tool that monitors and analyzes personal accounts collects data from consumer transactions as they go. An AI system that relies on data feeds such as account activity, login history, and transaction types pulls this information from direct sources. There's no need that's "too small." Remember that a tiny improvement in a key business vector can have a significant impact on the bottom line. A system that reduces fraud by only a few basis points could equate to millions of dollars in avoided costs or additional profits. The main challenge is in identifying these opportunities.

If you're thinking of using generative AI, chances are it probably doesn't make sense from a cost (millions of dollars) or time perspective to try and create a model from scratch that will compete with out-of-the-box solutions. But that doesn't mean you can't take advantage of the vast strides being made in AI. With today's options, you can take advantage of the burgeoning marketplace of AI offerings and look for a domain-specific solution that suits your needs or something pre-built that you or your team can tailor.

71%

of financial services professionals believe generative AI will enable seasoned security professionals to be more productive

Truth: AI is here to stay.

While AI can be a game changer that takes your financial institution to the next level, taking your first steps with AI and ML doesn't have to be a monumental undertaking. With AI now embedded within enterprise software, you can gain the benefits and efficiencies it can drive without building it yourself.

If you want a tailored solution, numerous tools on the market let you experiment with AI in a sandbox, targeting small "problem areas" that might have long stymied your attempts at improvement. The important thing is that you need to get started soon to gain the value driven by AI before your competition jumps ahead of you in the marketplace.

AI is already having a profound impact on the bottom line of businesses that were early movers in the field. Companies see improvements in customer satisfaction, decreases in downtime, and better overall employee productivity. There's no blanket AI tool and no single metric that will improve once these tools are implemented, it's up to you to determine where to target AI based on the specific challenges you see in your organization.

Of course, getting there means overcoming some hurdles. You may have to educate nervous staff members about the realities of AI and job displacement. Turn those fears around by showcasing how AI can improve their work lives, free up their time to work on more exciting initiatives, and brighten their future career prospects.

While AI is already showcasing real-world results, the future of these tools is even more exciting. It's a journey, however, that you need to begin today.

[Learn more about Splunk for Financial Services](#)

TransUnion Invests in Splunk Solutions for Enterprise Monitoring and ML

Challenge

To streamline IT operations and improve customer experience, TransUnion needed an established customer activity baseline to track anomalies, as well as a way to visualize and combine machine data from multiple applications.

Solution

With Splunk IT Service Intelligence, automation, and ML algorithms in place, TransUnion has gained unprecedented visibility into its end-to-end transaction flow, allowing the organization to alert customers to anomalies and keep them happy and secure.

Outcomes



Improved MTTD and MTTR to meet customer SLAs



Reduced the number of false alerts



Increased revenue by improving transaction processing



Understanding customer volume patterns is important for the business. If traffic falls outside of a certain range, an alert is created. Splunk ML allows us to investigate early to ensure a seamless customer experience.

– Steve Koelpin, Lead Splunk Developer, TransUnion