TROVATA

GUIDE

The Finance Professional's Guide

to Everything AI, ML, and ChatGPT

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Today's Finance Department Deserves Cutting-Edge Tech

Since ChatGPT came onto the scene, everyone's been hungry for a way to put it to work in their professional and daily lives. We thought we'd have flying cars by now, but we think it's safe to say that the promise of today's AI makes up for it. If AI can make us better at our jobs, then our lives will improve significantly - and just maybe, AI will build those cars *for us!*

The explosion of AI in 2023 is all the more timely, since, in corporate finance, we've reached a point where the status quo is no longer feasible for long-term growth. Typical workflows slow teams down, requiring them to download data across many bank portals to then normalize and format it in spreadsheets manually.

This manual process becomes even more time-consuming as your organization scales. Not to mention, in the post-Silicon Valley Bank era, where organizations are increasingly adopting a multibank strategy, the process takes even longer.

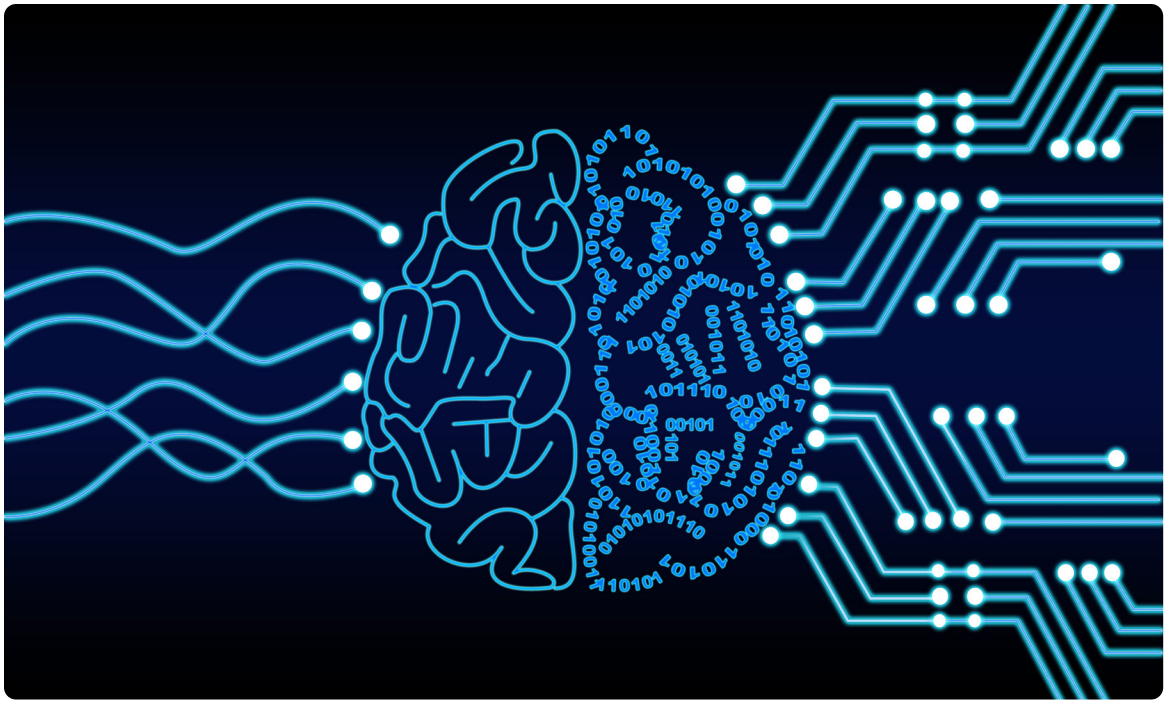
According to a recent survey by Treasury Dragons, 31% of treasurers found that a significant constraint to cash forecasting was a lack of time and resources. When your team doesn't have the proper resources, both its morale and confidence in the data will suffer.

This is why it's critical to be in-the-know of the latest and greatest tech to help you and your team reduce time spent on manual tasks, increase the accuracy of its reports, and gain more time to spend on the kind of analysis that leads to informed decisions.

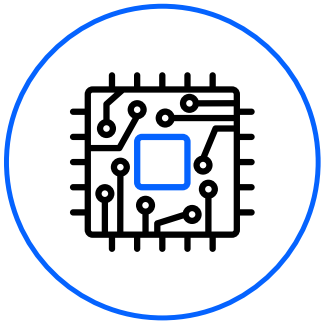
One area of tech that's already perfectly poised to help you do just that? You guessed it. Artificial intelligence (AI) and machine learning (ML).

In this guide, we'll cover the ways you can use AI/ML across all areas of finance, brand new generative AI tools for finance, and reasons why you should start using AI today.

First, let's review the basic concepts of AI and ML.

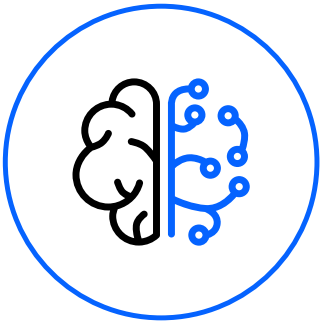


What are Machine Learning and Artificial Intelligence?



Machine Learning (ML)

ML empowers computers to learn without explicit programming or intervention once initialized. ML algorithms analyze new bank data as it comes in to find patterns.



Artificial intelligence (AI)

AI leverages machines to mimic human problem-solving capabilities. These algorithms make inferences based on analyzed data and provide recommendations.

Narrow AI: The AI We All Know

Narrow artificial intelligence is a specific type of artificial intelligence in which a learning algorithm is designed to perform a single task, and any knowledge gained from performing that task will not automatically be applied to other tasks.

This is the form of AI that has existed for years, for example, it's how Spotify recommends you new music based on your preferences.

Generative AI: The Newest Wave of AI Igniting a Tech Revolution

Generative AI is a type of artificial intelligence technology that can produce various types of content including text, imagery, audio and synthetic data.

The recent buzz around generative AI has been driven by the simplicity of new user interfaces like BARD, ChatGPT, and Dall-E that can create high-quality text, graphics and videos in a matter of seconds.

Today's Real-World Applications of Narrow AI and ML in Finance

Now, let's take a look at some of the ways AI and ML are used in the world of finance already. All of these examples will involve narrow AI, but, as we'll discuss later, we can anticipate much to come from generative AI.

Financial Forecasting

AI can be used to analyze historical financial data and make predictions about future market trends. You can leverage ML for forecasting as well to establish a forecast baseline. ML analyzes historical data to help forecast potential future results.

This historical data, augmented with known events, can give a complete picture of your organization's health.

Cash Reporting

Banking APIs can work in tandem with ML to aggregate bank data from multiple portals, saving you from having to do this task manually.

For example, in Trovata, as your bank data enters, machine learning analyzes it, standardizing and normalizing it. This enables you to view the data across all accounts, balances, and transactions.

Then, you can organize cash inflows and outflows into specific datasets using tags, enabling your treasury to search and filter transactions across key vendors and institutions. In addition, these tags can be leveraged for future cash reporting and forecasting.

Invoice Reconciliation

AI has a lot of potential in invoice reconciliation. Invoice reconciliation is the process of matching invoices from ERP systems to bank transactions.

This is an important step to make sure businesses are not paying for a service or something that they did not receive.

AI, and more specifically, **Natural Language Processing (NLP)**, can be used to streamline this process.

What is Natural Language Processing (NLP)?

NLP drives computer programs that translate text from one language to another, respond to spoken commands, and summarize large volumes of text rapidly.

An example of how it's already being used in finance is Trovata's NLP. It provides Trovata users with a Google-like search ability to access any transaction data instantly, even when searching through thousands of transactions. Any

search they perform can be used to create customizable data sets, which can be leveraged to generate real-time cash reports and forecasts on the fly.

Anti-Money Laundering

One way that AI is used in anti-money laundering (AML) is through the use of machine learning algorithms, which can be trained on historical data to identify patterns that are indicative of money laundering.

These algorithms can analyze data from a variety of sources, including bank transactions, customer records, and other public and private data, to identify suspicious activity and generate alerts for human analysts to investigate further.

Another way that AI is used in AML is through the use of natural language processing (NLP) and text analytics. These technologies can be used to analyze large volumes of unstructured data, such as emails and other electronic communication, to identify suspicious language and activity.

Overall, the use of AI in AML can help financial institutions and regulatory agencies more efficiently and effectively identify and prevent money laundering by automating the detection process and allowing human analysts to focus on the most high-risk cases.

Other Uses of Narrow AI in Finance

Risk Management
AI can be used to analyze large amounts of data and identify patterns that may indicate financial risk.

Fraud Detection
AI can be used to detect unusual patterns in financial transactions that may indicate fraudulent activity.

Personal Financial Management
There are applications that use AI to provide personalized financial advice to individuals based on their unique financial situations.

Trading
AI can be used to analyze market data and make trades based on that analysis.

Credit Scoring
AI can be used to analyze financial data and provide credit scores to lenders, which can help them assess the risk of lending to a particular borrower.

Fraud Prevention
Lastly, AI can be used to analyze financial transactions and detect unusual patterns that may indicate fraudulent activity.

5 Ways Finance Teams Are Using AI & ML For Enhanced Decision-Making Today

1. Categorize Data And Deliver It Where And How It Is Needed

Machine learning and artificial intelligence were developed to solve constraint issues within data analysis.

For finance teams, a common constraint is the manual practice of accessing balance and transaction data. Typically, teams that rely on spreadsheets still have to search through many bank portals and consolidate data into one common format.

There's an inherent flaw to a manual data management approach: As hard as we try as financial professionals, we can't eliminate unconscious biases. Manual data management and analysis often lead people to finesse data to fit their own conclusion.

Banking APIs take humans out of the data consolidation process. These APIs automate the consolidation and normalization of bank data, establishing a single source of truth.

This way, banking data is normalized into an unbiased format. Still, analysis needs to occur to transform data into insights.

That's where machine learning algorithms are useful. ML empowers cash management platforms to incorporate advanced search tools. Depending on specific keywords and tags, the algorithms analyze your organization's bank data in seconds and collate the most relevant transaction list into a data set.

2. Increase Opportunities For Scenario Planning and Risk Assessment

Machine learning and artificial intelligence make generating a forecast baseline and other scenarios easier as they help spot trends over time. By implementing user-defined variables, such as a decrease in sales, ML and AI can analyze the data foundational to your forecast and generate new scenarios.

New scenarios can help you understand the risks associated with certain investments and market changes so you can make more informed decisions.

3. Create Contingency Plans That Address Economic Trends

To create contingency plans, you must understand operational and market threats that could affect cash flow, such as:

- Potential operational bottlenecks: These bottlenecks could involve logistic or revenue recognition issues.
- Data inaccuracies: If your bank data is not up to date or accurate, you may experience the phenomenon we call GIGO (garbage in, garbage out). If you have garbage data crafting your cash forecast, your forecast is going to provide garbage insights.
- Sudden market changes: As we experienced in the pandemic, industries and markets shutting down can have a dramatic impact on cash flow.

Machine learning and artificial intelligence can help you formulate contingency plans by analyzing these factors' effects on future cash flow.

4. Improve Cash Forecasting Accuracy

One of the biggest benefits of using machine learning algorithms for finance teams is you can leverage machine learning to establish a forecast baseline. ML algorithms can automatically learn and adapt to patterns in data, whereas traditional statistical models require the user to specify the

patterns in advance. This is why ML often makes more accurate forecast predictions than traditional statistical models.

In addition, ML algorithms can handle large amounts of data and can be trained on a diverse range of data sources, which allows them to make more nuanced and reliable forecasts. As a result, ML algorithms are increasingly being used in a variety of forecasting applications, such as demand forecasting, financial forecasting, and weather forecasting.

If you're unsure about an ML-based forecast, you can back up this confidence through variance analysis. Automated cash management platforms with variance analysis capabilities make it possible to determine your forecast's accuracy for any given period. Knowing your accuracy rate can help you gauge whether you need to review your assumptions as time goes on.

5. Increase Confident Decision-Making

The bleeding edge of machine learning and artificial intelligence in forecasting is around the mutation of models. These algorithms are always reviewing and cleansing data for forecasting models. Your model can then react to anomalies in that data over time and start to predict more reliably given the input your team applies.

That's really where the future of forecasting lies. Forecasting with these algorithms addresses that humans can work together with technology to continue to craft and evolve cash flow forecasting models. This is because they can process vastly more information than people can and do it in a way that respects the insights that the person is driving.

By having a guiding hand that increases forecasting accuracy, you can remain confident that you are making decisions with the right data.

What the Future Holds for AI in Finance

Due to a whole host of reasons, it's downright impossible to predict exactly where AI will go in the next five to ten years in general, let alone in finance.

But, it is certain that AI will continue to be adopted in a variety of financial applications, such as risk management, fraud detection, and treasury management.

> **Experts believe that AI could be used to automate much of the financial industry, from executing trades to providing investment advice. However, it is also possible that the adoption of AI in finance will be slower than some expect, as financial institutions may be hesitant to fully rely on AI due to regulatory and ethical concerns.**
>
> **Overall, it is likely that AI will continue to be used to automate and streamline various financial processes, ultimately making the financial industry more efficient and effective.**
>
>  **Francisco Perez Leon**, VP of Machine Learning, Trovata

One thing we know for sure? It's time to apply generative AI (like ChatGPT) to finance.

ChatGPT for Finance?

Remember that GPT technology is only as smart as its source material. If you want to use it in your finance team to make reporting easier, consider where and how it will pull your financial data. Make sure it is working off the most accurate and up-to-date data, and even then, a human will be needed to review the outputs and insights it gleans.

However, over time, GPT is going to become more advanced with less human intervention needed and even more applications of it will become available.

At Trovata, we're bullish on GPT technology and believe in its potential to boost human productivity and empower finance teams.

Which is why we've launched Trovata's AI assistant for finance and treasury teams.

The First Generative AI Assistant for Finance & Treasury

What if you didn't have to worry about questions being thrown at you in a meeting because you knew you could get the answer in seconds? What if there was a tool that could supercharge you, a finance professional, into the smartest person in the room?

With Trovata's new generative AI assistant for finance and treasury teams, that reality doesn't have to be a 'what if' any longer.

Trovata AI's open finance platform works in concert with OpenAI's Large Language Model (LLM) to marry the power and breadth of answers that ChatGPT can provide with the pinpoint accuracy of finance and treasury tools.

With Trovata AI, you can complete financial scenario planning, answer complex financial questions, or compile financial reports in seconds.

How Does It Work?

First of all, you might be wondering, "How can I trust what it generates?" Understandably, there has been much skepticism about generative AI in finance due to fears of inaccuracies in financial modeling and mathematical calculation.

However, within our platform, we developed a patent-pending methodology for prompting that allows ChatGPT to take advantage of Trovata's analytics and bank APIs (while maintaining security and privacy).

Essentially, we trained ChatGPT to be able to use Trovata for you – drawing insights from your data and reporting on it on your behalf, instantly.

Trovata customers will be able to ask Trovata AI open-ended and complex questions such as:

- Give me a report showing all of my company's cash outflows by cash flow type.
- Provide me with a list of cash inflows in USD greater than $10,000 for the past month in descending order.
- What is our company's cash high and low point in total across all banks and bank accounts in the last 12 months?
- What is our company's burn rate for the past year?
- Build me an FBAR report in a format I can file that meets IRS guidelines.

All while continuing to interact with the conversation as if speaking to a live person with follow-up questions like:

- Can you reformat the data to be rounded to the nearest whole?
- Put the table into a stacked bar chart.

For example, you could ask Trovata AI, "Show a year over year comparison in a table of my total ending cash balance each month for 2022 and 2023."

And this is what you'd get:

Here's the query to compare the total ending cash balance for each month in 2022 and 2023 in a table format:

Month	Year	Total Ending Cash Balance (USD)
2023-04-01T00:00:00+00:00	2023	32780537.82
2023-03-01T00:00:00+00:00	2023	57140282.2
2023-02-01T00:00:00+00:00	2023	45923623.28
2023-01-01T00:00:00+00:00	2023	49392405.21
2022-12-01T00:00:00+00:00	2022	53248206.01
2022-11-01T00:00:00+00:00	2022	51659812.9
2022-10-01T00:00:00+00:00	2022	49867103.89
2022-09-01T00:00:00+00:00	2022	49149668.9
2022-08-01T00:00:00+00:00	2022	45800354.62
2022-07-01T00:00:00+00:00	2022	39168730.12

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Then, you can ask it to manipulate the output further, for example, make the table easier to read:

Here's the updated query to show the actual month name in the table:

Month	Total Ending Cash Balance (USD)
April 2023	32780537.82
March 2023	57140282.2
February 2023	45923623.28
January 2023	49392405.21
December 2022	53248206.01
November 2022	51659812.9
October 2022	49867103.89
September 2022	49149668.9
August 2022	45800354.62
July 2022	39168730.12

Why Every Finance Professional Should Embrace AI

Since the launch of ChatGPT, it's been said that AI has reached the knee of the exponential curve in development. According to Ray Kurzweil, a well established futurist with an impressive record for correctly predicting the future of technology, the knee of the curve is the point at which people begin to notice that technology is changing quickly and where the explosion in development takes off.

This is already apparent in the finance profession. A recent survey conducted by Strategic CFO and Vic.ai found that many organizations are planning to increase their investments in AI. The survey also revealed that of 145 CFOs, 58% planned to "increase their investment in automation" through 2023.

So, it's safe to say that AI is only going to advance and disrupt how we do things at increasingly fast rates. Eventually, applying AI in a finance function will be table stakes.

This is why you hear so many enthusiasts keep saying,

"AI will not replace you. Someone using AI will."

Three Key Steps to Take Advantage of AI

1. **Shift your mindset:** Don't see AI as the enemy, but rather as a tool. People are not being replaced by AI, but by humans using AI.

2. **Make friends with disruption:** Face the fact that AI will disrupt your industry and identify your vulnerabilities.

3. **Master relevant AI tools:** Learn everything you can about the AI tools that are relevant to your job and become an expert in them.

If you can achieve all three of these steps, you can become indispensable to any finance and leadership team.

That's because, according to a Tradeshift/CFO Dive survey of 300 finance professionals, 37% said they "lacked the internal expertise to properly analyze their financial data."

To address this gap, finance departments will have to find ways to build internal expertise in 2023. AI will be a fundamental tool to leverage in doing so.

AI & CORPORATE FINANCE: A REAL-WORLD EXAMPLE

CrowdStrike's Treasurer Implemented AI, Enabling Better Decisions, Anomaly Detection, & Increased Accounting Efficiencies

Global cybersecurity leader, CrowdStrike, saw its revenue increase two-fold while cash and cash equivalents climbed from just over $250 million in January 2020 to over $2 billion as of April 2022. That's when its treasury reached a tipping point which sparked their search for the right treasury management tool.

Due to its already overburdened IT department and the nature of its lean team, CrowdStrike's Treasurer, Priti Kartik, quickly realized they would have to carve their own path (versus opting for a legacy TMS) and turn to emerging solutions that could help it to scale and automate treasury, aided by AI.

In the end, CrowdStrike adopted Trovata, an AI-powered cash management platform which, with its direct API connectivity, was able to link to all of its banks and accounts in less than a month, providing CrowdStrike's treasury team full visibility over its $2B+ cash balances.

In addition, with the boost of machine learning (ML) algorithms, CrowdStrike was able improve data accuracy, categorize transactions, and forecast various scenarios on the fly. **For this novel digital transformation, Kartik even helped CrowdStrike earn recognition at the 2022 Eurofinance Awards.**

How CrowdStrike runs treasury, before and after AI cash management automation:

BEFORE	AFTER
95% efforts in data collection, 5% in data analytics	100% efforts in data analysis; 0% in data collection
No ability to visualize cash	Advanced cash analytics for data-driven decisions
Reliance on human for error and fraud detection	Real time "anomalies" identification enabled catching erroneous bank fees
Spreadsheet-driven cash forecasting	Machine learning + human intelligence backed cash forecasts
Accounting spent ~40 hours per month on reporting; plus ~10 hrs to identify ZBA activities in statements, plus additional hours for manual daily reconciliation	Instant, automated reporting and effortless daily reconciliation

Continue Learning About AI and ML

By now, we hope you have a clear idea of how your finance team can implement AI and ML as well as understand how critical it is for any forward-thinking business.

As Trovata's Chief Product Officer, Joseph Drambarean, mentioned, "We're still in the Wild West of AI and ML." So, keep your eyes peeled for new ways you can rope it in into your daily practice, because if you do, the return on investment is only going to be sky-high.

Here at Trovata, we're glad to form part of the exploration, launching the first generative AI assistant for treasury and finance teams as our latest endeavor. We're working to keep bringing AI and ML to treasury teams who deserve to use best-in-class tools that leverage not only those, but automation and cloud technology for cost savings, scalability, flexibility, and a high degree of connectivity with open banking APIs.

Our internal R&D team have many projects underway to bring even more capabilities that leverage AI within Trovata, so stay tuned!

Better yet?

Get Started Today

Further Resources

Podcasts

- Listen to the Fintech Corner podcast episode, "Can We Trust ChatGPT? Going Down the Rabbit Hole of AI" where Trovata CPO, Joseph Drambarean, and Kevin Bell, Trovata's Head of Client Solutions discuss AI for finance.
- Listen to various episodes of the AI in Financial Services Podcast by Emerj, the AI Research and Advisory Company

Articles

- Trovata Launches First Generative AI Assistant for Finance and Treasury
- ChatGPT for Finance: Can It Be Trusted?
- Machine Learning for Cash Forecasting: Top 5 Benefits
- Why CrowdStrike is Leading the Way for Scaling Tech & Startup Treasuries to Digitally Transform

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Today and Tomorrow

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