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8TH ANNUAL

STATE OF

Data Science & AI Report

How Companies Are Moving Ahead—Or Not—in the AI Race

The Big Picture

The AI Race is On, but AI Developers Say Companies Are Still Learning to Tie Their Shoes

Right now, companies using AI are caught in a messy middle between experimentation, iteration, ROI, and scalable value. There's enthusiasm around leveraging AI and incorporating it more into workflows. However, that eagerness often isn't matched with a cohesive strategy, which can limit innovation and adoption while slowing down and impeding the value and impact of AI for businesses and their customers.

To better understand how companies are deploying and implementing AI and where common roadblocks may lie, we surveyed software and AI engineers, data scientists, and others in similar roles. Their responses highlight some encouraging trends moving forward, as well as areas ripe for improvement.

One of those areas is the lack of clarity with AI usage: only 22% of respondents say they would describe their organization's AI deployment as strategic. That's fewer than one in four companies that have a targeted plan around their AI usage. The rest of the class might need to take a step back and re-evaluate what they're really hoping to achieve.

An unclear or absent strategy can limit the productivity of AI initiatives. Over 57% report that it takes over one month to move from development to production of AI projects. This delay indicates a lack of cohesion among teams. A unified and clear strategy results in faster time to value and innovation, reducing model-to-production cycle times from months to days.

That translates into long-term adoption, as well: 75% of respondents say employees and customers don't begin using AI tools until 1-6 months after they're deployed. Additionally, over 30% say trust is either still developing or is non-existent after 3 months or longer.

As AI-assisted workflows and production use cases increase, companies are at a critical junction. The difference between those who find success and those who spin their wheels is in strategic approaches to AI usage, and in confidence and organizational support. This report will explore where the greatest value in AI tools lies and what's holding users back. It will also dive into overlooked opportunities and ways for companies to move forward faster. Consider it your personal training guide for the AI marathon.

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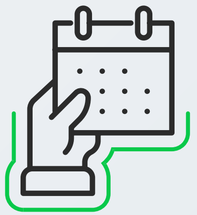
of respondents say they would describe their organization's AI deployment as strategic.



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report that it takes over one month to move from development to production of AI projects.

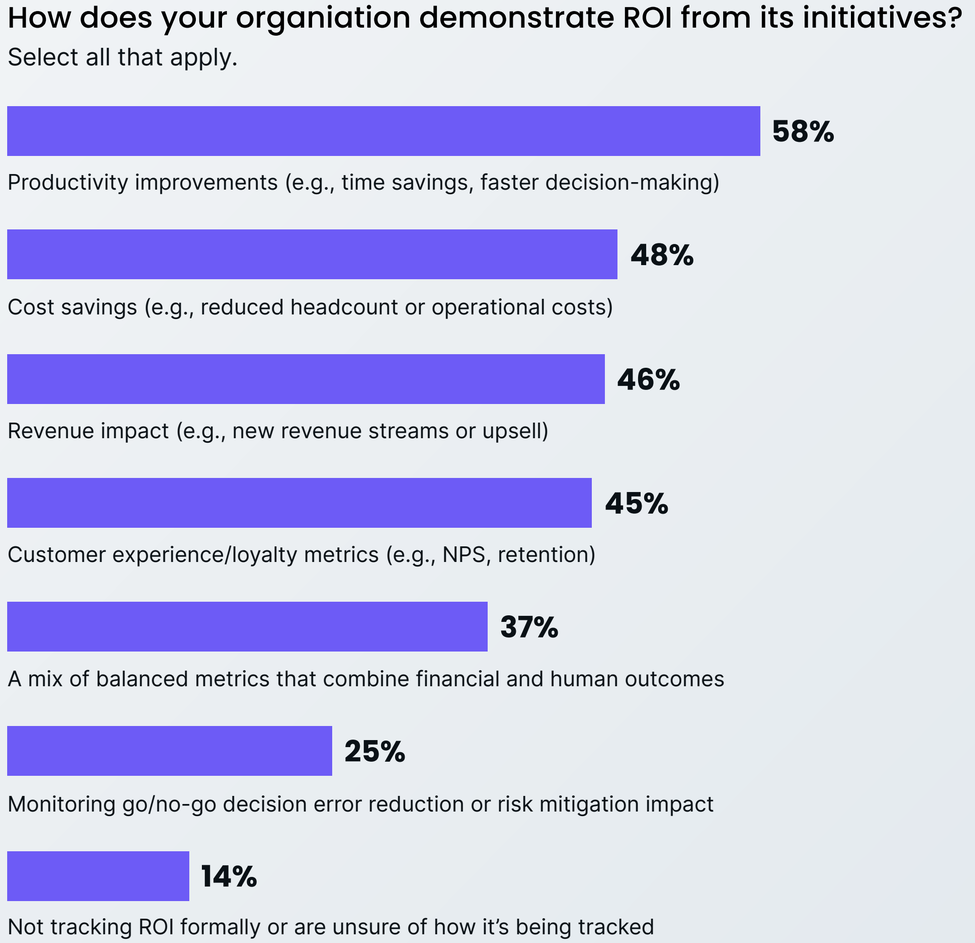
How We're Getting Value Out of Our AI Work

Not Everyone Sees Eye to Eye on ROI—And That's Okay

We're overlooking AI's key value by only focusing on efficiency gains. Widening the ROI lens to reveal AI as a strategic growth and resilience driver, not just a cost reduction, opens up new opportunities and insights across teams.

Productivity improvements (58%) and cost savings (47%) are the most common ways people showcase ROI from AI initiatives. These are welcome benefits that organizations can point to from an effectiveness standpoint. Companies should certainly keep track of them for larger projects or more significant rollouts to showcase their results and reinforce their value to the business, especially when they're demonstrating a quicker time to value.

Fewer companies look at go/no-go decision error reduction or risk mitigation (25%), but that's another important consideration for companies. According to McKinsey, executives spend about 40% of their time making decisions. That's time that could be better spent on driving more valuable business outcomes. Testing and experimentation are okay. However, routinely making the wrong decisions isn't merely a waste of time, energy, and money; it can cause fractures across the entire organization. More action around error reduction and risk mitigation can help steady organizations from too much tinkering or veering down a troublesome path.



Could the Best ROI Come From Not Measuring It At All?

Nearly one in seven (13.5%) companies isn't measuring ROI at all or is unsure how their company is tracking it. About 26% of respondents also noted difficulty demonstrating ROI as a top concern about AI risk in their organization.

At first glance, that seems overwhelming. Company leaders may wonder if these advancements can be properly measured if their teams aren't working toward certain benchmarks. But what if not strictly measuring ROI is actually a strategic move to advance AI innovation? Companies are generally leaving space for their teams to experiment internally with these types of tools. At the same time, there's often pressure to showcase outcomes from an investment, especially one as grandiose as AI. But AI and open source lend themselves to constant internal testing, iteration, and rabbit holes. Sometimes, executives may simply need to encourage time spent on these types of projects, without worrying about specific numbers proving their worth.

Nearly 1 in 7

companies isn't measuring ROI at all/are unsure how their company tracks it.

26%

of respondents said difficulty demonstrating ROI is a top concern about AI risk.

"There's a line between collecting metrics and measuring ROI with those metrics. Understand where AI makes you better. You should always be measuring and looking at the outcomes, just perhaps not evaluating AI initiatives strictly on what metrics move. Now is the time to hone these tools."

Steve Croce
Field CTO, Anaconda

Humans Aren't Going Anywhere as AI Evolves

While there are multiple valid approaches to measuring the ROI of AI initiatives, it's important to remember that AI tools alone can't solve all business challenges. For example, a tool won't have the fundamental knowledge of a business initiative or the nuanced reasoning to fully identify team-specific roadblocks or improvement areas. Enterprises still need human talent. As companies look to hire engineers, data scientists, researchers, consultants, and more to tackle AI strategy, there's a growing opportunity among the open-source community to build and hone in on the most critical skills.

AI engineers are the top AI-specific role companies are hiring for, with nearly 57% of organizations filling that role, an 11% increase from 2024. Other top positions include data scientists (38%), AI researchers, AI consultants, and software engineers working with AI (37% each). There's also a growth in hiring even more nuanced roles, such as DevOps and MLOps Engineers (26%) and DevSecOps Engineers (21%).

The top strategic abilities needed for successful AI work—critical thinking, problem framing, ethical reasoning, bias mitigation, communication, and collaboration—are all uniquely human. Amid fears of AI replacing humans, there's further reinforcement that a collaborative approach will unlock the most success.

> **For technical workers, the takeaway is clear: Build these soft skills that AI can't demonstrate, or risk losing value within the organization.**

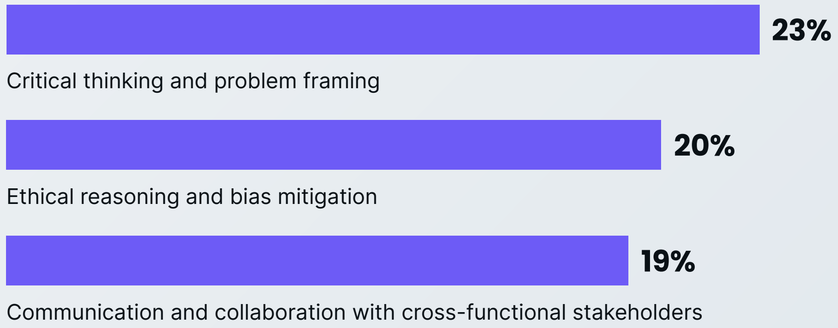
Meanwhile, respondents were asked about the most critical skills gaps in their AI and machine learning pipelines. The top responses: AI governance and risk management literacy (30%), deep learning engineering (23%), and prompt design and evaluation skills (20%).

As AI tools become more regulated and less like the Wild West, organizations have an opportunity to close the skills gap when scaling their talent search. These abilities and expertise will be increasingly more valuable and sought after. The companies that prioritize them will have an advantage as developers innovate faster and more effectively.

Companies hiring for these AI-specific roles:

- **AI Engineers** (57%)
- **Data Scientists** (38%)
- **AI Researchers** (37%)
- **AI Consultants** (37%)
- **Software Engineers** (37%)
- **DevOps & MLOps Engineers** (26%)
- **DevSecOps Engineers** (21%)

Top strategic abilities essential for succeeding in AI work



Bridging the AI Execution Gap: Seeing Faster Time to Value

Barriers to AI Growth

Company leaders must ensure their organizations have a solid foundation of infrastructure and processes. Ignoring or overlooking these structural issues will stall AI projects before they can get off the ground.

> **A consistent thread across these obstacles is a fractured organizational approach.**

Not everyone within an organization has the same level of AI expertise. Teams might focus on differing priorities. Someone may be brought in during the middle of a project.

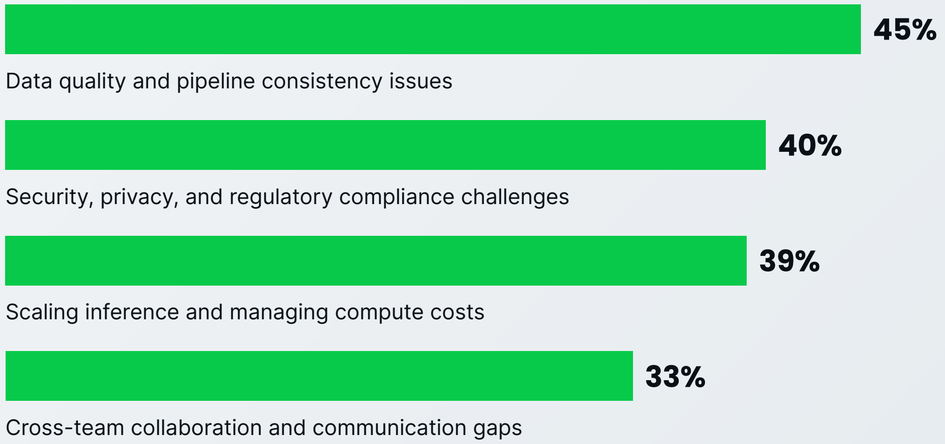
There can be any number of reasons why there could be a disconnect, but there's no excuse for not trying to fix it. Having the proper processes and guidelines in place to focus on quality data, minimizing security risks, and sharing results and use cases across developer teams can all help people get on the same page regarding AI model usage. That alignment typically leads to seeing faster and more consistent impact.

Model performance degradation and drift over time (16%) and hallucination detection and output quality control (15%) are of less concern among respondents right now, though they shouldn't be swept under the rug. In the coming years, organizations will begin developing smaller models for their particular business use cases.

With a more nuanced and tailored approach, those challenges will become more critical for company executives. Being mindful of them now can prove to be the difference down the road.

As respondents look to move data science or AI models to a production environment, recurring challenges bubble up to the surface. The most common include:

Select all that apply.



"GenAI is good at helping identify data quality issues and helping build data pipelines. There's a lot of opportunity to take that data massaging that used to be really hard and have a model help you with it."

Steve Croce
Field CTO, Anaconda

The Trust Trifecta: Governance, Risk, Confidence

Trust is the real currency of AI. We're missing out on opportunities to build and grow that trust with employees and customers. In many cases, that's stemming from a misalignment of goals and policies and a lack of confidence.

More than half of respondents (53.3%) either have no AI governance policies or frameworks in place, or those policies are still in development and not fully implemented. Even if an organization does have some form of governance in place, 48% still cite security and data protection as their top concern. Other concerns include regulatory compliance (27%), difficulty demonstrating ROI (26%), supply chain attacks on open models and dependencies (24%), and unintended or hidden behavior transfer between models (24%).

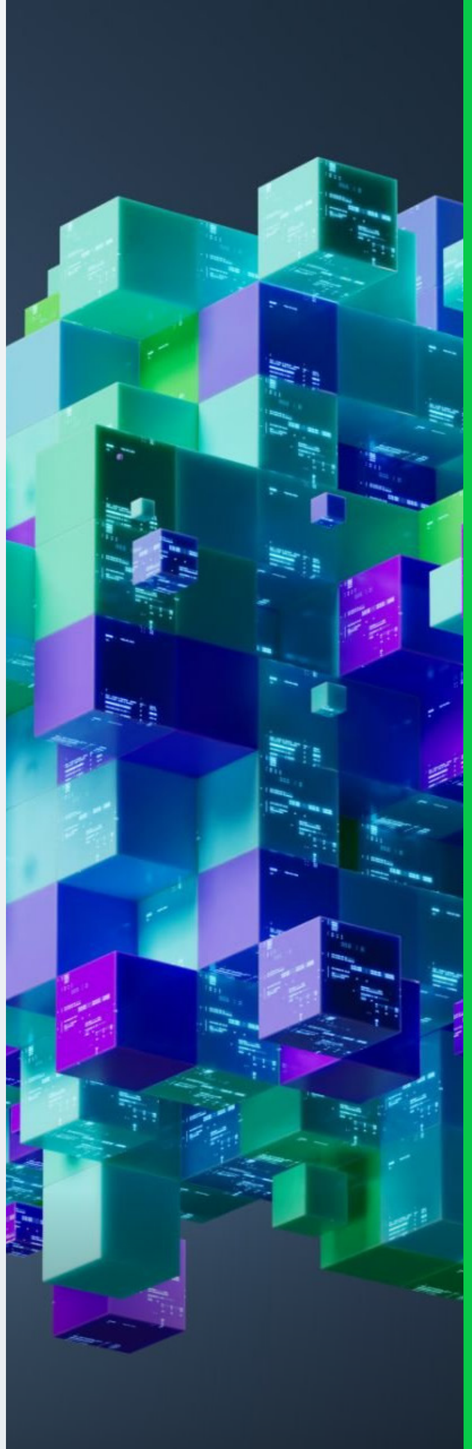
READ MORE
Bridging the AI Model Governance Gap

There will always be challenges across an organization. The difference is that leading organizations more frequently take decisive action and can confidently point to the impacts they're making. Yet that confident stride is in the minority: Less than half (48.6%) of respondents are very confident in explaining AI model decisions to regulators, executives, or customers.

"Be intentional about learning. That's the goal, not a side effect," says Steve Croce, Anaconda's Field CTO. "Is AI resourced, or are people just supposed to fit it into their schedules? How are projects reviewed? This process isn't only how to use AI, but how to secure it, deploy it, and monitor it."

Misalignment at these stages can trickle down across the organization, leading to mixed messages and a further lack of trust. Getting aligned and strategic internally flows into improved external results—often at a quickened pace.

It takes a lifetime to build a trusting relationship with your customers and employees. It's much easier to lose it. Clarity is a pillar of that trust.



"There's sometimes a belief that innovation only comes when there are zero constraints. That way of thinking is fundamentally flawed. Innovation is found wherever hard problems come together in complicated ways, and it's only stifled by how an organization responds.

If your organization responds to security risks and data privacy challenges by putting its head in the sand and blocking engineers from access to AI tools, then yes, innovation will be stifled. If you instead enable and empower these teams to build solutions that can meet your security and privacy requirements, you'll actually see innovation flourish."

Seth Clark
VP of Product, AI, Anaconda

The Future: The Path Ahead Lies with Open Source

Open Source is Where the Market Already Is—Whether It Knows It Or Not

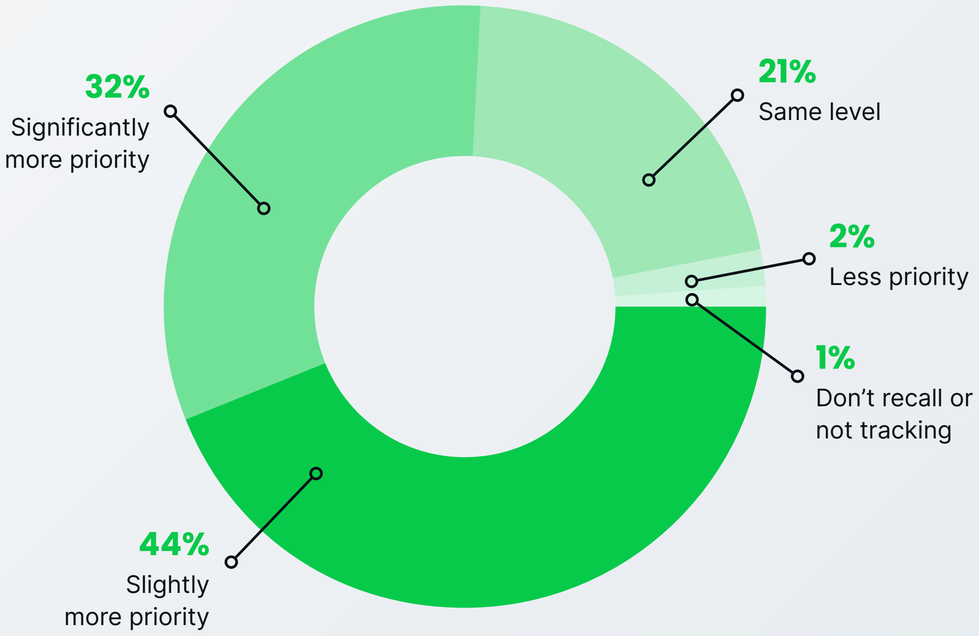
Carefully governed open source is the foundation for innovating with AI. Now, enterprises must turn their focus to strategically improve upon what open source does best and how they can contribute to the open-source community. There's already built-in support among users:

92%

of respondents use open-source AI tools and models, with 52% strongly preferring or generally using open-source. Nearly 40% pair open source and commercial tools.

More than in previous years, organizations are also following suit. About three out of every four respondents (76%) said there's either slightly or significantly more priority on open source this year compared to the previous 12 months. Additionally, 78% report their organization strongly supports open source or encourages it when the business case supports its use.

Compared to last year, how are companies prioritizing open-source AI?



"If you want to be successful, don't focus on commercial offerings. Instead, focus on open source. With nascent areas, open source moves faster because most commercial offerings lag. When innovation is a key part of your company's strategy, open source is going to play a significant role."

Seth Clark
VP of Product, AI, Anaconda

Empowering Collaboration and Communication

Respondents find value in open source through different avenues. One highlighted the “transparency, flexibility, and accelerated innovation through community collaboration;” another found that the “fast and responsive” nature of open source allows them to do what they need for AI-powered projects. One respondent simply said, “It just opens up a lot more possibilities and capabilities to go further.”

The growth and enthusiasm around open-source tools and projects are uplifting, though it’s important not to stray too far from where the movement began. Open source was built on a community foundation. As its adoption increases, organizations need to balance and potentially refocus their efforts, while embracing trusted platforms that instill model and package confidence instead of unease.

“People and companies are using open source more than ever, whether they know it or not. Yet the core ideas are very simple and not as widely adopted. We need to distinguish between using the software for a project and building a collaborative open-source ecosystem. As businesses make open source more mainstream, the community and collaboration aspect is often lost. We need to restart those conversations on how we can be part of a community that can build high-quality and innovative things.”

Peter Wang
Chief AI and Innovation Officer
and Co-Founder, Anaconda

From Messy Middle to Scalable Impact

Most organizations have implemented AI in one form or another, though many enterprises are stuck on experimenting and trying new things without implementing the tools that can drive impact. They need to get out of that messy middle to be able to scale faster and more strategically.

> “While MLOps catches up quickly to each new iteration of AI, it takes time for new tools, skills, and approaches to permeate across a large organization. This is key for executives to understand: While prototypes of new AI tools are easy to come by, there’s no shortcut to production.”

Seth Clark
VP of Product, AI, Anaconda

The AI Tool Checklist

Simplify

Most AI tools don’t need to be as elaborate and complex as companies think. In many cases, they simply need to solve a specific problem. Approach usage with that mindset to experience quicker timelines from production to deployment and stronger business results. The resulting impact can also lead to a new framework of what success looks like across the company, which improves life for employees and customers.

Safeguard

AI model governance is becoming more critical than ever, yet many businesses still have concerns about adhering to policies—or may not even be aware of such policies in the first place. Successful AI governance starts with an understanding of what you’re using the technology to solve for and what will help you get there. Solutions and models that offer the most transparency, or the ones vetted by trusted organizations like Anaconda, are the catalysts to innovation that still show reverence to compliance. Free your developers and data scientists from infastructure friction so they can focus on breakthroughs.

Adopt

Too many companies let an unrealistic striving for perfection get in the way of good. Rather than getting caught up in extraneous details or continually introducing new tools, look at what will benefit the entire organization, or a significant part of it. Implement that as part of the company foundation, and it will lead to more widespread adoption across the organization. Teams can truly scale when they feel comfortable and confident in the tools that help them perform better.

Iterate

Experimentation will always be a part of AI and advanced technology, but tinkering alone will keep us in the messy middle. The more we put tools to work, the more we discover what’s actually driving the most impact. This step is where the open-source community is a valuable resource. Through collaboration, documentation, and toolkits, they’re the heartbeat that continues to drive innovation. Let’s power the builders of intelligent systems.

Methodology

211 individuals participated in our online survey conducted in August and September 2025. Respondents consisted of data scientists, engineers, researchers, and consultants working with AI and machine learning models. All responses are self-reported. Note: All percentages are rounded to the nearest whole percent. Due to rounding, some numbers may not equal 100.

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Anaconda is built to advance AI with open source at scale, giving builders and organizations the confidence to increase productivity, and save time, spend and risk associated with open source. 95% of the Fortune 500 including Panasonic, AmTrust, Booz Allen Hamilton and over 50 million users rely on the value The Anaconda AI Platform delivers through a centralized approach to sourcing, securing, building, and deploying AI. With 21 billion downloads and growing, Anaconda has established itself as the gold standard for Python, data science, and AI and the enterprise-ready solution of choice for AI innovation. Anaconda is backed by world-class investors including Insight Partners.

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