

karat[^]

AI Workforce Transformation Report

2025-2026



Executive Summary

AI is fundamentally transforming how software is developed. Yet many organizations continue to approach their engineering workforce strategy using a pre-AI playbook. Key findings from our survey of 400 engineering leaders, including 300 SVPs and CXOs, across the U.S., India, and China reveal:



Code generation and agentic AI are emerging as the top use cases.



The strongest software engineers deliver the greatest AI productivity gains. 73% of leaders now say that a strong engineer is worth at least 3x their total compensation.



China is outpacing the U.S. and India in terms of AI adoption and readiness.



Despite pressure to reduce costs, engineering leaders expect headcounts to stay flat or grow over the next three years.



Most organizations have yet to evolve their talent measurement strategies for AI, but those that combine human judgment with AI augmentation are achieving the strongest results.

Together, these findings highlight a clear mandate:

CIOs and CTOs must evolve hiring, assessment, and workforce strategies now, or risk being overtaken in an era where the pace of engineering value is accelerating.

Adoption and ROI

Code generation and agentic AI emerge as top use cases

Most organizations are deploying AI for code generation, testing, data science, security, and autonomous engineering. The majority of leaders highlighted agentic AI as having the highest return on investment.

While it didn't crack the top 5, "legacy modernization and refactoring" saw the biggest increase from what teams are using today to what they expect to use in the next few years. This may be a higher priority for less-mature organizations that are still transitioning from piloting AI projects to implementing AI at scale.

Top AI use cases engineers leverage day-to-day (today)

Code generation	83%
Testing, QA, code review	61%
Data, ML, and model development	56%
Security and vulnerability detection	53%
Agentic AI / Autonomous Engineering Agents	54%

Expected AI use cases engineers will leverage day-to-day (in 3-5 years)

Code generation	84%
Agentic AI / Autonomous Engineering Agents	68% ↑
Security and vulnerability detection	61% ↑
Data, ML, and model development	61% ↑
Testing, QA, code review	57% ↓

AI is increasing the gap between strong and weak engineers

AI is boosting overall productivity by 34%, on average. But more importantly, AI isn't a great equalizer of individual talent. It's a multiplier.

Strong engineers using AI are worth more than ever before, and 66% of engineering leaders expect that value to increase threefold over the next three years. The organizations that reward and replicate the success of these engineers will capture the most value from the new human + AI era.

The challenge is identifying the engineers who possess both the foundational skills and the ability to apply AI on top of them.

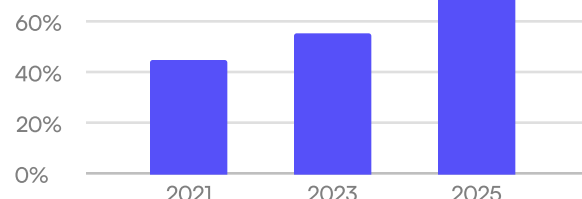
The New Productivity Divide

Tech leaders estimate a **34%** productivity increase from AI

73% Say strong engineers are now worth at least 3x their total compensation

59% Say weak engineers deliver net zero or negative value in the AI era

A strong engineer is worth at least 3x their total comp



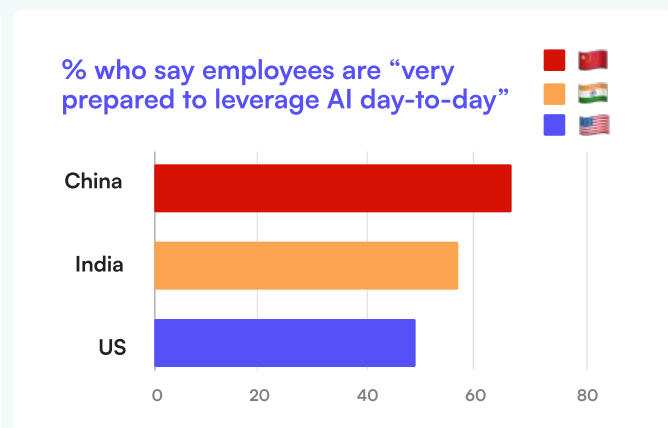
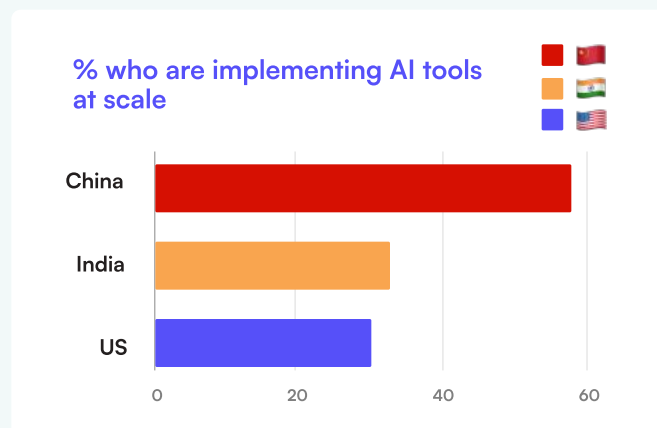
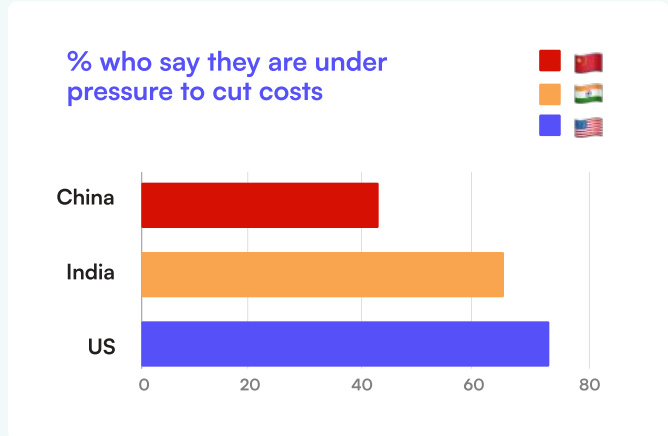
Pressure to cut costs may throttle AI adoption

The increased engineering output from AI has leaders anticipating shorter development cycles and the ability to bring more new features and products to market. But some organizations are at risk of limiting the upside of their AI investments in favor of cost-cutting.

While 63% of engineering leaders agree that AI will increase the number of new features and products they are able to release over the next three years, there is also significant pressure to cut costs, particularly for U.S. leaders.

According to David Lau, VP of Engineering at OpenAI, leaders should be wary of over-indexing on efficiency at the expense of innovation, especially as the use cases for AI evolve.

“Frontier models are advancing so quickly that last month’s edge cases continuously become this month’s baseline. This year, we’ve moved from autocomplete to agents that write and refactor entire libraries, and are increasingly seeing models explore entirely novel solutions to complex problems,” noted Lau. “To ride this wave of AI momentum, organizations must continually re-evaluate how they empower great people with the latest models, and design their software, workflows, tools, and hiring practices to let humans and AI multiply each other’s impact.”



While leaders in the U.S. and India face more pressure to cut costs, leaders in China are more likely to be implementing AI tools at scale and are also more likely to say that their employees are “very prepared to leverage AI day-to-day.” This trend, coupled with the longer-term investment outlook, is laying the groundwork for a potential innovation gap in the coming years.

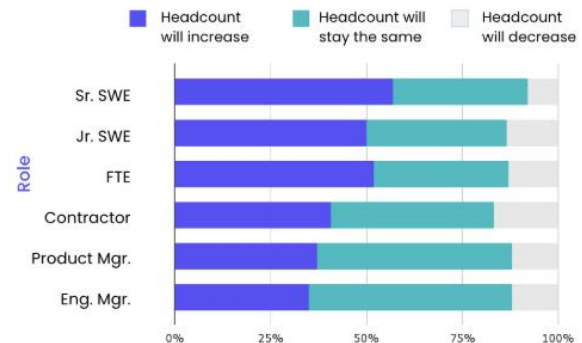
Human + AI workforce strategies

The death of software roles has been greatly exaggerated

Despite the growing pressure to reduce costs, 85% of leaders expect engineering headcounts to remain flat or increase over the next three years. This is true across roles and levels.

Furthermore, hiring and upskilling remain the primary methods for building AI skills with 68% of leaders calling out “hiring new FTEs” as their primary strategy for building an AI-ready workforce.

How will headcount change over the next 3 years?



Yet, despite the strategic focus on hiring and the need to assess AI-readiness of in-seat employees and contractors, most organizations aren't prepared to identify the engineers with the next-generation skills they need.

The skillset required to be a “strong” engineer is growing

Due to the explosion of AI-native software development, the skills needed to be a strong engineer are expanding.

While foundational skills like problem-solving, communication, and product sense remain constant, leaders are also seeking out new AI-native abilities. When asked what skills leaders wanted to add to their organizations, the top five responses all related to AI:

1. Familiarity with agentic AI

2. Using AI for coding

3. Integrating 3rd-party AI APIs

4. Prompt engineering

5. Evaluating and mitigating AI-related risks

Talent measurement isn't keeping pace with AI

Ten years ago, a strong engineer could quickly apply the right data structure or algorithm to produce code that led to a working solution to a problem. Today, a strong engineer might still do that. But if they aren't using the latest tools, they will quickly fall behind a similarly skilled engineer who can leverage AI.

The problem is, most organizations aren't yet assessing AI skills. 62% of leaders don't allow candidates to use AI in interviews. Just 30% of organizations ranked “updating technical assessments to assess for AI” as a top priority, and only 25% are prioritizing training interviewers. To make matters worse, leaders estimate that over half of candidates are using AI despite being instructed not to.

The impact is twofold:

1. Leaders aren't getting signals on the AI skills they're looking for.
2. The signal from interviews that aren't AI-enabled is useless because most candidates are using AI.

The challenge is that most organizations already lack the expertise or resources to invest in their talent measurement systems, let alone keep pace with technology. This problem is especially acute for financial services institutions, which are under even greater pressure to improve efficiency and cut costs than their tech counterparts.

Engineering workforce priorities (ranked as top-2 priority)

	Finserv Orgs.	Tech Orgs.
Improving the efficiency of the hiring process	47%	32%
Building an AI-ready Workforce	42%	41%
Raising my hiring bar	41%	43%
Updating Technical assessments to assess for AI skills	25%	33%
Replacing human workflows with AI	24%	25%
Training interviewers to assess AI skills	22%	27%

Next-generation interviews are essential for assessing AI skills

Pre-ChatGPT, it was possible to extrapolate a candidate's ability to gather the appropriate information, consider edge cases, and optimize code based on having them present a working solution to a simple problem.

But in the human + AI era, producing a working solution no longer generates the same hiring signal. Interviews must now isolate and independently measure a candidate's underlying skills while also assessing AI readiness.

As a result, the engineering leaders who aren't investing in next-generation assessments are getting less predictive hiring signals, and confidence in hiring is eroding, especially in the U.S.

Increased difficulty assessing skills



% US leaders who say it is difficult to accurately assess skills needed to capitalize on new developments in AI

Decreased hiring confidence



% US leaders who are very confident that qualified candidates are the ones getting job offers

AI to blame

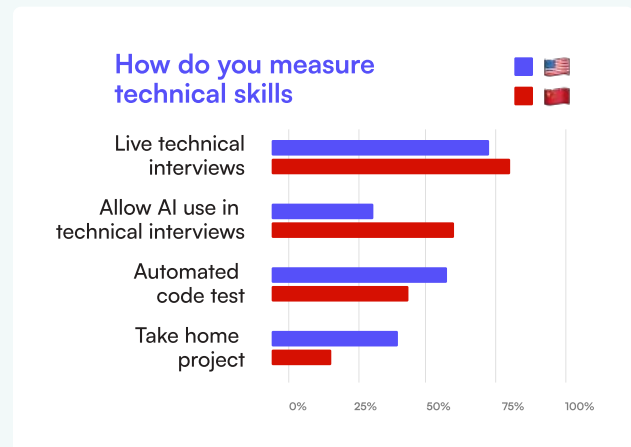


% leaders who say AI is making it harder to assess technical skills

Assessing the skills for a human + AI workforce requires humans and AI

Due to its high AI adoption rates and readiness, China's talent strategies present a blueprint for how to assess the skills needed for an AI-ready workforce.

Chinese companies are almost twice as likely to allow the use of AI in interviews. They are also turning towards live technical interviews, and away from formats like take-home projects and automated code tests that are seeing diminished hiring signals due to AI.



To account for cultural differences in hiring, we looked at business outcomes from U.S. companies across three cohorts:

Human + AI: 33% of organizations in the U.S. use live interviews and allow candidates to use AI tools in a way that mirrors day-to-day work

Human-only: 45% of organizations in the U.S. measure technical skills using live interviews where AI use is prohibited

Non-human: 22% of organizations in the U.S. use a combination of online code tests and take home projects that do not include human interviewers

The data shows organizations that allow candidates to use AI in human-led interviews anticipate stronger returns on their AI investments. **Over the next 3 years...**

- **63%** of companies that use human + AI interviews expect coding errors to decrease
- **45%** of companies that use human-only interviews
- **21%** of companies who use non-human assessments
- **49%** of companies that use human + AI interviews expect the time it takes to bring new products/features to market to decrease
- **31%** of companies that use human-only interviews
- **20%** of companies who use non-human assessments
- **76%** of companies that use human + AI interviews expect the number of products and features they release to increase
- **57%** of companies that use human-only interviews
- **48%** of companies who use non-human assessments

Sagnik Nandy, CTO at DocuSign notes the importance of mirroring the way engineers work in a human + AI enterprise while evaluating technical skills, noting: "AI is transforming engineering, but the real breakthroughs happen when human judgment and AI capabilities work together. What's been missing is a way to measure that combination reliably. A human-led, AI-native interview is exactly the kind of solution organizations need to understand who can truly excel in this new model of development."

Building the Human + AI Workforce

The organizations that will lead their respective industries in the next decade are those building human + AI systems of work that evolve as fast as AI itself. Our research shows that the highest-performing organizations share three consistent traits:



1. They measure what matters.

These organizations are upgrading their interview content, rubrics, and interviewer training to assess not just problem-solving, but AI collaboration, judgment, and adaptability.

Human judgment ensures rigor and fairness; AI ensures scale, speed, and consistency.



2. They reward and replicate success.

The strongest engineers—those combining foundational skills with AI fluency—produce the most value.

Leading companies identify these top performers through reliable human + AI assessment systems and align compensation, promotion, and project assignments accordingly.



3. They invest in continuous calibration.

AI tools, models, and best practices evolve weekly.

High-performing organizations treat talent measurement as a living system, continuously refined with new data, insights, and benchmarking.

As the complexity of software engineering increases, the ability to accurately measure and predict engineering performance becomes a strategic differentiator. Human + AI interviewing and assessment systems are emerging as the foundation for this new era of workforce intelligence.

The next wave of software engineering is not about fewer engineers. It is about smarter engineers working with smarter tools. CFOs may demand cost efficiency, but CIOs and CTOs must deliver engineering value at scale.

That will only happen when organizations adopt a human + AI workforce strategy: one that raises the bar, identifies top performers, and continuously evolves to stay ahead of the next AI innovation.