Indeed Insights:

Tapping Into Today's Tech Talent

indeed

Overview

The 2024 Tech Talent Report provides valuable insights into the latest trends shaping the tech job market. It highlights the increasing demand for Artificial Intelligence (AI) and machine learning skills and the growing importance of hybrid, remote, and other flexible work arrangements. The report also uncovers barriers candidates face, such as education requirements, and offers steps employers can take to attract more diverse talent.

Tech professionals are becoming more proactive in their job searches and prefer to apply on their own rather than waiting for a recruiter to reach out. This research provides employers with data to help refine recruitment strategies and stay competitive in the tech job landscape. It also shows how companies can improve retention by offering opportunities to upskill, mentorship programs, and transparent salary ranges in job ads.

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Introduction

The tech workforce is rapidly evolving, with a growing demand for highly skilled professionals to meet the industry's needs. Employers continue to face challenges in recruiting technology employees, especially as tech job openings have shifted post-pandemic.

In the next decade, estimates say the number of tech jobs will grow at twice the rate of the overall U.S. workforce, increasing from 6 million in 2023 to 7.1 million in 2034. Despite such openings being lower than pre-pandemic levels, the average investment per tech job on Indeed has increased in the last two years.

To help hiring leaders navigate these changes, Indeed commissioned research and examined tech talent behavior on Indeed and Glassdoor. The research displays key insights into what motivates tech talent and how employers can create opportunities that align with their interests.

Here are some of the top takeaways.

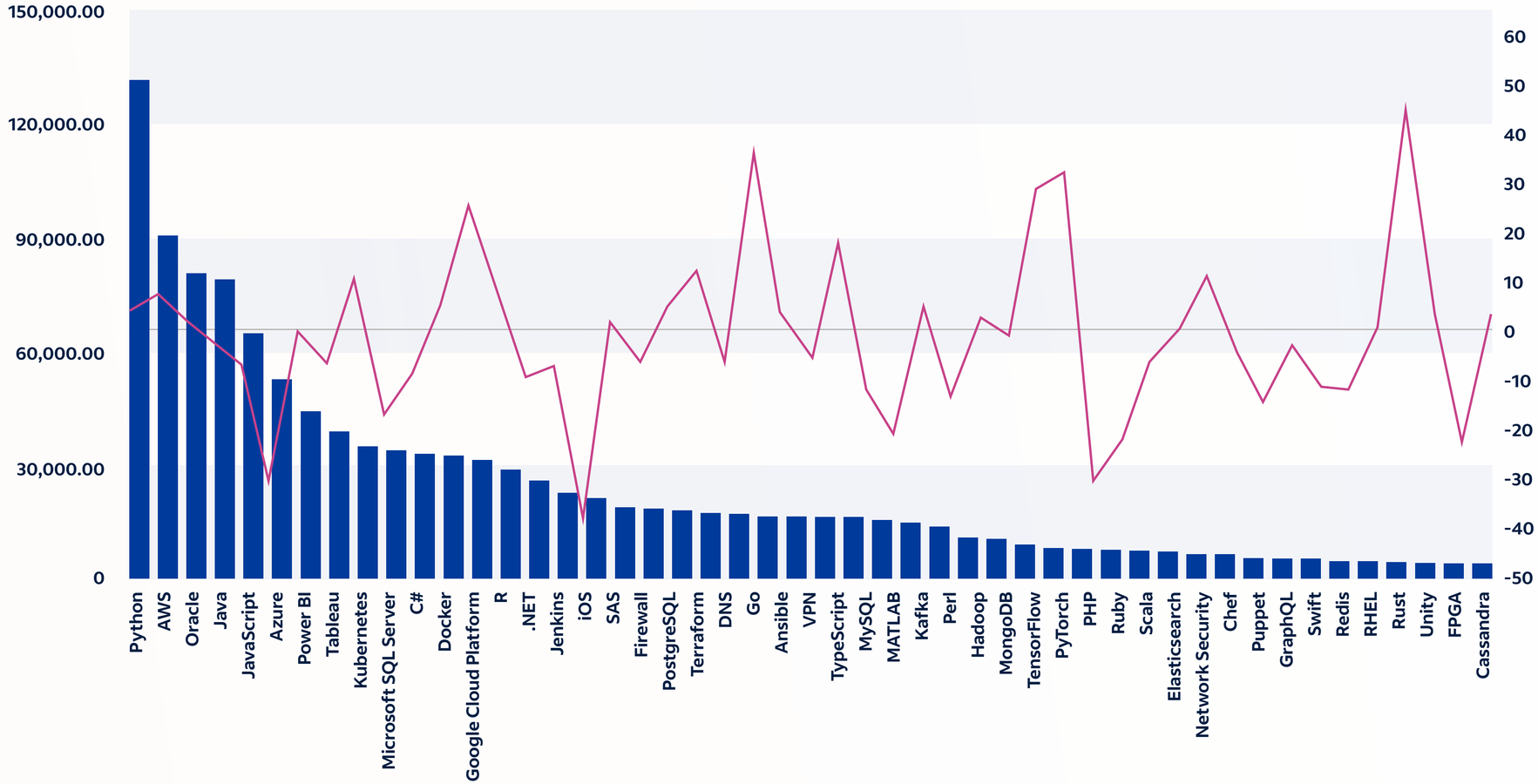


In-demand tech skills

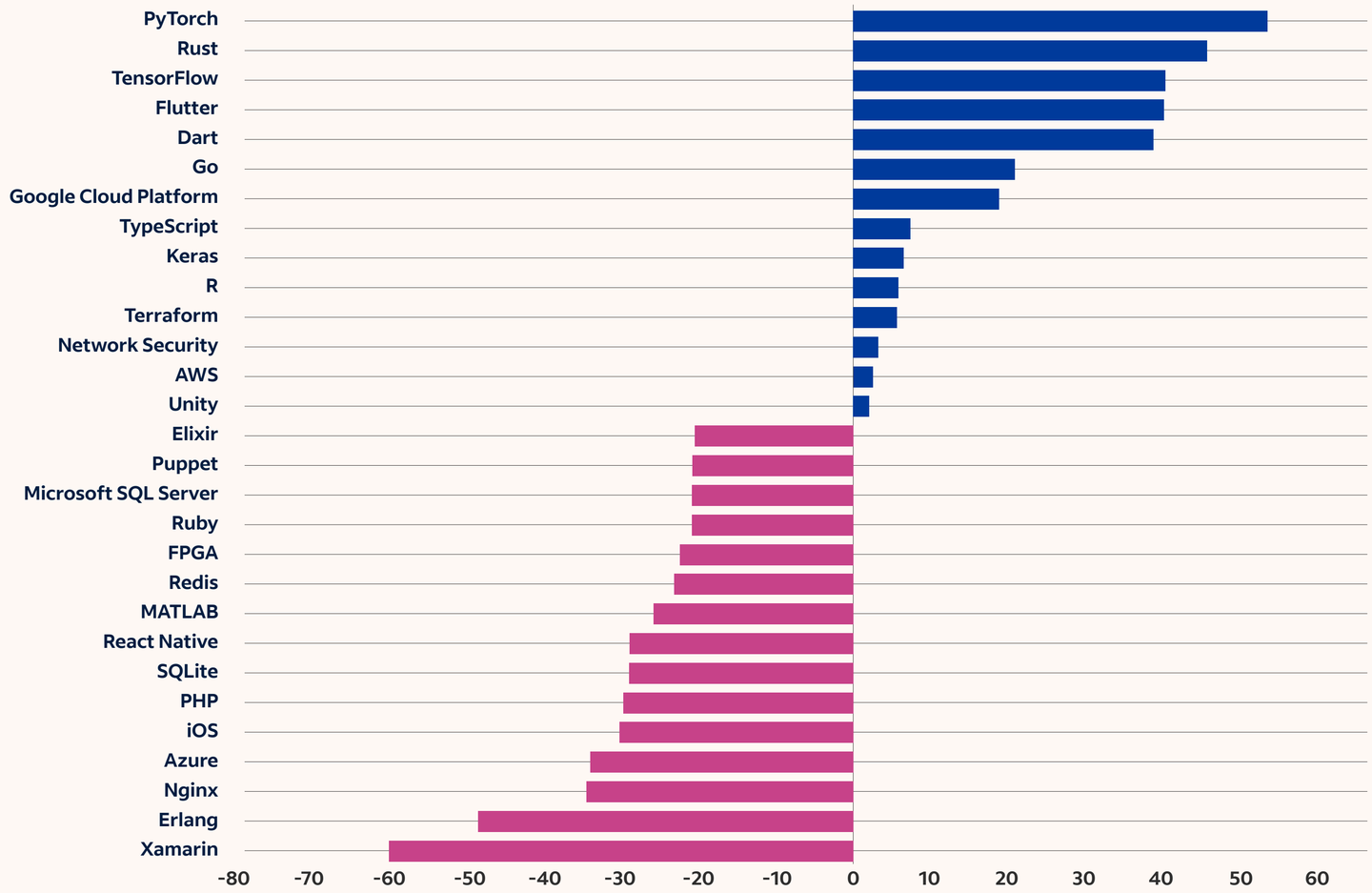
In-demand tech skills

Indeed's data shows the most in-demand software platforms listed in job ads are Python, AWS, Oracle, Java, and JavaScript, and of those, AWS has seen the most growth in demand since last year. Platforms that had the highest rate of growth were PyTorch, Rust, TensorFlow, Flutter, and Dart. While Microcontrollers have seen significant growth since last year, they make up a very small percentage of overall tech job ads. Platforms that saw the greatest declines in demand were Xamarin, Erlang, Azure, iOS, PHP, SQLite, and React Native.

Highest in demand technology platform skills and % change in demand year over year (Aug 2023 vs Aug 2024)



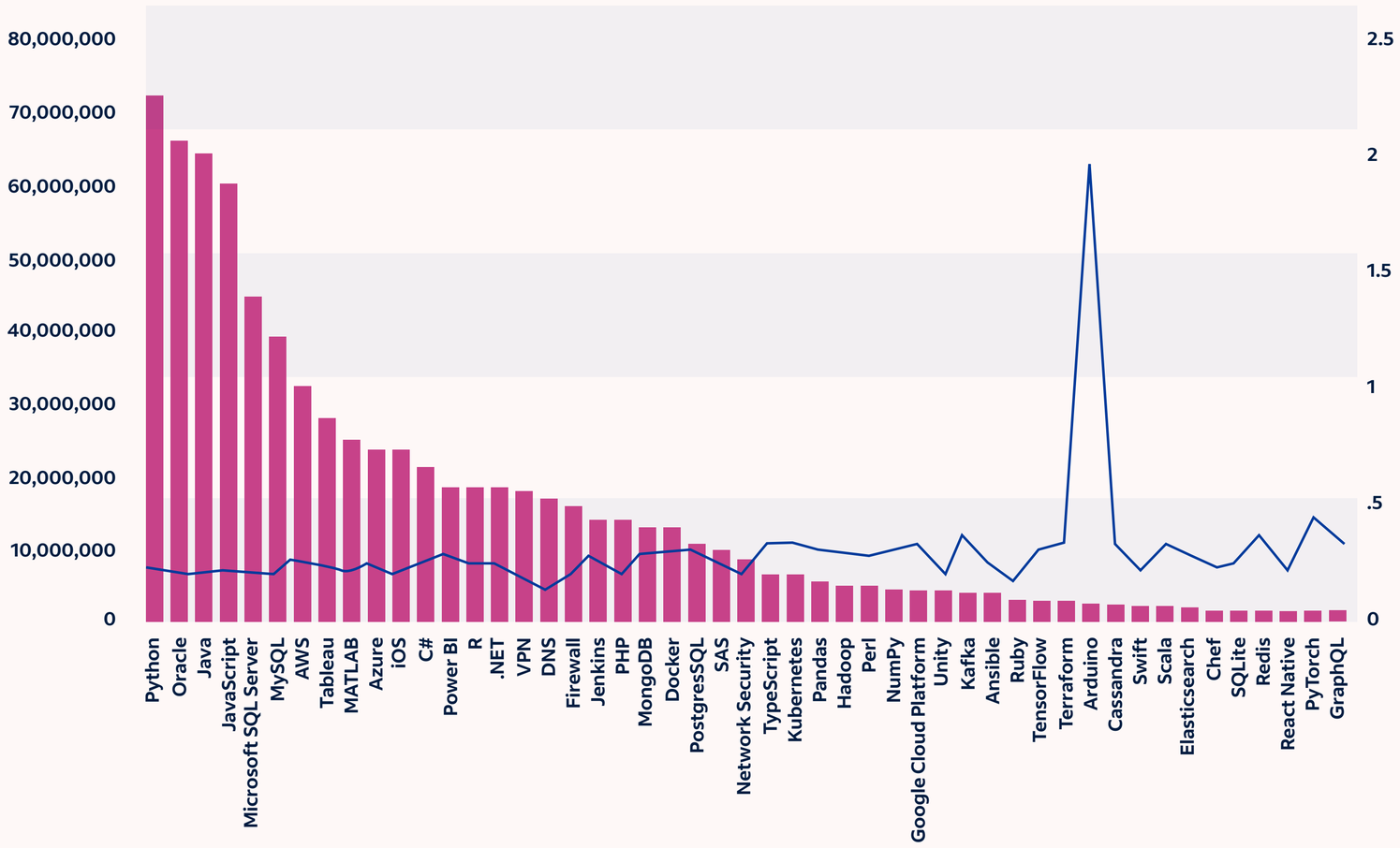
Biggest changes in skills demand (June-Aug 2023 vs June-Aug 2024)



US Indeed Data

The technology platforms most often listed on Indeed tech talent profiles are Python, Oracle, Java, JavaScript, Microsoft SQL Server, MySQL, and AWS. The platforms listed on profiles with the highest percentage increases since January are Arduino, PyTorch, Rust, Kafka, Redis, and Kubernetes.

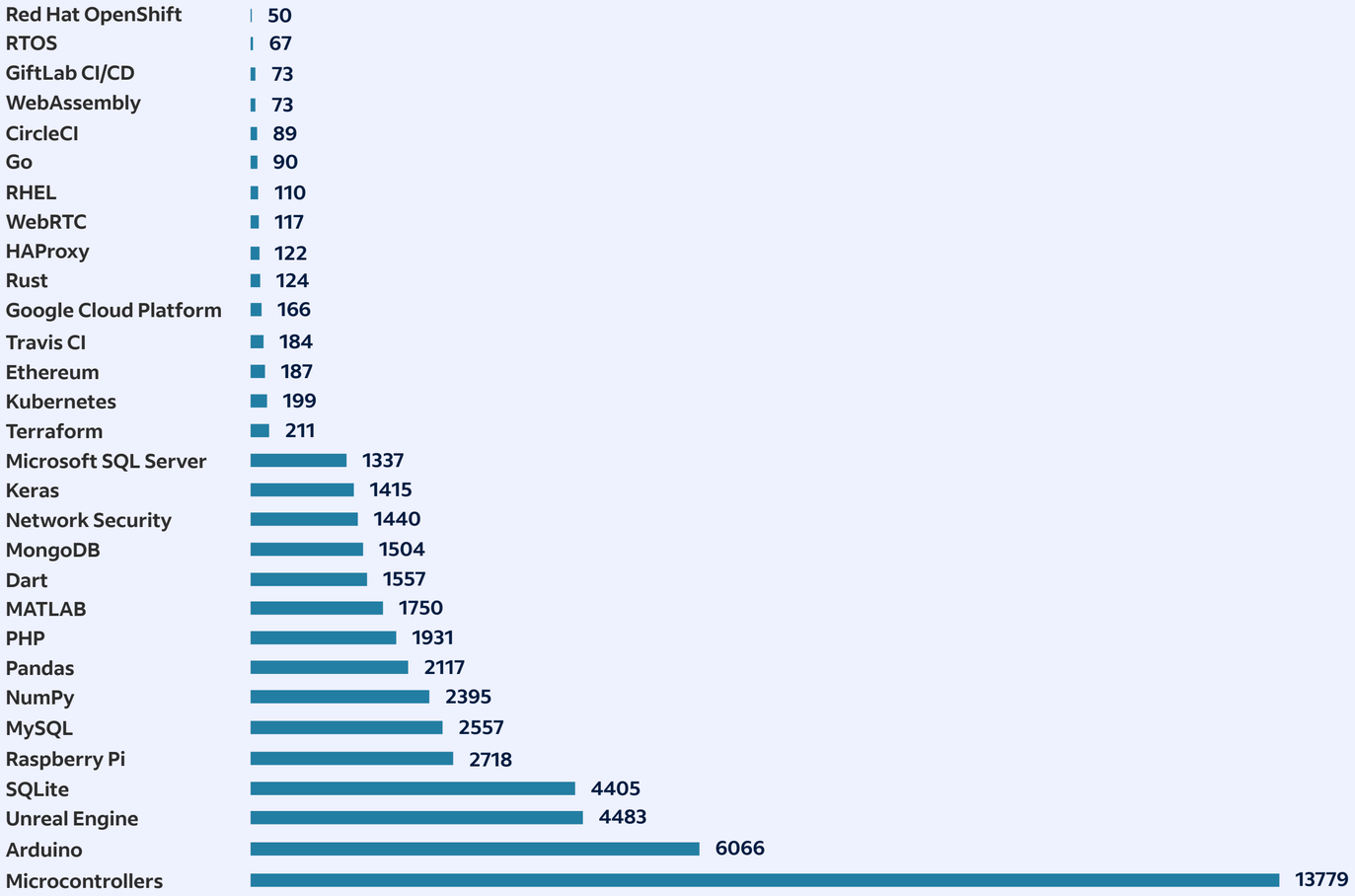
Total resumes listing technology skills Aug 2024 and % change Jan - Aug 2024



US Indeed Data

Looking at supply vs. demand, the platforms with the lowest amount of talent available per job are Red Hat OpenShift, RROS, GitLab CI/CD, WebAssembly, and CircleCI. The technology platforms with the highest amount of talent per job are Microcontrollers, Arduino, Unreal Engine, SQLite, Raspberry Pi, and MySQL.

Jobs with the highest and lowest amount of talent available per job

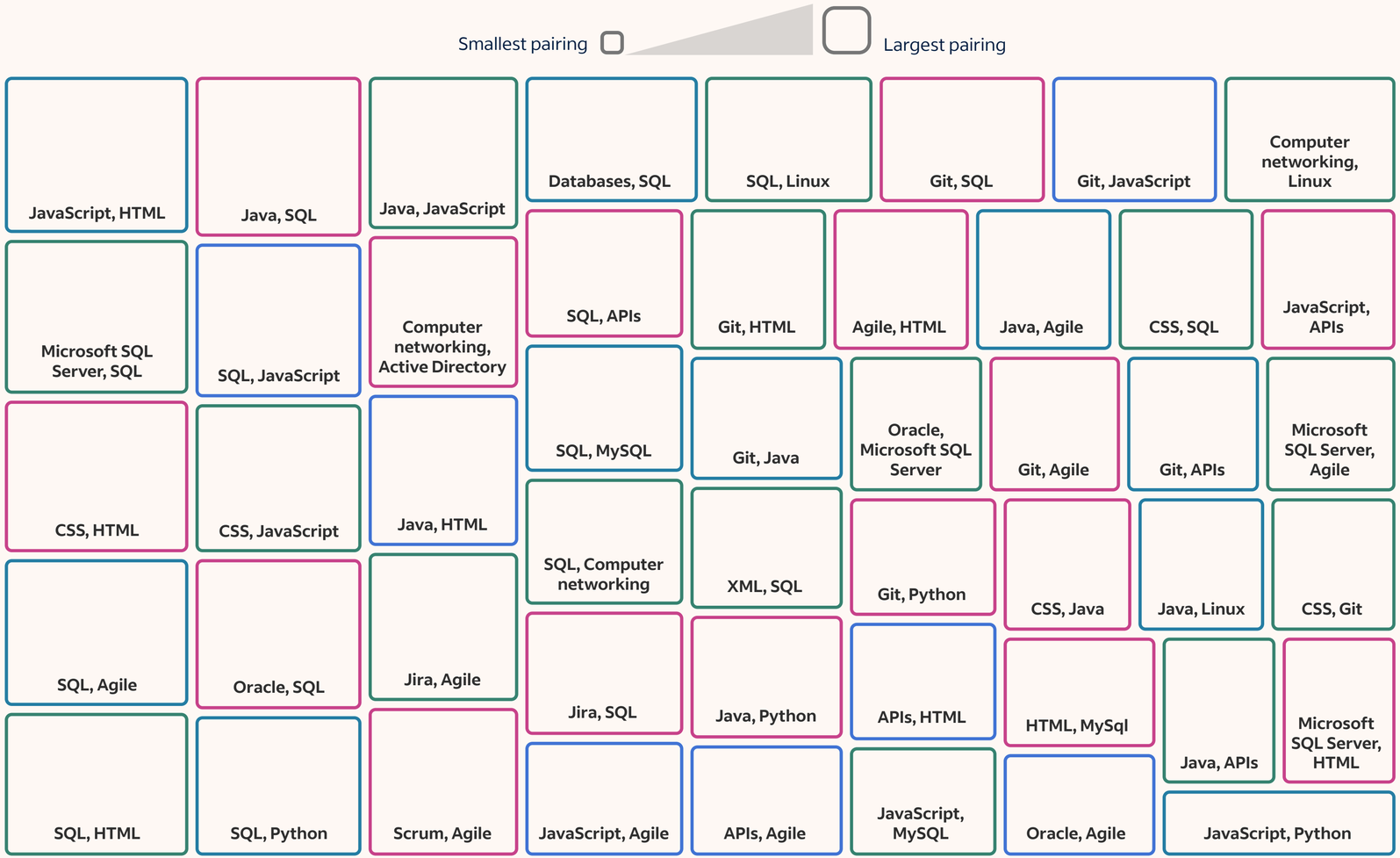


US Indeed Data

Looking beyond technology skills and more broadly at titles, the roles that companies appear to struggle the most to fill are software engineers, full-stack developers, system administrators, IT support, developers, and data analysts. These roles saw the largest amount of sponsored dollars this year.

When identifying types of candidates to upskill quickly if there is a shortage of talent, consider looking at candidates that have commonly paired technology platforms.

50 most common tech skill pairings



US Indeed Data

The rise of AI and machine learning in tech

The demand for tech-specific knowledge is rapidly shifting, with artificial intelligence (AI) and machine learning emerging as the most in-demand technologies. Information technology (IT), support, and network administration remain common in job postings, while areas like software development with generative AI (genAI) and cybersecurity are experiencing the fastest growth.

Despite the growing demand for machine learning and advanced AI experts, there is still a significant shortage of qualified professionals in these areas.

The graph below illustrates the growth in AI-related job postings from January 2023 to February 2024.



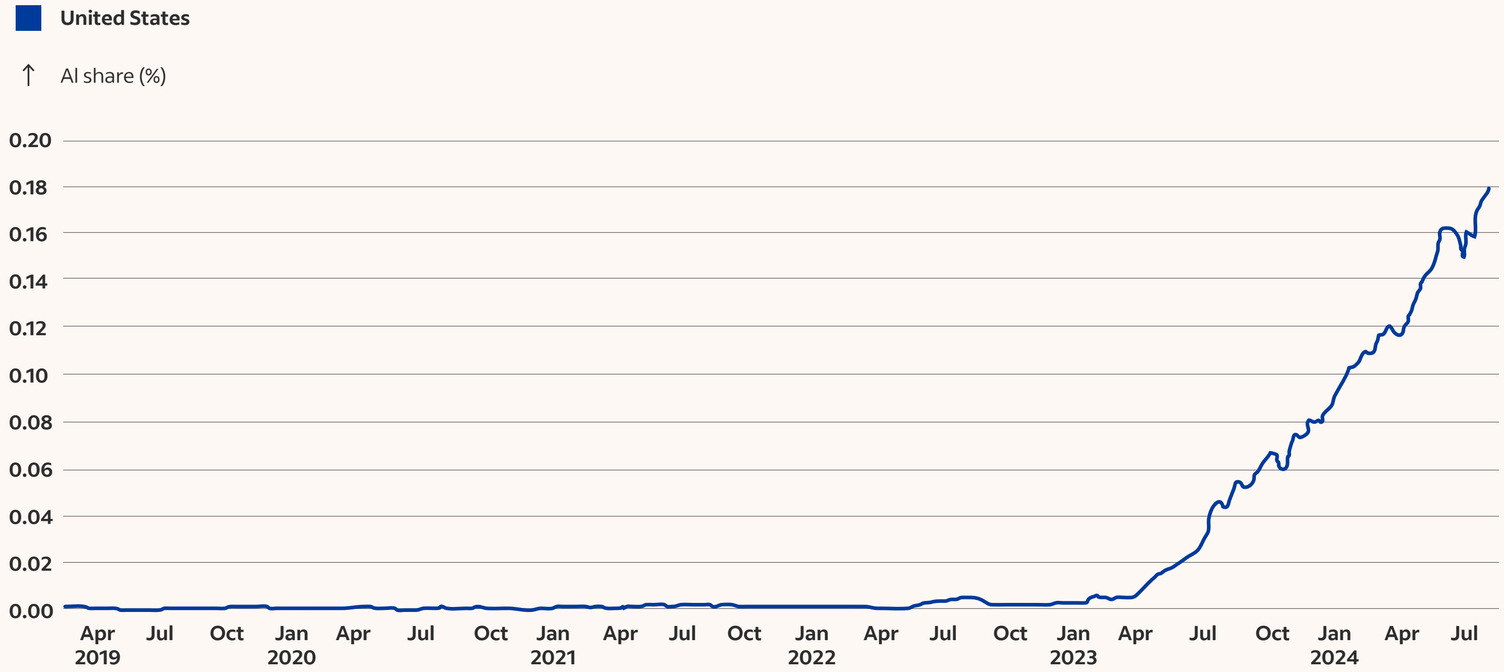
According to data from Indeed's Hiring Lab, AI-related job postings now make up 2% of all U.S. job listings as of February 2024. Almost one-quarter (22%) of software development jobs were AI-related, up from 19% in June 2023. This increase reflects the growing investment in AI technologies by companies across the board. GenAI-related jobs still account for a small portion of total U.S. jobs but have grown dramatically - rising from three in 100,000 job postings in January 2023 to 11 in 10,000 by February 2024. This more than 30-fold increase shows a clear trend toward deeper integration of AI in the workforce.

Indeed's Hiring Lab

Indeed Gen AI Tracker

Share (%) of job posting on Indeed containing Generative AI-related terms.

Continue tracking this on the Indeed Hiring Lab data portal.



Source Indeed

The graph illustrates the growth of Generative AI-related job postings from April 2019 to July 2024

Job seeker behavior

Job seeker behavior

Leveraging job ads is the best way to attract technology talent. Last year's research showed that using job ads to attract candidates leads to more and longer-term hires than passive sourcing. This year's research finds an increase in those who secured jobs on their own, suggesting tech talent continues to take an active role in their job searches.



In 2024, survey respondents say 34% are actively looking for work, up 11% from last year. Only 8% report they are not actively looking for a new role. This is great news for employers prioritizing internal sourcing: 75% of those who are seeking a new role are open to looking at roles within their current organization.

Not open to new job

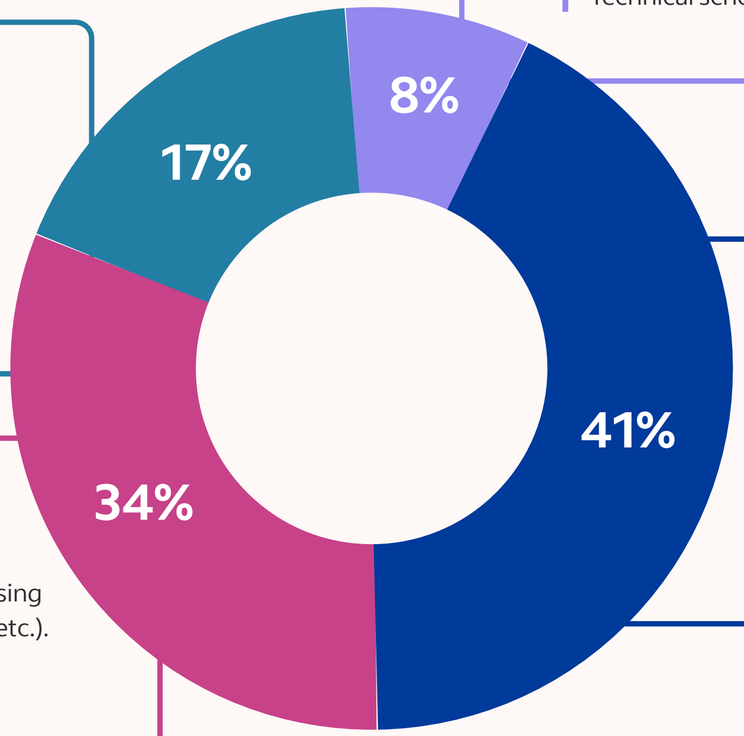
I am not looking for a new job and wouldn't consider new job opportunities.

↑ Technical school/program

Passive

I am looking for a new job, but have not actively taken steps to find one yet.

↑ 3 to 5 years experience



Passive

I am not currently looking for a new job, but I would be open to considering a new job if the right opportunity came long.

↑ Pre-Pandemic Workers ↑ Baby Boomers

Active

I am currently actively looking for a new job (e.g., browsing online job sites, submitting applications, interviewing, etc.).

↑ Millennials ↑ Consulting

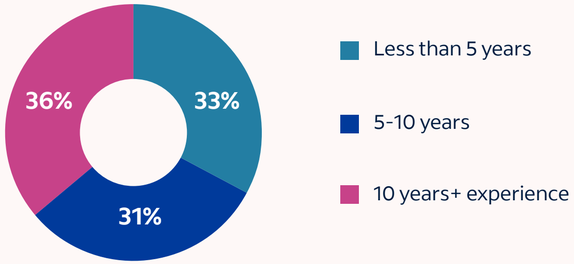
Indeed commissioned research 2024, Total N=1102 job seekers

The increase in active tech talent correlates with an increase in job seeker activity on Indeed. The total number of tech professionals looking for jobs increased by 86% since Jan 2020 (1.79M per month in Jan 2020 to 3.34M in Aug 2024). Application rates grew across all tech categories (Information Technology jobs from 12% to 17%, Software technology jobs from 12% to 23%). Over 75% of tech talent who add or update their resume on Indeed actively search for jobs. This is a clear indication of a shift from passive to active job seeking.

This year Indeed is the top site tech talent used to apply for jobs.

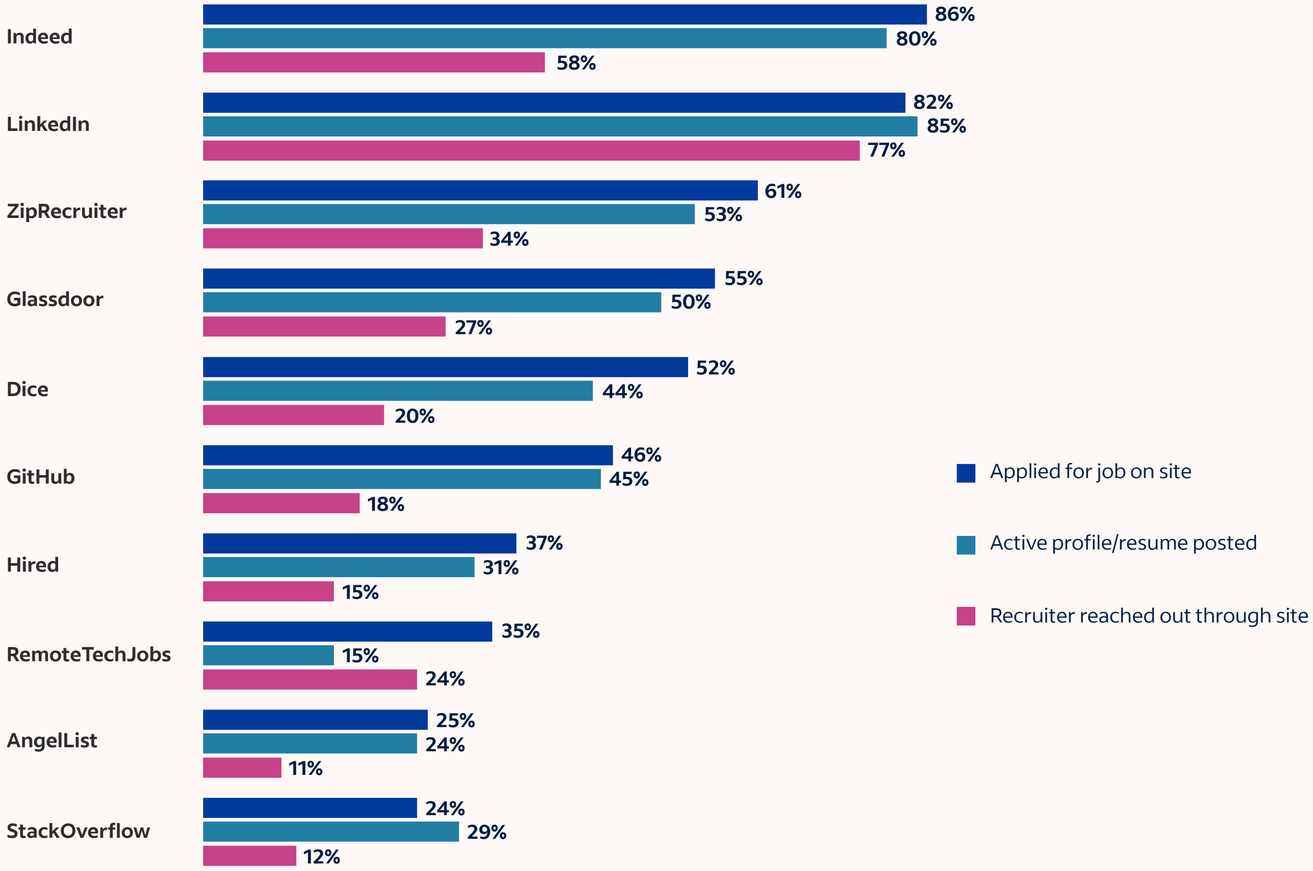
Some 86% of survey respondents say they have applied for a tech job on Indeed, (an increase from 62% in 2023) overtaking LinkedIn at 82%. The most experienced talent are applying for jobs on Indeed: 36% of professionals have worked in tech for 10 to 20 years.

Tech talent on Indeed



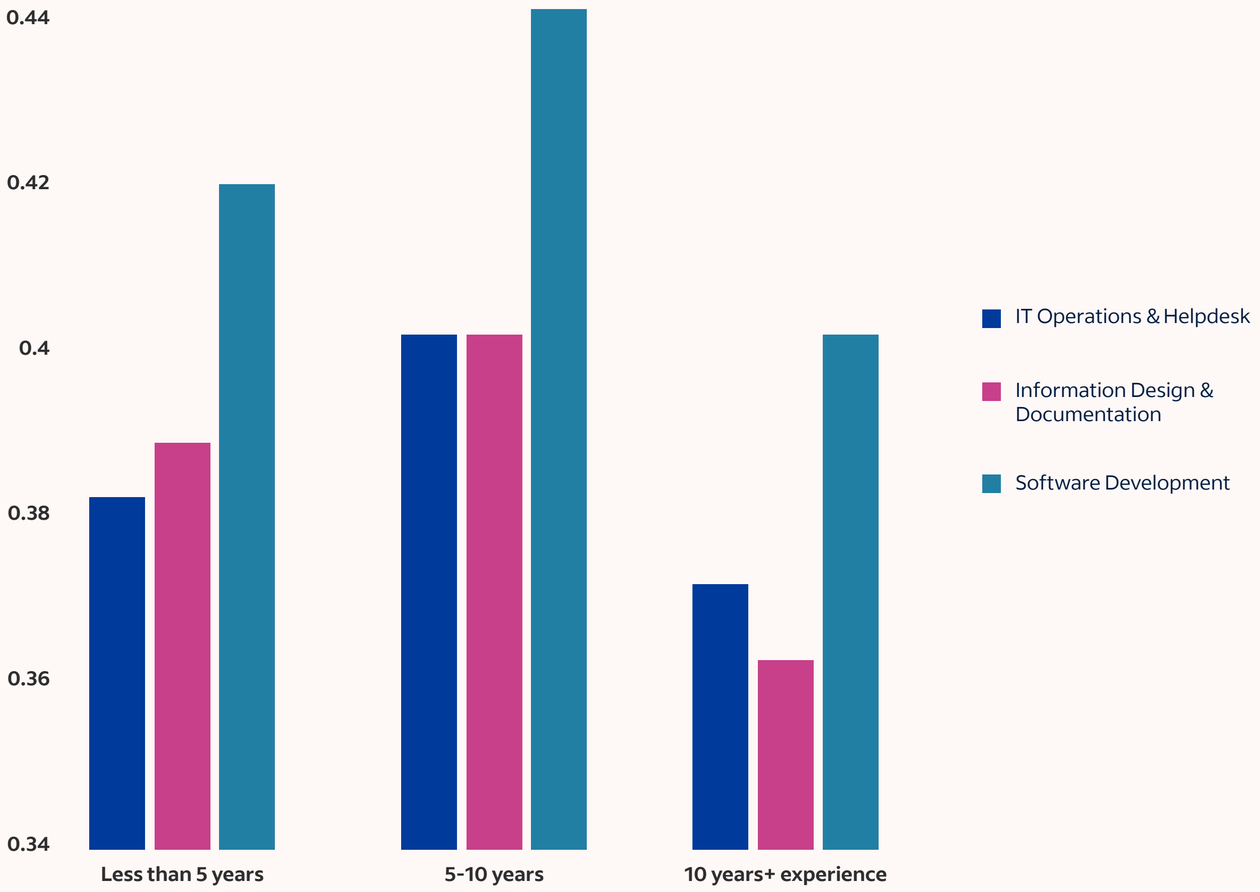
Indeed data, US

The number of job seekers who were reached out to through Indeed increased substantially from 35% in 2023 to 58% in 2024



Indeed commissioned research 2024, Total N=1102 job seekers

Apply rate by experience level



Indeed data, US

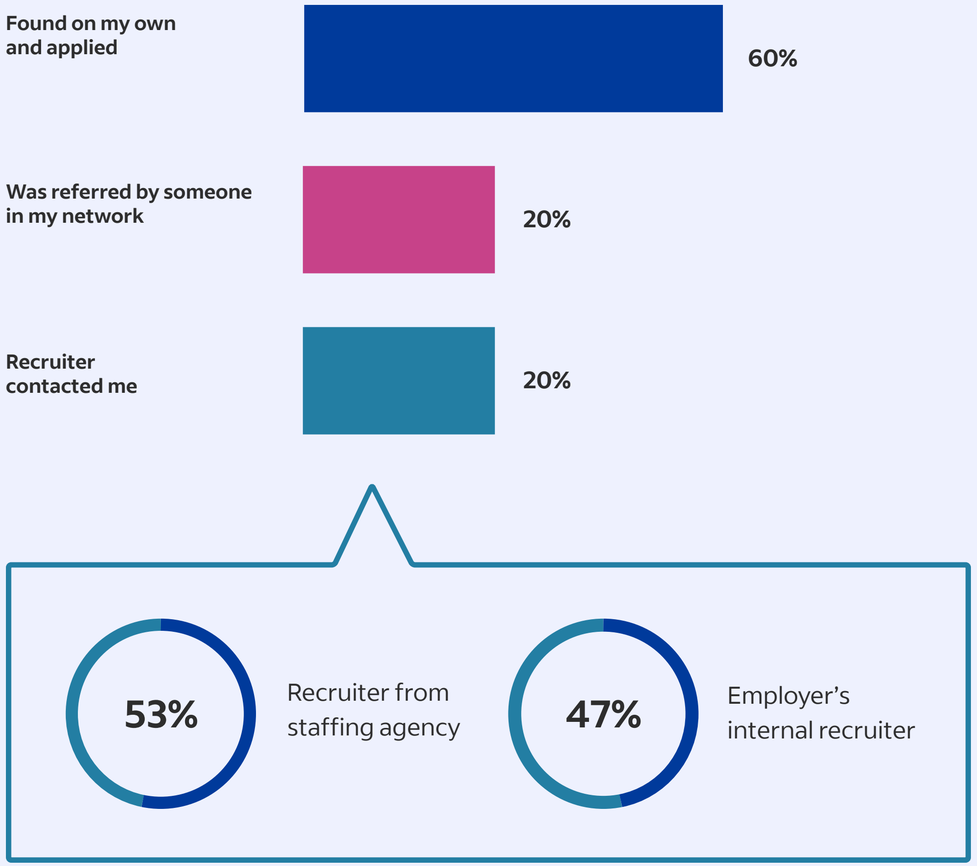
Experienced tech professionals apply to jobs at a lower rate than their less experienced peers, but they tend to be more selective. Those with over 10 years of experience apply to roles that closely match their experience, resulting in a higher match score. More experienced talent may apply to fewer roles but are often a better fit for the position.

Creating a job ad isn't enough; it needs to include the key information that professionals prioritize. Research shows that tech talent are less likely to apply to jobs that do not specify a salary range or have a long list of qualifications. Additionally, this audience demands a streamlined application process, citing long and clumsy applications as a deterrent.

Around 96% of tech job seekers apply to multiple companies. Currently, about one-third of candidates apply to six or more companies, down more than 17% since 2023.

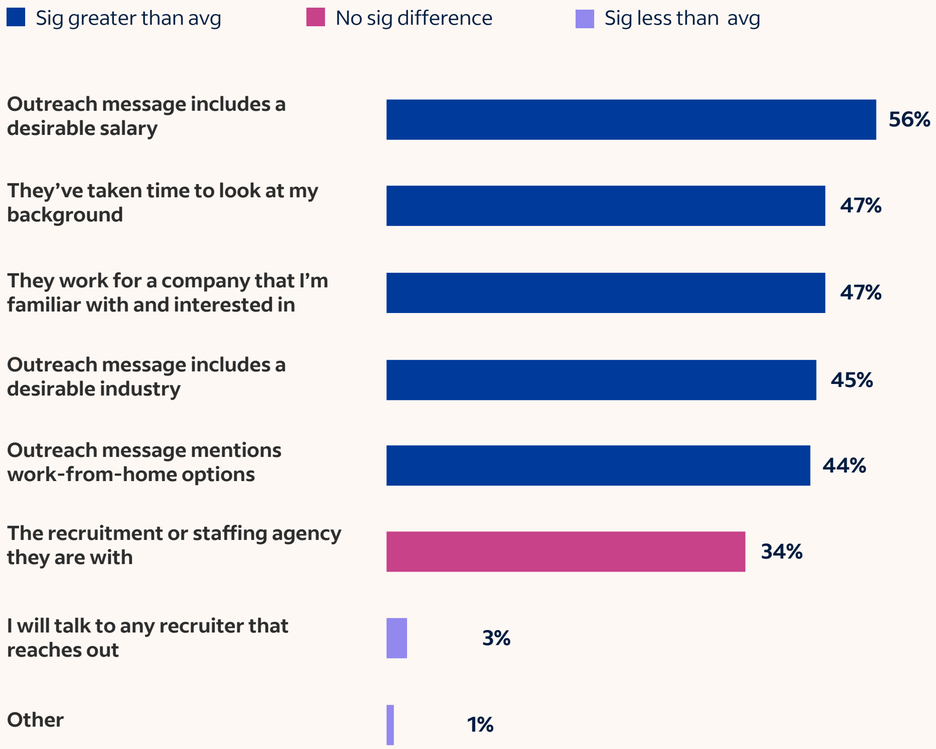
Tech professionals say the tech industry is their top choice, but application rates tell a different story. On Indeed, more tech talent applies to jobs in Staffing and Healthcare, with the tech industry ranking third. This suggests that many tech professionals want to work in tech, but jobs in other industries perform better on job boards. It could also suggest that tech talent may not be qualified for the roles they are targeting in the tech sector.

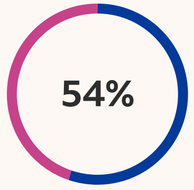
How did you find your current / most recent job?



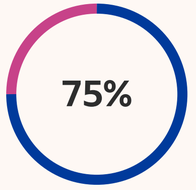
Indeed commissioned research 2024, Total N=1102 job seekers

What makes you want to respond to a recruiter?





Report that a recruiter has reached out in the past year

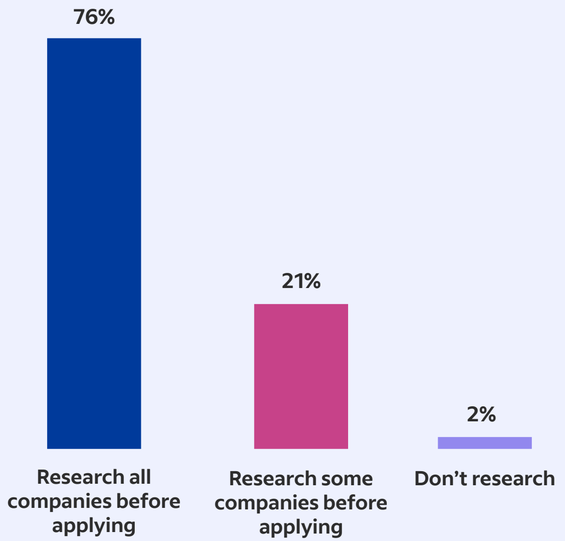


Of those that were contacted by a recruiter proceeded to have conversations to hear more about the job

While most tech professionals actively apply for jobs, 25% of these candidates update their resumes on Indeed but don't engage with job ads, preferring recruiters to reach out. Salary transparency is a key factor prompting applicants to respond.

Tech talent also researches potential employers, focusing on their overall rating, employee happiness, and workload. Only 31% rely on the employer's website; most go to external sites like LinkedIn, Indeed, and Glassdoor to do their research. This makes it important for employers to maintain consistent messaging across all channels.

Company research before applying



Indeed commissioned research 2024, Total N=248 job seekers

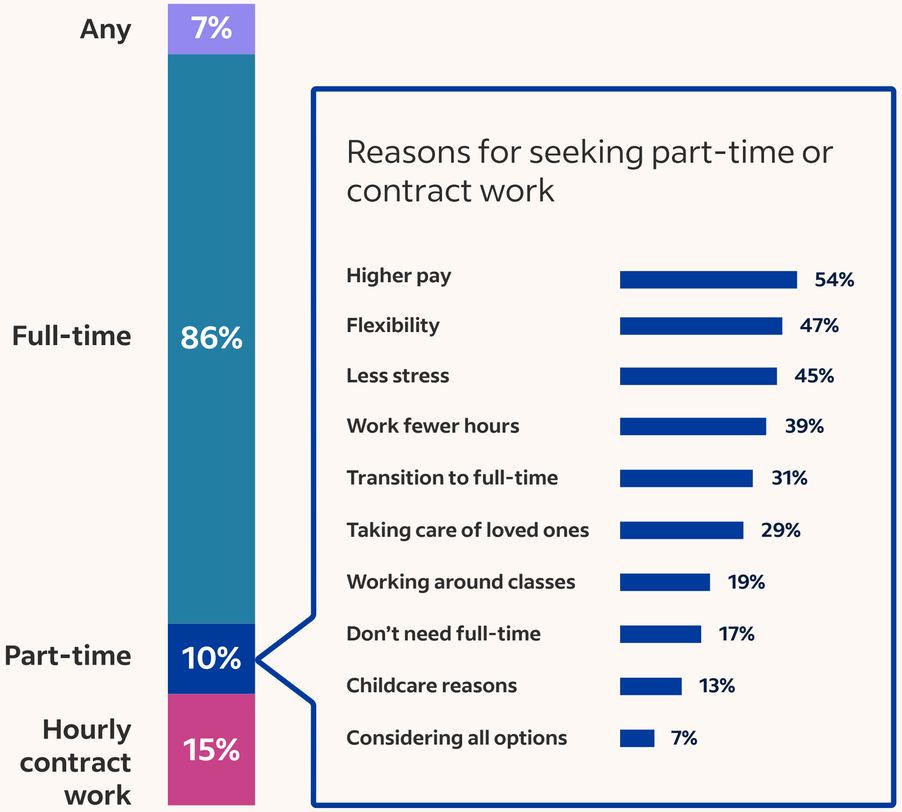
Most active tech talent (86%) are looking for full-time work. Those not interested in full-time roles want more flexibility, less stress, and fewer hours. Employers hiring part-time or contingent workers should highlight these aspects to attract candidates.

Nearly 80% of tech professionals open to new opportunities - both passive and active job seekers - are also open to relocation, a 10% increase from 2023. Almost half of those willing to relocate prefer major cities. Older, more experienced talent and passive job seekers are less willing to relocate.

Skills-first assessments are a common part of the job search and interview process. Ninety percent of tech professionals have taken skills-first assessments and say that about half of the companies they apply to require these assessments. Despite employers' concerns regarding the accuracy of these assessments, 94% of tech talent believe they accurately measure their skills.

This year, more candidates were allowed by employers to use outside resources while taking assessments than last year (one-fifth, compared to one-third). This trend suggests more employers are realizing the real-world application of skills involves using external resources.

Job type interested in:



Indeed commissioned research 2024, Total N=1012 job seekers

Data shows a comparison of interest in remote vs. hybrid work roles

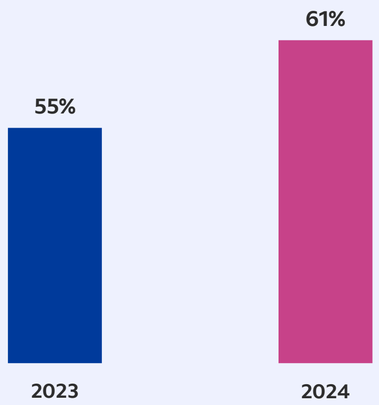
Job seekers are proactive

Job seekers are proactive

Job seekers prioritize access to job postings. More survey respondents found a job by discovering a job ad and applying on their own rather than passively sourcing or being placed by an agency.

How did you find your current/ most recent job?

"Found on my own and applied"



Indeed commissioned research 2023, Total N=1059 job seekers
Indeed commissioned research 2024, Total N=1102 job seekers

Similar to 2023, more than half of the tech talent in our sample found their jobs without the help of a reference or recruiter. It also suggests that while networking is still important, job seekers are being more proactive, relying less on not only recruiters but also their own networks and searches.



Tech talent wants benefits

Just over three-quarters (76%) of respondents reported researching companies before applying, up 11% from last year. Benefits, at 69%, are the most sought-after factor. Despite this, all three tech categories (Information Design & Documentation, Software Development, and IT Operations & Help Desk) on Indeed are among the sectors with the lowest share of postings that advertise at least one benefit.

Benefits tech job seekers find most valuable, but companies least offer, include:

- Sign-on bonuses
- Four-day work weeks
- Unlimited PTO
- A-la-carte benefits (Choosing from a variety of benefits based on personal needs rather than a standard package)
- Stock options/equity
- Tuition reimbursement

One notable addition from last year to the highly valued but least offered benefits category is tuition reimbursement. With the rise of GenAI, there is growing pressure to upskill:



They primarily seek access to technical courses. Companies offering upskilling opportunities have significantly more tech employees considering only internal roles.

To entice more tech talent, it is important to understand how top-of-mind benefits can also vary from role to role. Here are some examples of perks and incentives listed in tech job ads that correlate with higher apply rates:

- Software Architect: Unlimited PTO, Professional development assistance, paid training
- BI Analyst: Professional development assistance, family leave, unlimited PTO
- IT security specialist: Unlimited PTO, commuter assistance, pet insurance, stock options
- Infrastructure Engineer: Paid training, onsite gym/gym membership, dependent care reimbursement

When researching job opportunities, benefits are followed closely by compensation, at 67%. While 90% of jobs posted directly on Indeed provide salary information, less than half of tech postings here list compensation: 46% of software technology jobs and 42% of IT jobs on Indeed include salary details.

Jobs that list compensation see 31% more apply rates. In fact, a competitive salary is the key driving factor in getting tech talent to respond to a recruiter's outreach.

Indeed data, US

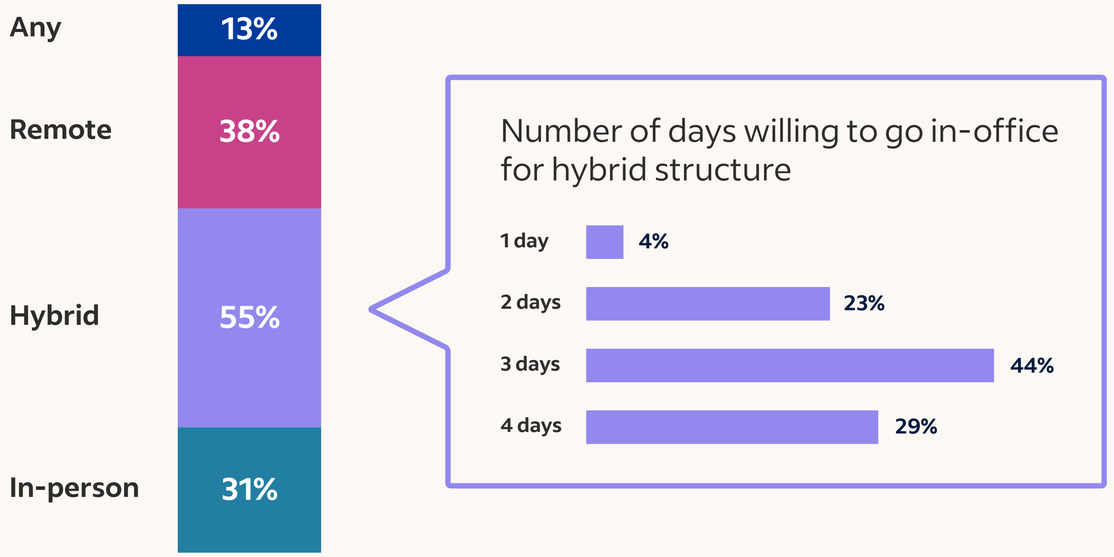
Most tech professionals prefer to work with cutting-edge technologies to stay competitive. While some prefer to work with familiar systems, many are open to learning new technologies. Companies developing the latest technologies or offering training on emerging systems should emphasize this in their job ads to attract top talent.

Hybrid work arrangements are highly attractive to tech professionals. Some employers may wonder if requiring in-office time will deter applicants, but this isn't a given: research shows flexibility is key to retention and attraction.

Thirty-nine percent say they currently work for an employer that allows varying work structures. The top factors that define the varying structures are role type and role level. Hybrid work is the most common setup, and the number of days spent in the office positively correlates with an employee's likelihood to stay. Hybrid workers going in 4 days a week are more likely to stay at their current company for their next role or job (75% likelihood versus 56% for 1-3 day hybrid workers).

Interest in in-person jobs has increased, with 31% of tech talent now preferring to work on-site, up 5% from 2023. Remote roles on Indeed see higher apply rates than hybrid positions, with remote roles having an application rate of 22%% compared to 20% for hybrid roles. However, 55% of those surveyed expressed an interest in hybrid roles. Even if your positions aren't fully remote, highlighting any flexibility in where employees can work will attract more candidates.

Working structures candidates are interested in:



Among those that don't want to be remote, 37% are willing to relocate anywhere and another 44% are willing to relocate to certain cities/states.

What drives tech talent retention

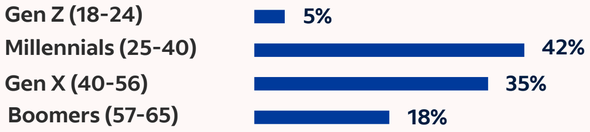
What drives tech talent retention

According to Glassdoor's business outlook ratings, IT professionals rate their employers' business outlook 45% more positively than the national average. This indicates that tech talent feels more optimistic about their companies' future compared to other industries. Interestingly, tech professionals in education, restaurant and food service, and nonprofit sectors tend to give their employers higher overall ratings on Glassdoor.

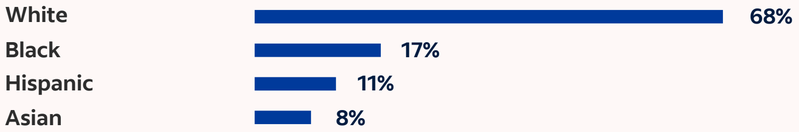
Glassdoor's data shows that tech employees who are satisfied with their roles are more often in management or have 10-20 years of experience.

Profile: Content in job and not looking

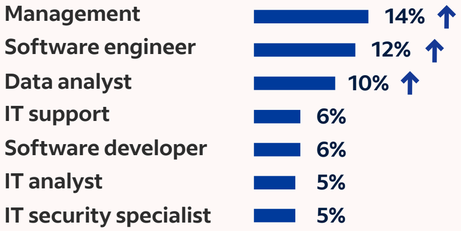
Age



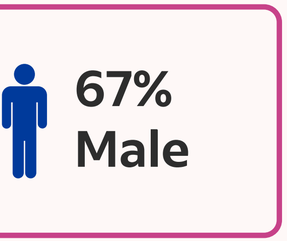
Ethnicity

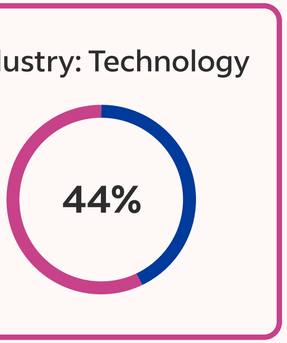


Role



↑ Sig greater for this group than those open to a new job





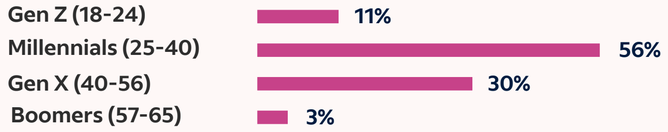


Profile of content in job and not looking. Indeed commissioned research 2024, Total N=214 job seekers

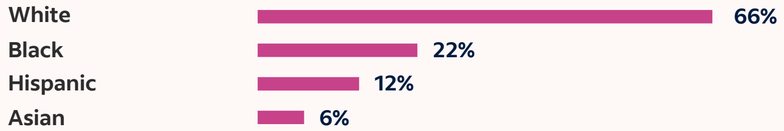
Tech professionals with 5 to 10 years of experience are more likely to apply for internal roles as opposed to applying for opportunities outside of their company. This suggests that individuals at this stage in their careers are aiming to advance into higher leadership roles within their current organizations rather than searching for a new employer.

Profile: Only seeking new roles internally

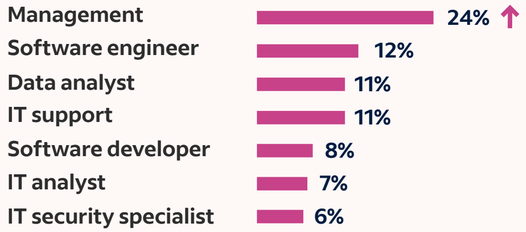
Age



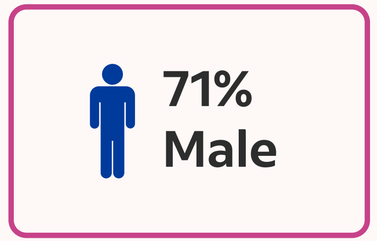
Ethnicity

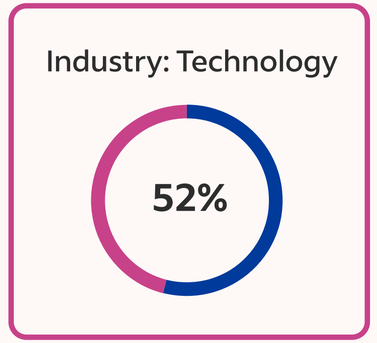


Role



↑ Sig greater for this group than those seeking new roles externally



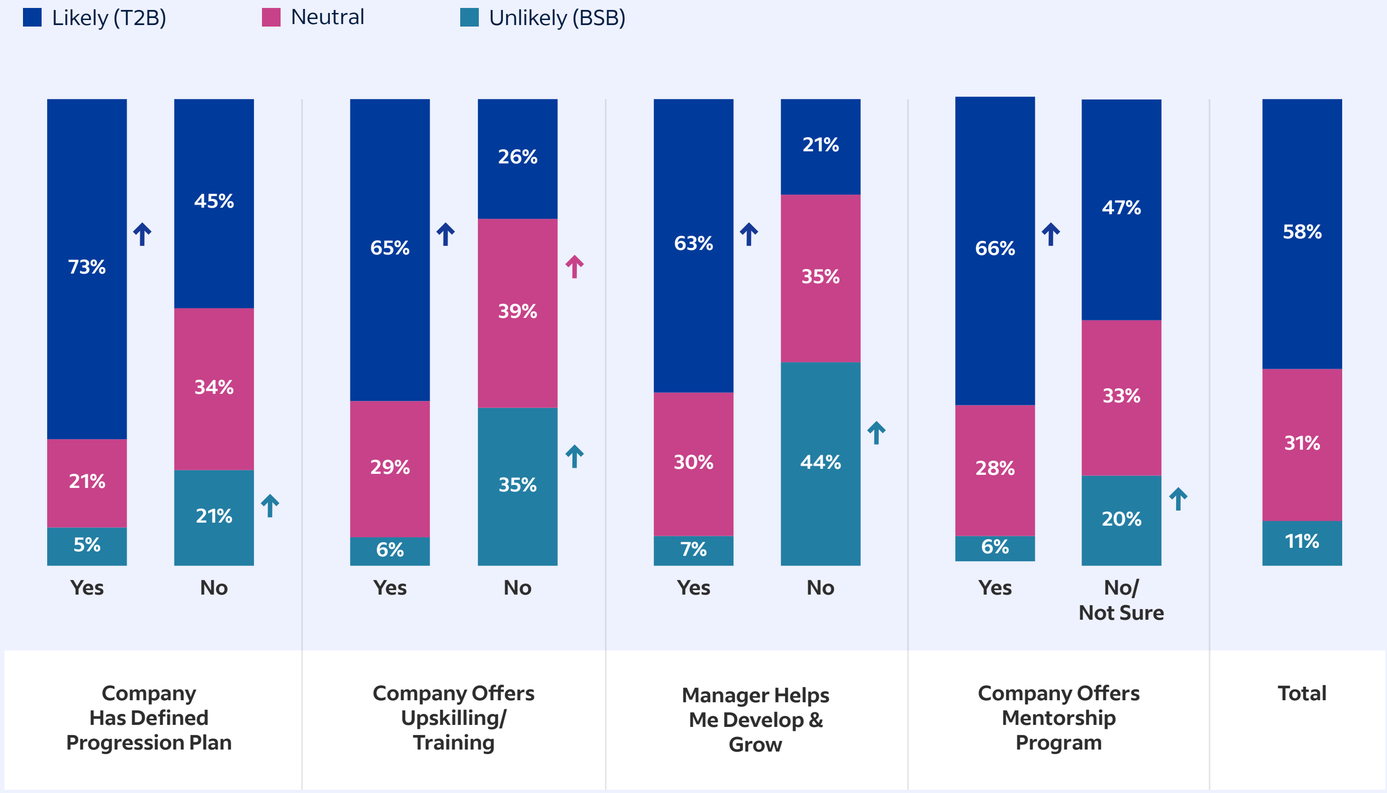




Profile of content in job and not looking. Indeed commissioned research 2024, Total N=214 job seekers

Companies that provide upskilling opportunities and guidance are much more likely to retain employees. Strong managerial support is also key for keeping this talent engaged and committed. The longer they stay, and the more face time they get, the more likely they'll stick around: longer tenure and higher in-office presence correlate with an increased likelihood that employees will apply for their next role within their current company.

Likelihood next job will be at current company when career development resources are offered



Indeed commissioned research 2024, Total N= 1057 job seekers

Visual shows how companies are retaining talent

Companies that offer the following benefits are more likely to retain workers for longer:

- A manageable workload, a relatable culture, and flexible hours
- Opportunities to upskill and mentorship programs
- Manager support

Reducing degree requirements can not only improve retention but also expand access to a more diverse talent pool. For example, companies may be missing out on hidden talent by requiring a bachelor's degree for roles that talent with different types of technical education could otherwise fill. In fact, 34% of those surveyed didn't have a bachelor's degree, showing that skills first hiring could attract more talent. According to Indeed's Hiring Lab research from January 2024, tech sectors have less bachelor's degree requirements than they did 5 years ago.

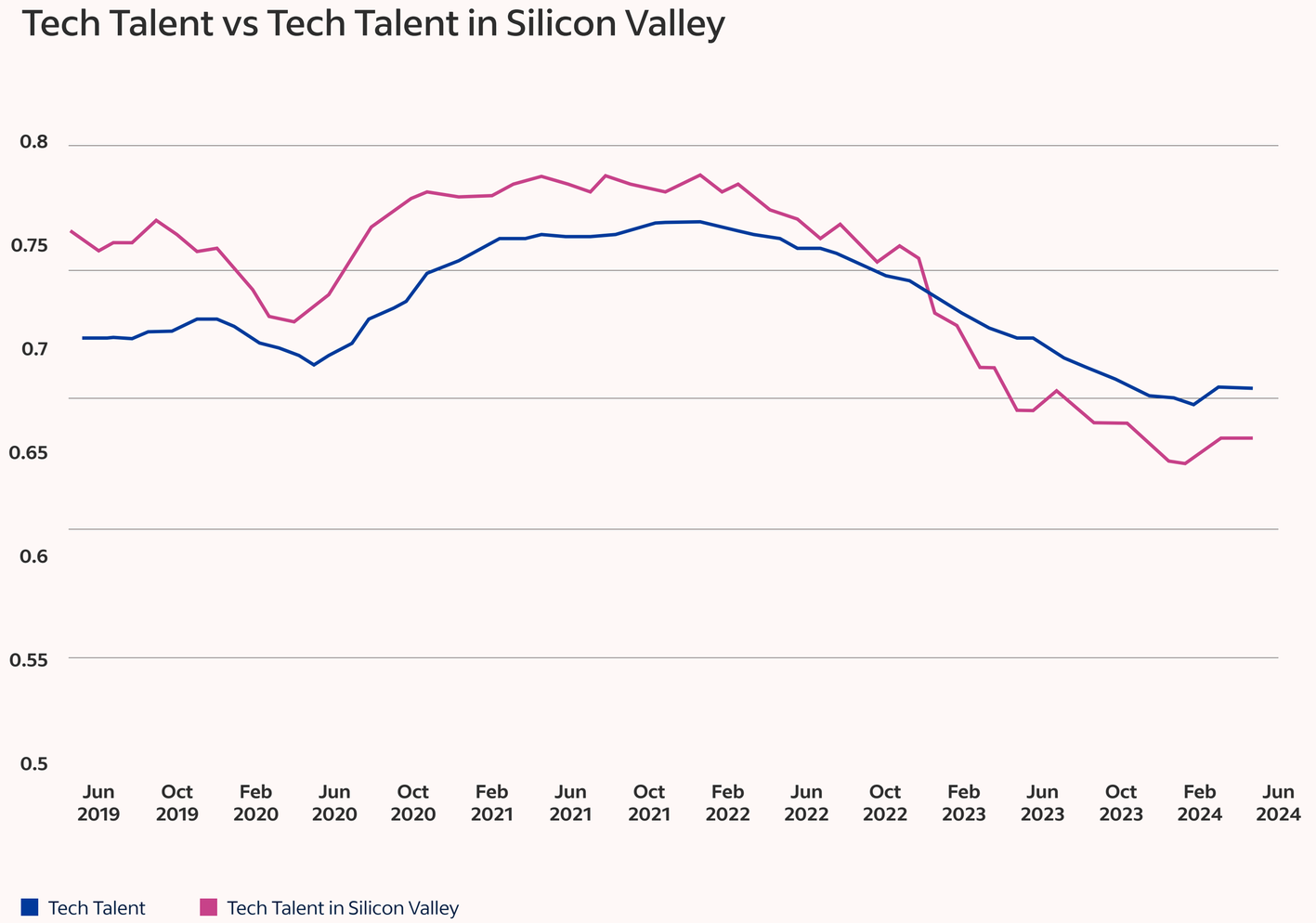


Retention risk factors

Identifying tech talent with elevated retention risk can help companies achieve better workforce retention. Several factors influence a tech employee's willingness to explore new options. Below are a few areas at higher risk.

Silicon Valley: While Glassdoor's employee business outlook ratings have IT talent well above what we see in other job categories, tech talent confidence started dropping in April of 2022. In February of 2023, there was a larger decline in tech talent in Silicon Valley, where towards the end of 2022, we noted a larger decrease in satisfaction around work-life balance. This could be due to the rise in "quiet hiring," where employers give their employees additional tasks to avoid the time and cost of hiring someone new, which can lead to extra hours and a poor work-life balance.

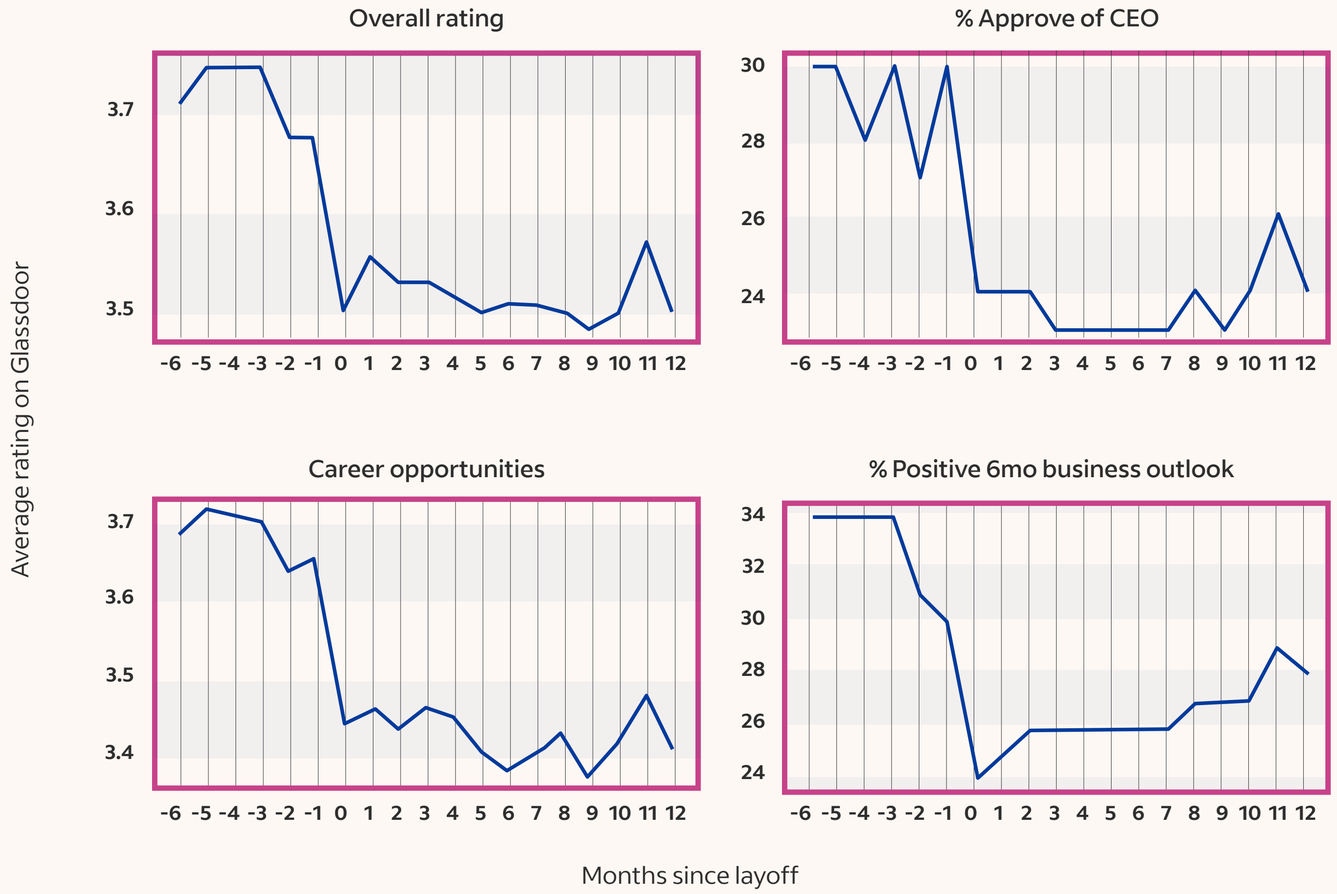
Personas more likely to be actively looking for work: Millennials and consultants are most likely to be actively looking for new opportunities, making a targeted retention strategy for this group important.



Non-competes: Employers that have non-competes for their tech talent will want to keep an eye on the legal landscape, as it unfolds. In August, a federal judge blocked the Federal Trade Commission's (FTC) Final Rule on non-compete agreements, shortly before it was set to take effect. After the FTC originally announced its Final Rule to render the majority of existing non-competes unenforceable, we asked US Tech Talent: How has your likelihood to explore new, different opportunities changed, if at all? Only 22% of respondents currently have a non-compete agreement, but 71% of them are more likely to explore new opportunities than prior to the FTC ruling. Depending on the FTC's next move, talent with non-competes may be more keen to explore new opportunities.

Companies laying off other workers: More than one-third of tech talent are concerned about layoffs in the next year, and 40% say if the company does lay people off, they are likely to be impacted. Glassdoor data tells us that layoff concerns correlate with a drop in employee confidence both before and after it happens 70% say they're likely to start looking at other companies if their current company lays people off, even if they themselves are not affected. If your company is having to conduct layoffs, transparency about the process and reassurance around job security could make a difference.

Layoffs affect ratings before and after the announcement



Glassdoor data, 2024

Top ways tech employers can increase diversity

Top ways tech employers can increase diversity

While tech employers struggle to find candidates, millions of skilled job seekers face bias due to age, ethnicity, disability, race, veteran status, education level, or criminal record. Barriers often include rigid requirements or requirements in a language that isn't inclusive, which disproportionately impacts women/underrepresented genders, underrepresented minorities, and people with disabilities. Recruiters can make simple changes to attract more diverse candidates.

Indeed's research shows that the following actions help increase the diversity of talent pools:

- Use a skills-first approach throughout the hiring process, from job descriptions through interviews and salary negotiations
- Use gender-neutral job language in job postings
- Enact fair-chance hiring to help reduce discrimination against job seekers who have a criminal record
- Reconsider requiring specific degrees or levels of training, as this opens the door to job seekers who gained skills in ways other than formal education the door to job seekers who gained skills in ways other than formal education.



Benefit value-add differences by group

Benefit	Adds Value (T2B)		Benefit	Adds Value (T2B)	
Health insurance	88%		Mentorship program	64%	
Employer matching on your 401k	87%		Autonomy	62%	
Flexible hours	85%		Diversity, inclusion, and belonging initiative	61%	B
Manageable workload	84%		Caregiver leave - 12 weeks or more	60%	Ve
Option to take paid leave or sabbatical	82%		Snacks and meals provided at office	59%	B
Professional development	81%	Ve	Maternity leave - 12 weeks or more	58%	F
Sign-on bonus	81%	Ve, B	Option to take unpaid leave	51%	
Remote working opportunities	78%		Option to work part-time	51%	B
Commissions/other bonus pay	77%		On-site gym / workout classes	51%	
Unlimited paid time off (PTO)	77%		“Chill out” zone	47%	B
4-day work week	74%		Caregiver leave - less than 12 weeks	46%	
A culture, mission, and values that I conect with	71%	Ve	Employee Resource Groups	44%	B, F
Stock options/ Restricted Stocks Units/Equity	70%		Maternity leave - less than 12 weeks	41%	F
Relationships/interactions with colleagues	67%		Adoption / fertility assistance	39%	F
A la carte benefits	67%		Pet-friendly office environment	38%	
Tuition reimbursement	65%		Pet insurance	35%	F

A visual that shows which benefits F, B, and Ve place a significantly higher value on. Indeed commissioned research 2024, Total N= 1059 job seekers.

Survey respondents stated how much value each of these benefits add to a job offer. This graph shows the value of benefits varies by different groups with different needs.

Customizing benefits to target various audiences is also a helpful way to attract diverse tech talent. Research shows that workers from various demographics value different benefits.

The industries where tech talent rates the highest for diversity and inclusion initiatives on Glassdoor are non-profit, education, and government / public sector.

Significantly higher value for...

F= Female
B= Black
Ve= Veteran

Wellbeing is the big differentiator for tech talent

Wellbeing is the big differentiator for tech talent

Companies that successfully attract and retain talent in the tech space typically share a common differentiating feature: They prioritize employee wellbeing in their workplace policies and culture, and emphasize this in their hiring processes.

Research shows that wellbeing at work is a top driver of retention across sectors. An Indeed-sponsored report from Harvard Business Review Analytics Services found that companies almost universally agree happy workers provide a competitive advantage and make it easier to retain talent. Another study by Oxford researchers shows that employers whose employees cite high wellbeing usually outperform the market.



The presence of a mentorship program significantly impacts retention. Companies offering a mentorship program see 66% of their employees likely to stay, compared to 47% in companies without one. This highlights the importance of creating an environment where professionals can grow and develop.

Additionally, when comparing those actively looking versus those not looking or only looking internally, active job seekers are seeking more flexibility to work from home. Offering at least some flexibility to allow for a better work-life balance can help retain talent. Certain benefits are key drivers for workplace wellbeing. Benefits offered to employees who are "very likely to stay" at their current company for their next role include:

- A manageable workload
- Flexible hours
- Unpaid leave
- Mentorship programs
- Part-time work options
- Caregiver and maternity leave
- Four-day work weeks
- Unlimited PTO
- An onsite gym
- Pet insurance

Support is another key feature of work wellbeing that tech workers prize. Tech workers say they are more likely to seek their next job internally if they feel properly supported. Survey respondents say that "support" can look like a defined progression plan, the option for upskilling or training, an empowering manager, or a mentorship program.

Recruiting tech talent takes insight and strategy

In a tight labor market, knowing what job seekers are looking for, how to expand recruiting reach, and how to improve work wellbeing will not only help attract top tech talent but also cultivate a workplace that will keep them.

However, the employment landscape and job seeker behavior are changing quickly, so maintaining an effective, up-to-date recruiting and hiring strategy requires keeping up with trends and the willingness to pivot when necessary. This agility, paired with a hiring and matching platform that allows employers to connect directly with quality job applicants and gain actionable insights, will give employers an edge in the competition for today's top tech talent.

This report is based on survey data, collected by SKIM, from more than 1,100 U.S.-based technology professionals between June 4th and June 24th, 2024. The respondents represent a wide range of tougher to fill technology roles and experience levels. Additional insights were gathered from Indeed and Glassdoor data.

