# AI-driven disruptions reshape entry-level tech jobs amid rapid automation advances



Just a few years ago, securing a job in the tech industry seemed almost a given for individuals with relevant skills. Before the pandemic, the sector thrived on booming startups, abundant venture capital in Silicon Valley, and robust hiring of junior developers, designers, and data analysts, including recent bootcamp graduates. The onset of the pandemic further accelerated demand as businesses rushed to digitize, creating even more remote opportunities nationwide. However, this momentum has since slowed dramatically. The tech sector has witnessed sweeping layoffs, tighter hiring practices, and a fundamental shift driven by the rise of artificial intelligence (AI).

AI’s presence in the workplace is not new—automation has shaped factories for decades—but the advent of generative AI tools like ChatGPT and automated code generators represents a turning point for knowledge workers, especially those in entry-level positions. These tools can now produce code, marketing content, legal documents, and design elements instantly, automating many tasks once considered uniquely human. According to a 2023 McKinsey report, AI could automate 60–70% of the time spent on tasks across various jobs, notably in customer service, legal, finance, and administrative roles. Conversely, sectors like healthcare, STEM, and creative tech are projected to see growth, driven by AI-enabled innovation.

The World Economic Forum projects that by 2027, automation could displace 83 million jobs globally while creating 69 million new roles, many demanding new skill sets. Pew Research data suggests a disconnect between workers’ general awareness of AI’s impact and their own perceived risk, with many underestimating personal vulnerability to job disruption. Some economists maintain a cautiously optimistic view, proposing that AI will augment rather than replace roles, especially those requiring complex human judgment or interpersonal skills. Yet, the divide between automatable routine work and roles needing adaptability and creativity is widening, challenging both workers and employers to respond swiftly.

In practice, this transformation is already reshaping workforce pathways. Lisa Countryman-Quiroz, CEO of the San Francisco nonprofit Jewish Vocational Service (JVS), notes a significant contraction in entry-level tech roles. Programs targeting frontline IT support and tech sales, once reliable entry points into technology careers, are being phased out due to automation. The pandemic-era hiring optimism has given way to cost-cutting measures, with many companies prioritizing AI-driven solutions across both technical and administrative functions. This transition hits hardest on young workers and those without formal degrees, who face fiercer competition from experienced tech layoffs and government workers re-entering the market. Countryman-Quiroz emphasizes the urgent need for investment in upskilling and retraining initiatives to prevent widening economic disparities.

Technical professionals echo these observations. San Jose full-stack engineer Prathma Rastogi describes the rapid integration of AI tools like GitHub Copilot and ChatGPT within engineering teams, particularly automating basic coding and testing tasks. This evolution demands continuous learning and adaptation, as developers increasingly focus on high-level solution design, product strategy, ethical decision-making, and human-centred design—areas AI currently cannot replicate. Rastogi advocates for employer-led reskilling programs supplemented by government grants to empower workers rather than marginalize them amid technological upheaval.

The effects extend beyond software development, as evidenced by Marco Sciorelli, an engineering professional in San Jose, who points to AI-driven job creation in sectors supporting the explosion of data centres and infrastructure powering these technologies. Roles for electricians, mechanical contractors, and utility technicians are in demand, offsetting some losses elsewhere. However, in his experience, routine tech support was among the first functions to be automated internally following COVID-19, reflecting a broader trend of labour cost reduction. Sciorelli advises workers to cultivate skills in strategic thinking and creativity to complement AI capabilities.

Local initiatives further illustrate proactive adaptation efforts. San Jose’s recent AI Upskilling Program for city employees, conducted with San Jose State University, reportedly saved significant staff hours and departmental consulting costs by training workers to develop AI-assisted tools. Silicon Valley educational institutions and industry groups have also launched credential programs in AI-related fields, including prompt engineering and AI ethics. These emerging roles often command competitive salaries and are increasingly accessible without traditional tech degrees, highlighting a shift toward skills-based hiring models.

On the national front, companies like OpenAI plan to launch new AI-powered job platforms and certification programs aiming to equip millions of Americans with AI competencies over the coming years, signalling a significant shift in workforce development and recruitment strategies toward AI literacy.

Despite these opportunities, the landscape remains fraught with anxiety and uncertainty. Reports indicate a marked 25% drop in hiring of recent graduates by major tech firms such as Meta, Microsoft, and Google, with AI cited as a principal factor in automating routine entry-level tasks. Some experts warn of deeper displacement ahead. Geoffrey Hinton, known as the "Godfather of AI," predicts mass unemployment driven by corporate profit motives enabled by AI, while others like Anthropic’s CEO foresee up to half of all entry-level white-collar jobs disappearing within five years. These warnings underscore the necessity for robust societal responses, including regulatory safeguards and equitable training programs.

Conversely, data from the Federal Reserve Bank of New York suggest that, so far, AI’s impact on employment has been more nuanced, often leading to retraining rather than widespread layoffs. Nonetheless, firms are preparing for potential future disruptions with more cautious hiring and workforce planning.

The rising anxiety among workers across industries, fuelled by rapid AI adoption amid broader economic instability, is palpable. Behavioral scientists highlight how this unease reflects fears over job security and personal value, prompting some employees to exaggerate AI skills or covertly use AI tools. Mental health experts see potential for this anxiety to motivate positive adaptation, such as reskilling and career pivots, but stress the importance of ensuring workers have agency in shaping their futures in an AI-enabled economy.

Ultimately, while AI is remaking the labour market—displacing some roles yet generating others—its net impact will hinge largely on coordinated efforts by business leaders, policymakers, educators, and workers to foster inclusive, forward-looking workforce development. The coming years will challenge the myth of a straightforward tech career path and demand a focus on adaptability, continuous learning, and human-centred skills that machines cannot easily replicate. How society manages this transition will determine whether AI deepens inequality or drives broad-based economic growth.

### 📌 Reference Map:

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2. <https://www.reuters.com/business/ai-not-affecting-job-market-much-so-far-new-york-fed-says-2025-09-04/> - A recent blog post by the Federal Reserve Bank of New York reports that despite a significant increase in artificial intelligence (AI) adoption across businesses in its district, AI has not yet led to major job losses. The findings suggest that current AI implementation has more often resulted in employee retraining rather than layoffs. About 40% of services firms and 26% of manufacturing firms reported using AI in the past year, up from 25% and 16% respectively, with expectations of further adoption in the next six months. While concerns persist that AI could eventually displace high-paying managerial and professional roles, the job market impacts appear to be limited for now. However, the report cautions that the future may hold more significant labor market changes, with firms anticipating more layoffs and reduced hiring as AI integration deepens. Despite a broadly cautious outlook, the near-term effects of AI on employment have been modest.
3. <https://www.axios.com/2025/09/07/ai-job-anxiety-ceo> - The article discusses the growing anxiety among workers regarding the rapid adoption of AI in the workplace, occurring during a time of economic instability and limited job opportunities. Workers across various career stages are concerned about AI potentially replacing human roles, especially as hiring slows and companies increasingly promote AI integration. Even AI-supportive executives acknowledge the need for human involvement, but remain unclear about the scope and duration of human roles. Experts, like behavioral scientist Lily Jampol, highlight that much of the anxiety stems from uncertainty and the speed of technological change. Industry professionals report widespread existential unease, while therapists, such as Jada Butler, note how these feelings tap into broader societal concerns about self-worth. Some workers are covertly using AI or exaggerating their tech skills, reflecting underlying fears. On the positive side, mental health professionals suggest that AI-related anxiety can motivate individuals to upskill or pivot to new roles. Ultimately, the article emphasizes that the critical issue is not whether AI will change jobs, but whether workers will have agency in shaping the future of work.
4. <https://www.tomsguide.com/ai/openai-to-launch-a-linkedin-competitor-heres-what-ceo-sam-altman-revealed-at-the-white-house-tech-dinner> - OpenAI CEO Sam Altman has announced plans to launch a new AI-powered job platform, comparable to LinkedIn, along with a certification program aimed at boosting AI literacy and skills in the workforce. The announcement was made during a high-level tech dinner at the White House. This initiative, set to launch in 2026, is designed to help match employers with AI-competent candidates, ranging from beginners to experienced professionals in automation and prompt engineering. It targets not only large corporations but also small businesses, nonprofits, and state governments. Alongside the job platform, OpenAI will introduce a certification program embedded in ChatGPT’s Study Mode, aimed at certifying 10 million Americans by 2030. The goal is to promote a skills-first hiring model, moving away from traditional degrees toward real-world AI proficiency. Collaborations are underway with major companies like Walmart and Accenture, as well as state initiatives in Delaware and Texas. This move positions OpenAI in direct competition with Microsoft-owned LinkedIn, highlighting growing strategic tensions between the companies. Overall, OpenAI's entry into workforce development marks a significant step in shaping job markets in the age of AI.
5. <https://www.windowscentral.com/artificial-intelligence/godfather-ai-warns-how-tech-will-wipe-out-jobs-boost-profits> - Geoffrey Hinton, often referred to as the "Godfather of AI," has issued a stark warning about the broad societal impacts of artificial intelligence. In a recent interview, he stated that AI will cause mass unemployment as corporations increasingly use the technology to boost profits by replacing human workers. Hinton attributes this issue not to AI itself, but to the capitalist system that prioritizes profit over people. His concerns echo those of other experts, including AI safety researcher Roman Yampolskiy, who predicts unemployment could affect 99% of the population by 2030, and Microsoft co-founder Bill Gates, who believes AI will replace humans in most tasks, with only a few professions like biology and coding surviving the transition. Beyond job loss, Hinton warns of AI's potential misuse by bad actors, including the creation of bioweapons, and criticizes lack of regulatory safeguards. The drive towards achieving artificial general intelligence (AGI) is intensifying, with differing views from tech leaders like Sam Altman, Satya Nadella, and Demis Hassabis on its implications. Despite the uncertainty, experts agree that AI’s impact—good or bad—will be profound and that society must proactively address these challenges.
6. <https://www.entrepreneur.com/business-news/ai-is-taking-over-entry-level-tech-jobs-anthropic-ceo/492373> - A new report suggests that AI is responsible for a 25% decrease in hiring of recent graduates at big tech companies, including Meta, Microsoft, and Google. SignalFire, a venture capital firm that monitors the job movements of over 650 million employees on LinkedIn, found that big tech companies have reduced hiring new graduates by 25% from 2023 to 2024. SignalFire researcher Asher Bantock said AI could take over routine tasks, like coding and research. Anthropic CEO Dario Amodei predicts that AI could eliminate half of all entry-level, white-collar jobs within five years.
7. <https://www.livemint.com/technology/tech-news/ai-threatens-entry-level-lobs-tech-openings-for-new-grads-have-already-been-halved/amp-11755346500101.html> - AI is significantly impacting the job market for new graduates, particularly in tech, where job openings have dropped over 50% since 2019. According to a recent report by VC firm SignalFire, job openings for new graduates at the 15 tech largest companies have been cut by over 50 per cent since 2019. The report also stated that before the pandemic, new graduates made up 15 per cent of Big Tech hires, now, that number has dropped to just 7 per cent. This shift can be attributed to companies using AI to automate junior-level tasks and giving them an incentive to delay or reduce early-career hiring.