



Technology and Work:

Artificial Intelligence and the Vanishing First Job

01 What this report is about

This report is about the most exposed rung of the labour market: the entry point of a career. It is about that first job in which a young professional actually learns the trade - tasks that are simultaneously work and training. We ask two questions. Are entry-level jobs disappearing? And if they are, how much of that is artificial intelligence rather than the state of the economy?

02 What changed at the entry level

Since 2023 the number of entry-level openings has fallen sharply. This is not only a technology-sector story, though the drop is most visible there. Graduate outcomes worsened in parallel: both unemployment and underemployment are rising - the latter being the share of people working below their qualification.

The scale of the drop

over 35% decline in entry-level postings since January 2023 - roughly 100,000 fewer listings a month.

— Revelio Labs, 2025

over 40% decline in the most AI-exposed entry-level roles; in the least exposed the drop is 33%.

— Revelio Labs, 2025

65% and 76% is how far new-graduate hiring has fallen at large tech firms and early-stage startups versus 2019.

— SignalFire, State of Tech Talent, 2026

42.5% underemployment among recent U.S. graduates - the highest rate since the pandemic.

— MIT Technology Review, 2026

The form this change takes matters. There are no mass layoffs. The decline comes through slower hiring: firms keep the people they have and simply stop taking new ones on. That is precisely why the change is invisible — anyone already on the career ladder does not notice the bottom rung disappearing.

03 What the evidence shows

The most influential study comes from the Stanford Digital Economy Lab. It draws on ADP payroll records covering millions of U.S. workers - administrative data rather than a survey.

Three findings stand out. First, there is no evidence of economy-wide displacement. Second, workers aged 22–25 in the most AI-exposed occupations show roughly 19% lower employment than same-age peers in less exposed fields, while no comparable gap appears among experienced workers. Third, the decline is concentrated where AI substitutes for people; where it assists them, employment is stable or growing.

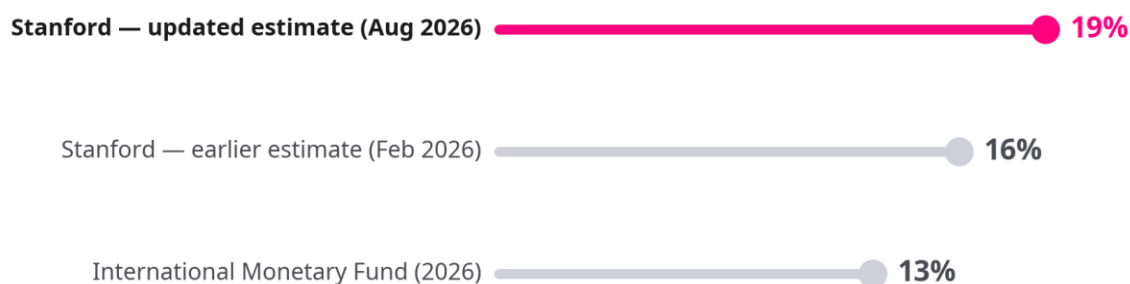


Figure 1. The range of estimates: relative employment decline among 22–25-year-olds in the most AI-exposed occupations.

An honest caveat belongs here: the number moves between versions of the study. Earlier editions put it at about 13%, early 2026 at 16%, and the updated August version at 19%. The International Monetary Fund's independent estimate is 13%. It is therefore more accurate to speak of a range than of a single figure.

Independent confirmation comes from a Harvard study covering 65 million workers across more than 280,000 firms. Its authors call generative AI a case of “seniority-biased technological change”: after adoption, junior headcount falls while senior headcount holds steady. Here too the mechanism is slower hiring rather than dismissal.

04 Is artificial intelligence really the cause?

This is what makes the question worth analysing rather than merely reporting - the counter-argument is not weak.

The Budget Lab at Yale reached an unambiguous conclusion in May 2026: there is still no clear evidence of an AI effect on employment or wages. Nor is there unusual occupational churn, which mass displacement would produce.

More substantial still is the problem of timing. Frank and co-authors show that unemployment risk in AI-exposed occupations began rising in early 2022 - months before ChatGPT was released. In the same window, from March 2022, the Federal Reserve began raising interest rates aggressively. Add to that the post-pandemic remote-work effect, which eroded the value of junior workers independently of any AI.

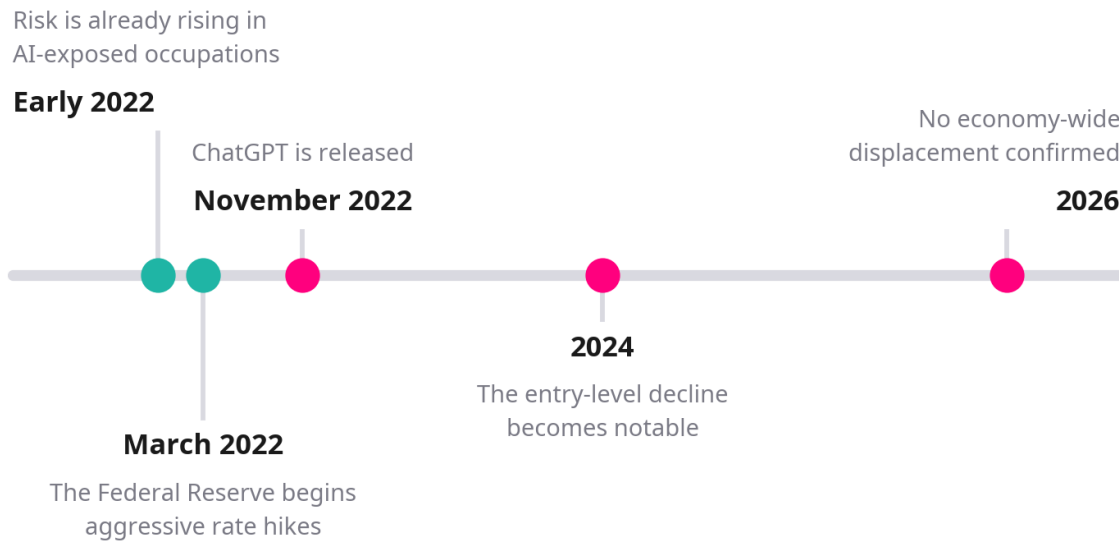


Figure 2. Two competing explanations and their chronology: monetary tightening or generative AI?

Notably, Stanford’s own updated analysis dates the entry-level decline as notable only from 2024. The Stanford Institute for Economic Policy Research concludes plainly that establishing causation remains “empirically challenging” and an open question.

The most useful synthesis comes from Revelio Labs: AI is partly responsible, but the sharper problem is a mismatch. Employers increasingly demand AI skills in senior roles while neither requiring nor teaching them at entry level. Both sides lose - the firm forfeits productivity, the graduate forfeits a way in.

05 “Seniorisation”: the work stayed, the way in vanished

PwC’s 2026 Global AI Jobs Barometer reframes the whole picture. It analyses more than a billion job advertisements across 27 countries, including 2.4 million U.S. entry-level postings. Its conclusion: entry-level work has not disappeared - getting into it has become much harder.

In the most AI-exposed occupations, an entry-level vacancy is seven times more likely to demand skills that once belonged to experienced staff: strategic decision-making, stakeholder management, leadership and judgment.

Share of new entry-level skill demands that used to be senior skills

Most AI-exposed occupations



Least AI-exposed occupations



Change in the number of postings since 2019

"Seniorised" entry-level roles



Traditional entry-level roles



Figure 3. Seniorisation from two angles: the composition of new skill demands, and the change in the number of postings.

Seniorisation in numbers

7× more likely that an AI-exposed entry-level vacancy demands senior-level skills.

— PwC, *Global AI Jobs Barometer*, 2026

52% and 7% is the share of new entry-level skill demands that were traditionally senior, in the most and least exposed occupations.

— PwC, 2026

62% is the wage premium on AI skills, up from 57% the previous year.

— PwC, 2026

From this the central paradox unfolds. Artificial intelligence absorbs exactly the routine work that used to serve as training: boilerplate code, running tests, routine debugging, first-pass document processing. These tasks looked low-value; in reality they were the road into the profession. Automating them adds efficiency today and creates a shortage of experienced staff tomorrow.

The consequence is already visible in behaviour. According to SignalFire, graduates of the top U.S. computer-science programmes are 45% less likely to take a job at a large tech firm, while new graduates are twice as likely to found their own company as in 2022. Their answer to a missing bottom rung is to step off the ladder entirely.

Cutting the junior tier has a backlash of its own. As the World Economic Forum notes, when the work is automated but responsibility and oversight move upward, middle and senior staff are left overloaded and exposed to burnout. On top of that sits a succession problem: if no juniors are trained today, no seniors appear five years from now.

The picture is not one-sided, however. Some large employers are betting the other way: Cognizant hired 25,000 graduates in 2025 and expects to exceed that in 2026. The logic is simple - a generation that uses AI natively is the cheapest route to adoption.

It is out of this that a redesigned junior role emerges, one in which the emphasis shifts from executing tasks to exercising judgment: quality-checking what the model produces, drawing conclusions from data for the senior team, and bridging the technology and the business context. Hiring into a role like that is an investment in talent, not a cost.

06 Georgia: how would this work here?

The International Monetary Fund's 2026 research shows that both the demand for new skills and their adoption lag significantly in emerging economies. In advanced countries roughly one posting in ten requires new skills; in emerging markets it is about half that. In comparable economies - Brazil and South Africa, for instance - new skills are adopted eight to nine months behind the United States.

Another finding from the same study speaks directly to a market like Georgia's: youth employment is concentrated in occupations with high AI exposure and low complementarity - which is to say, in exactly the roles that serve as the door into a career. In regions where demand for AI skills is higher, employment in those occupations is 3.6% lower over five years. The risk is highest for college-educated young people.

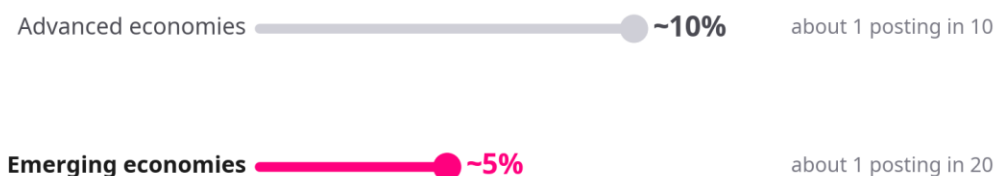


Figure 4. The share of job postings requiring new skills: advanced and emerging economies.

The local picture comes down to two figures. Unemployment among 20–24-year-olds stood at 17.6% in 2025 - historically low, yet already rising against the record 17.5% of 2024. At the same time, the most exposed sector is the very one recent growth has depended on: between 2017 and 2023 employment in IT grew fivefold to 24,760 people, turnover reached GEL 3 billion, and IT services rose from 1.5% to 11% of service exports. In 2024, however, foreign revenue fell by 12%.

The structural argument here is a mirror image. A sector built in part on outsourced junior-tier work is precisely the part of the economy that seniorisation will reach first. The danger is not that Georgia will lose entry-level jobs fastest - it is that it will lose them before building the institutions that would replace their training function.

The institutional picture confirms the diagnosis: the country has neither a national AI strategy nor a regulatory framework, no apprenticeship system, and no employer-side subsidies. According to Oxford

Insights, the gap is being filled from the bottom up: researchers at the Business and Technology University have already drafted guiding principles for the government, while programmes such as AI4Globe and Women in AI address exactly those groups most vulnerable at the point of entry.

What does that mean in practice? On the education side the recommendation is concrete: not generic coding bootcamps, but AI literacy, data verification and domain judgment built into the core curriculum. Notably, Frank and co-authors advise against abandoning AI-exposed skills - writing, coding, information synthesis. Those remain the most complementary, and even after ChatGPT they predict higher starting salaries and shorter job searches.

07 Sources

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This analysis was prepared by the academic team of the Business and Technology University (BTU) together with BTUAI. It draws on publicly available industry reports and research and is analytical in nature.

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