

Fault Lines

The Three Cracks in the Global
Labor Market



Elena Magrini, Head of Global Research at Lightcast
Ohio Association of Community Colleges Data Summit
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67 of Fortune 100 Companies

775 Government Organizations

A Global Leader in Labor Market Intelligence

Lightcast exists to create a labour market that works for everyone.

We help:

Education: Prepare Learners for Careers

Enterprise: Future-Ready Workforce Strategy

Public Sector: Develop Thriving Communities



HARVARD
BUSINESS SCHOOL



BOSTON
CONSULTING
GROUP

BROOKINGS

The Big Idea:

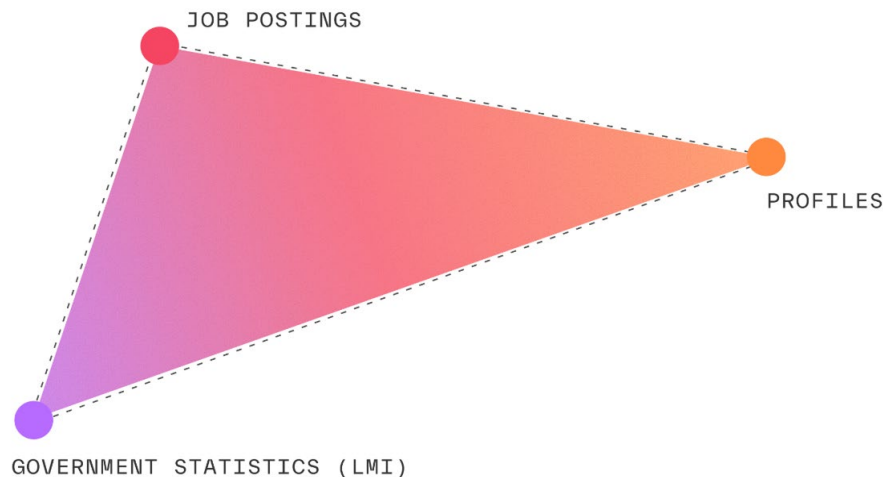
Building the most comprehensive labor market dataset

No single dataset answers all labor market questions.

But *together* , they move decisions from guesswork to evidence.



Data Triangulation

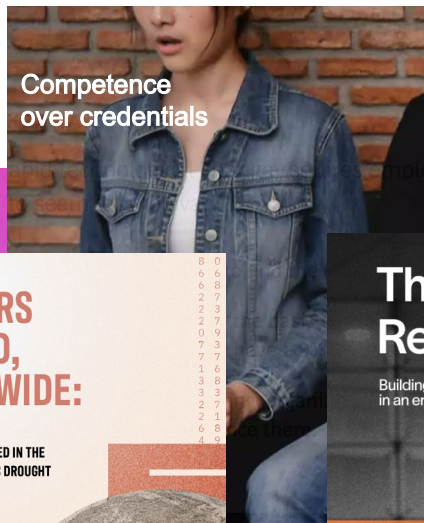


Lightcast Research covers all aspects of the labor market

LABOR SHORTAGES



SKILLED-BASED HIRING



SKILL CHANGES



AI RESEARCH



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Fault Lines: A Comprehensive analysis of the global labor market, backed by two decades of expertise



Introduction

A fault line is a place where pressure is building, creating the conditions for an earthquake.

We're seeing fault lines in the global labor market.

The entire global labor market is in the fault zone, so there can be no escape from the changes ahead—only preparation. But by using the data in this report, you can build for the future, even when the old rules no longer apply.





■ The Fault Lines: Three cracks in the labor market

The world of work we are used to, *no longer exists*

Geopolitics

We're used to an interconnected world, optimized for efficiency. Instead we're seeing competition, restrictions and reshuffling as countries de-risk their dependency on others.

Artificial Intelligence

We're used to technology that develops at a manageable pace, and skills that lasted from graduation to retirement. Instead we're seeing disruption that moves faster than anyone can respond to it - and a gold rush of investment.

Labor Shortages

We're used to abundant talent and reliable economic growth. Instead, we're seeing smaller populations, limited worker availability and new economic priorities.

The true impact of these forces is best understood by looking at where *the fault lines intersect*

1

Low birth rates and surging retirements are slowing workforce growth.

2

Falling immigration is further reducing the supply of new workers.

3

AI isn't helping solve shortages, rather it is creating new challenges.

4

Market dominance means far less when your target demographic is disappearing



We need new strategies - grounded in data.

If your labour market strategy relies on doing things because that's the way you've always done them, you will find yourself losing customers, students, or residents to competitors who have recognised that their existing pipelines won't last forever, and are making active adjustments in response.



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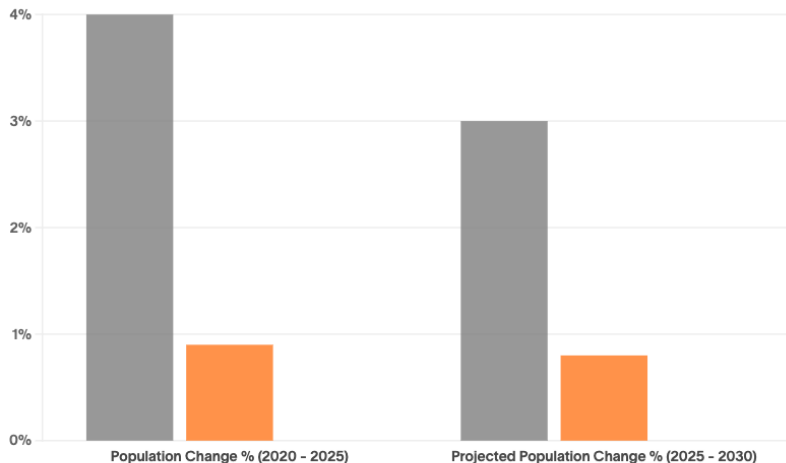
Ohio is facing more acute challenges than the US overall, with even slower population growth and negative net migration.

Population change

Ohio's population grew by 0.9% between 2020 and 2025, and is projected to grow by a further 0.8% by 2030.

Population change (past five years and projected)

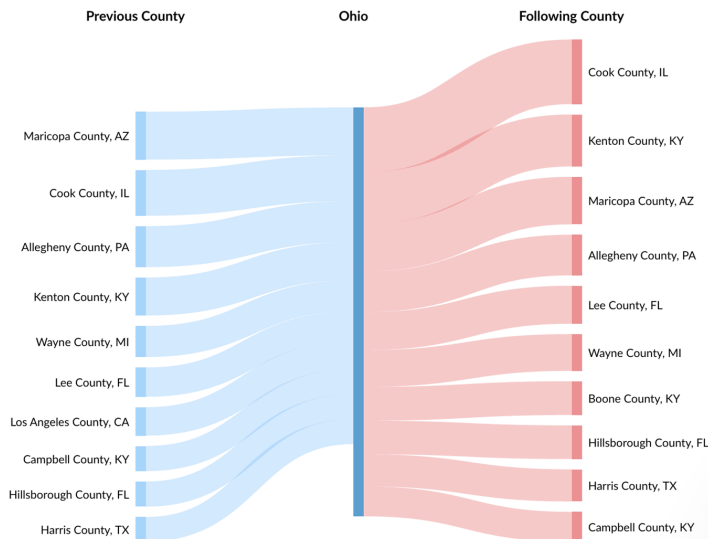
● United States ● Ohio



Source: Lightcast CoreLMI data

Inbound and outbound migration

The total Net Migration for Ohio in 2023 was -5,670 people.



Source: Lightcast, CoreLMI data



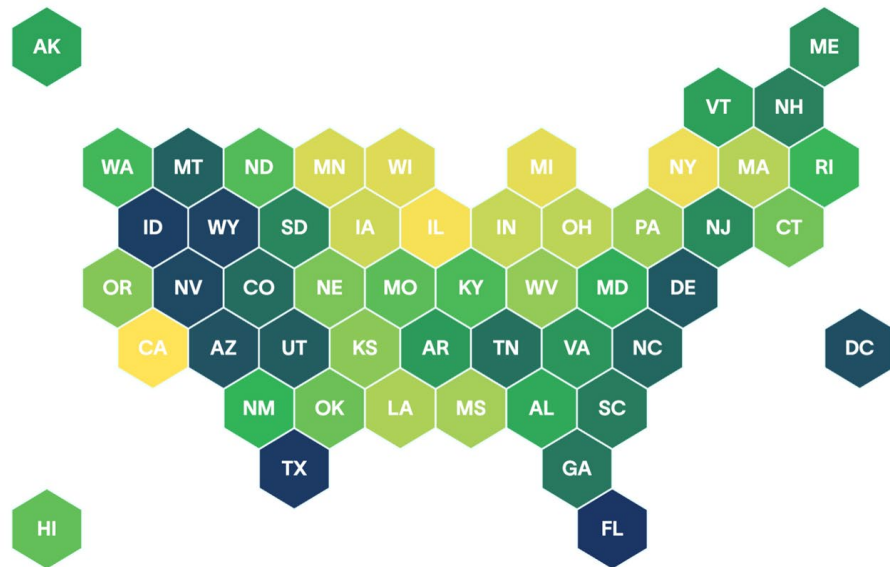
Ohio ranks **#43** in talent attractiveness, amplifying an already difficult national talent challenge.

#43
Overall
Ohio

Ranking by Metric:

Overall Job Growth	#33
High-Earning Job Growth	#19
Blue-Collar Job Growth	#39
Competitive Effect	#47
College-Educated Pop. Growth	#32
Attraction of Earners	#48
Prime-Age Pop. Growth	#48

Lightcast Talent Attraction Scorecard



Source: [Lightcast](#)

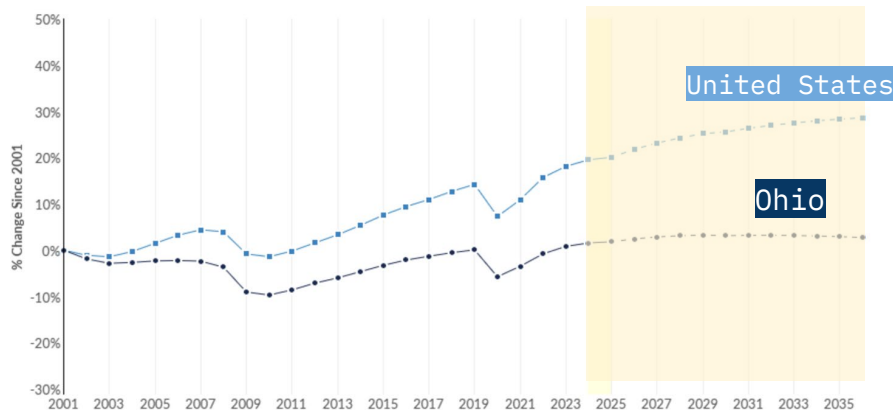


This is impacting Ohio's job growth average unemployment rate.

- and reflected in a lower than

Job Trends

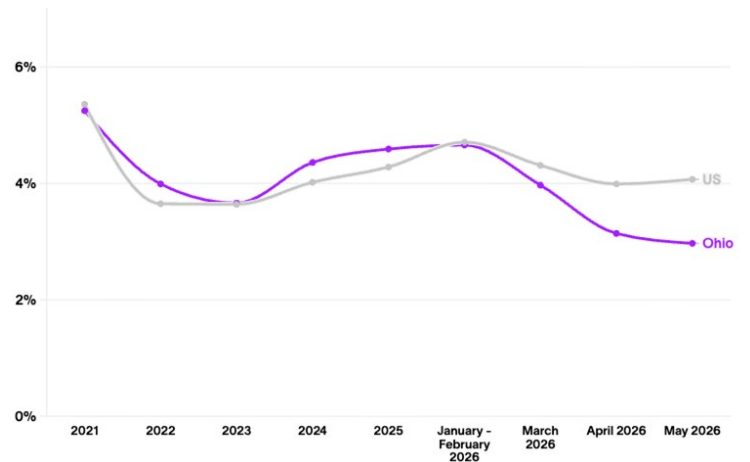
From 2020 to 2025, jobs increased by 8% in Ohio. This was slower than the US average (+12%).



Source: Lightcast, CoreLMI data

Unemployment rate (%)

Ohio's unemployment rate is now tracking below the US average and currently sits at 3%.



Source: Lightcast job postings data

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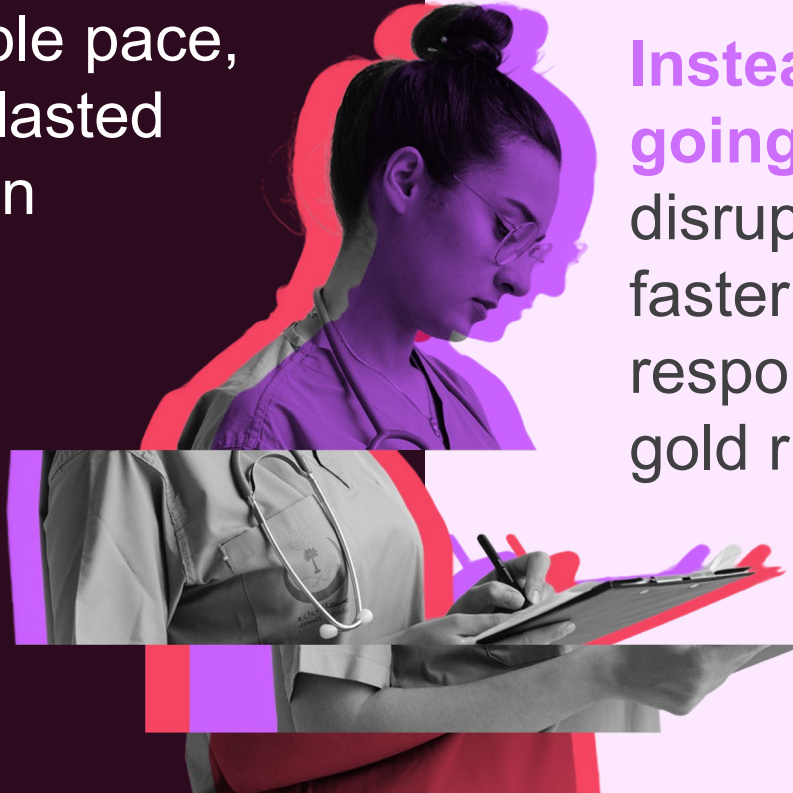
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Could
**ARTIFICIAL
INTELLIGENCE**
help solve these challenges?

A grayscale image of a person wearing a VR headset, positioned on the right side of the frame. The person's face is partially visible, looking down and to the left. The VR headset has a large, dark visor and a circular sensor or camera on the side. The background is dark and out of focus.

We're used to:

technology that developed
at a manageable pace,
and skills that lasted
from graduation
to retirement.



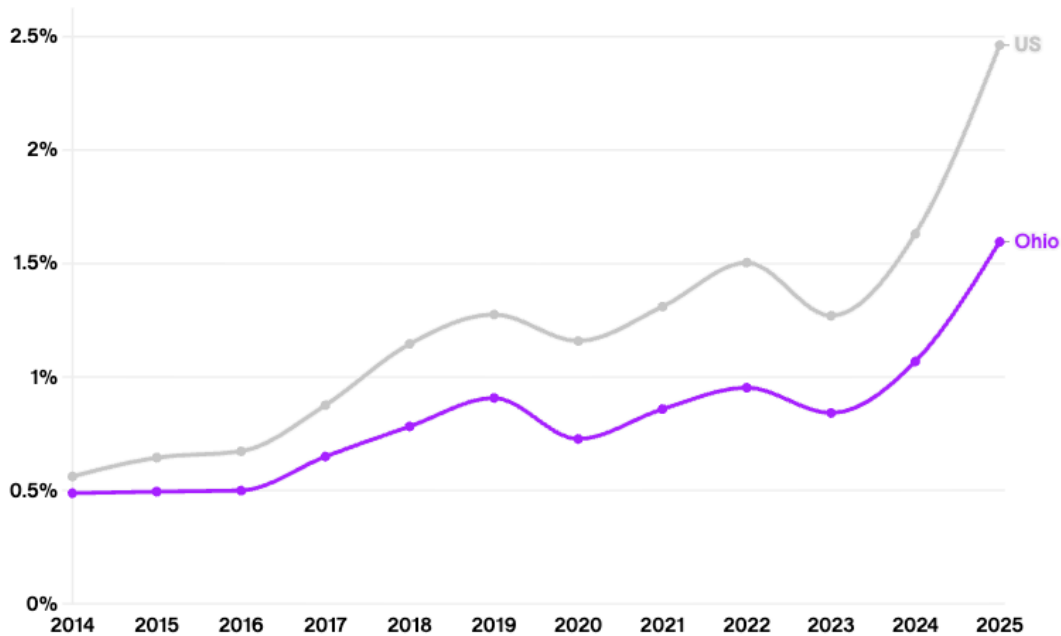
**Instead, we're
going to see:**

disruption that moves
faster than anyone can
respond to it—and a
gold rush of investment.

Demand for AI is rising rapidly, including in Ohio

- Around 25k postings in the state mentioned AI skills in 2025.
- This is equivalent to 1.6% of all job postings demand in Ohio.
- And it's up 44% since 2022.
- While demand in Ohio is below the US average, it mirrors a similar pattern for growth.

Share of postings mentioning at least one AI skill (%)

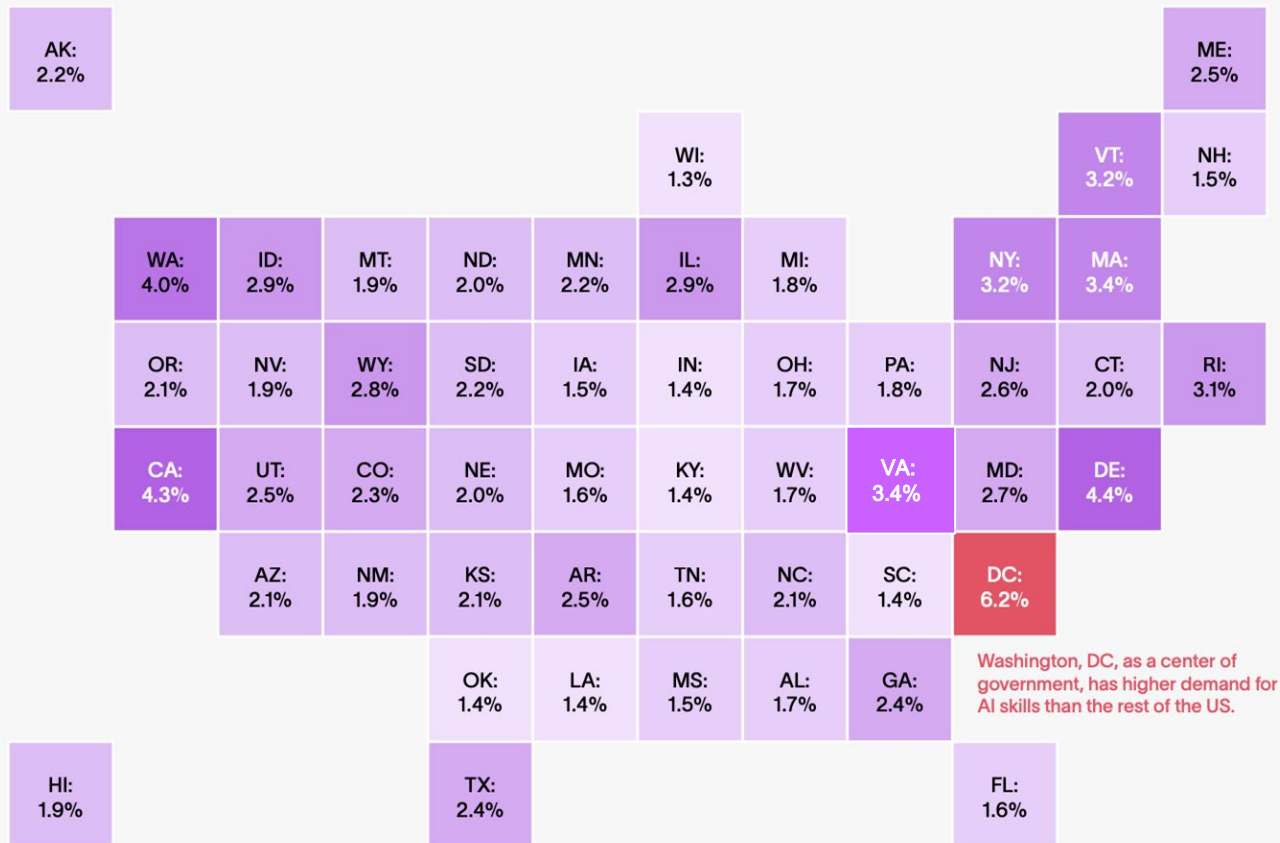


Source: Lightcast job postings data

□ Overview of AI demand

But AI's growth is uneven across the country

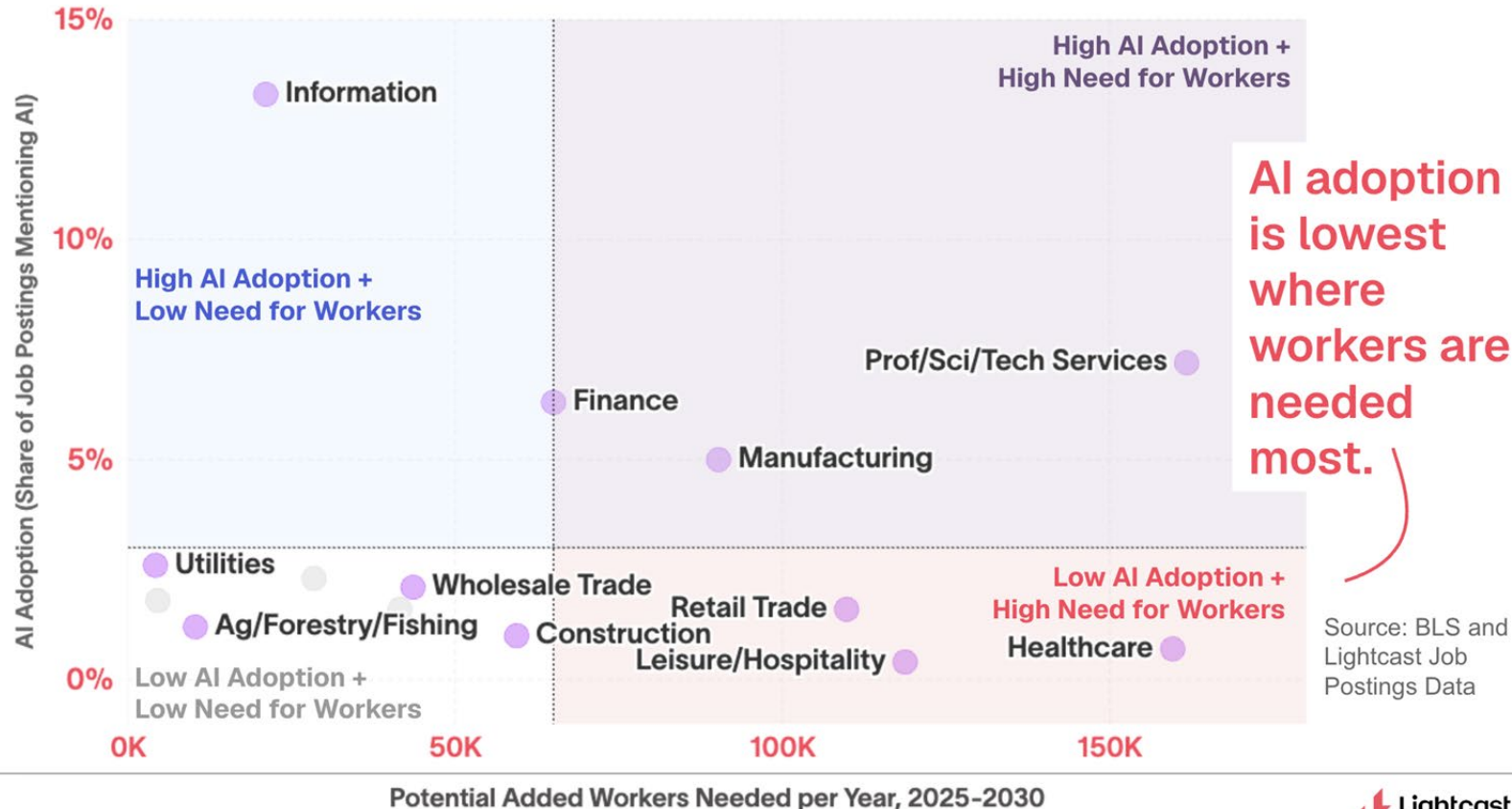
- Ohio ranks #39 nationally for AI demand
- And some states - like DC, Delaware and California are far outpacing the national average



And AI adoption is not helping solve labor shortages

- rather it is creating new challenges

AI Demand in Postings and Projected Annual Need for Workers by Industry in the US



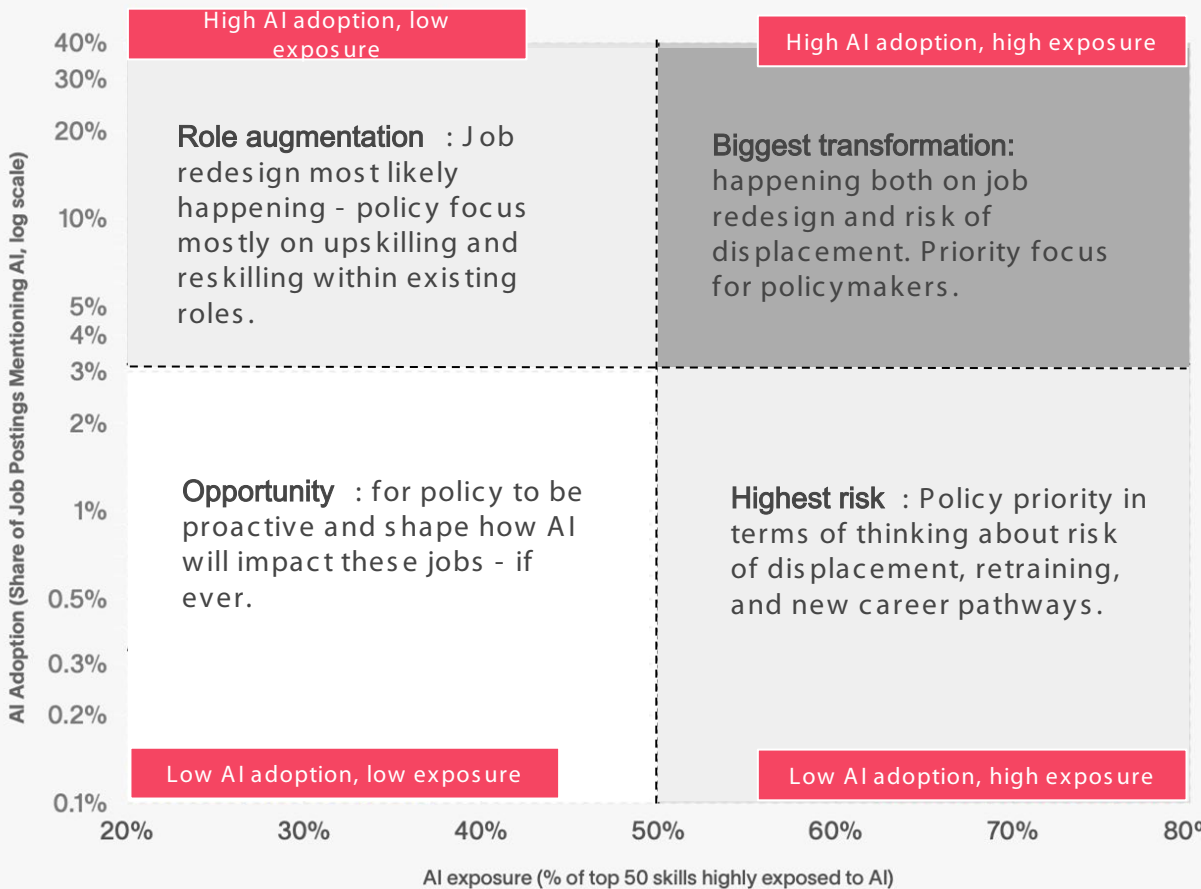
AI transformation is happening at the **skill and task levels**, affecting jobs differently.

Occupations with Highest and Lowest Share of Top 50 Skills that Are Highly Exposed to AI								
Occupation (LOT)*		AI Exposure		Occupation (LOT)*		AI Exposure		
MOST AI-EXPOSED						LEAST AI-EXPOSED		
Executive Assistant		78%		Nurse Anesthetist		14%		
Editor		74%		Physician		12%		
Interpreter		74%		Driller / Drill Operator		12%		
Office/Admin		74%		Emergency Medical Technician		10%		
Proofreader		72%		Firefighter		8%		
Data Entry Clerk		72%		Paramedic		8%		
Court Reporter		70%		Art Therapist		8%		
Legal Secretary		70%		Cardiovascular Technician		8%		
Underwriter		70%		Respiratory Therapist		8%		
Receptionist		70%		Dialysis Technician		6%		

□ Jobs most exposed to AI

Combining AI adoption and AI exposure shows risk and opportunities.

AI Exposure and AI Adoption by Job Function



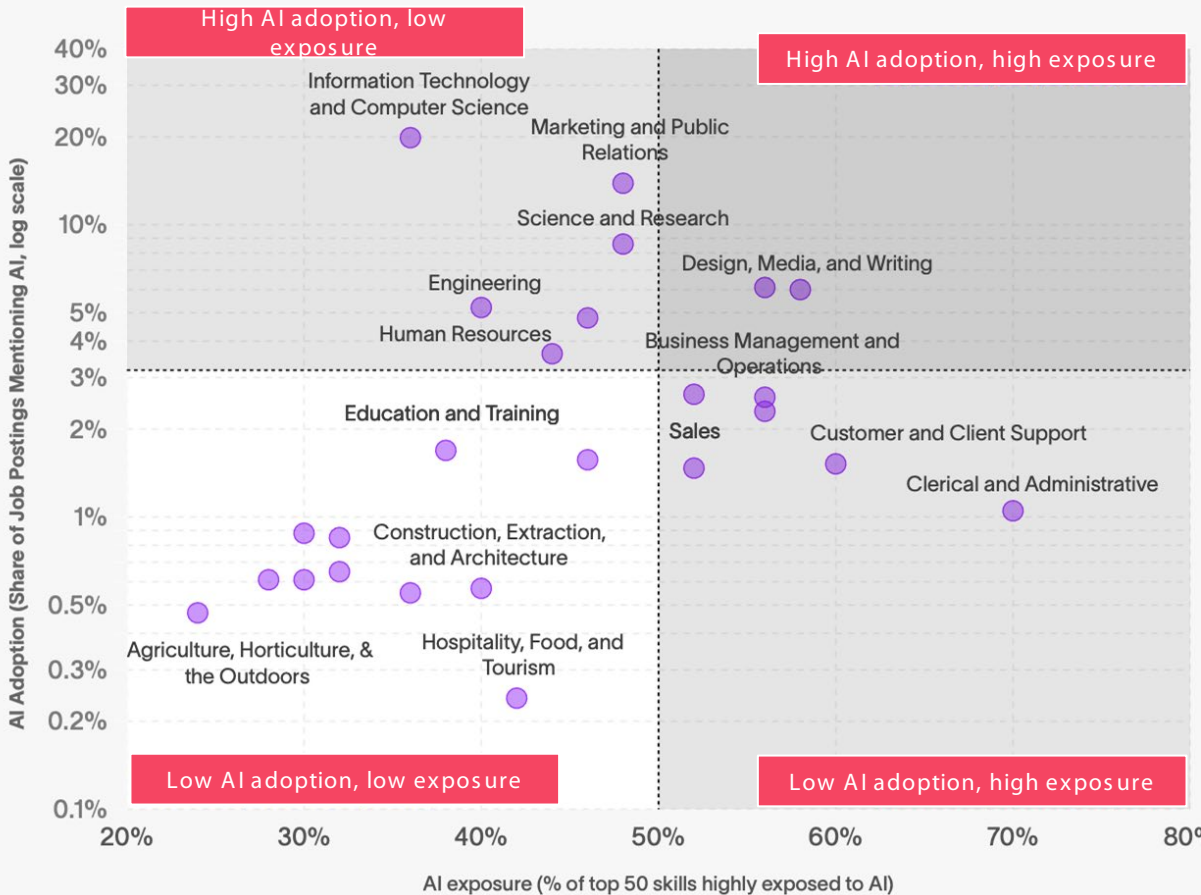
Source: Lightcast Job Postings Data

□ Jobs most exposed to AI

Combining AI adoption and AI exposure shows risk and opportunities.

- High adoption, low exposure (e.g. IT) = role augmentation.
- High adoption, high exposure (e.g. design and media) = biggest transformation.
- Low adoption, high exposure (e.g. clerical and administrative) = biggest risk.
- Low adoption and exposure (e.g. hospitality) = proactive opportunities.

AI Exposure and AI Adoption by Job Function



Source: Lightcast Job Postings Data

The real disruption is speed

The most significant disruption isn't just which skills are changing it's how fast they're changing.

Traditional curriculum cycles of 2 –4 years simply cannot keep pace.



The average job has seen **one-third** of its skills change from 2021 to 2024.



One in four jobs (the top quartile) has seen **75%** of their skills change in 3 years.

- AI is Top Change Agent (sustain. / cyber)
- Accelerating Change: Last 3 = Prior 5

AI is a major driver behind these skills disruptions

- rewriting how work is getting done

1

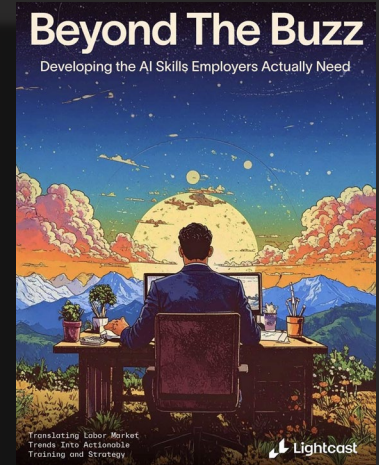
“AI job” does not mean “tech job” with **56% of AI jobs being outside of IT**

2

AI skills mean higher salaries paying a **28% salary premium**

3

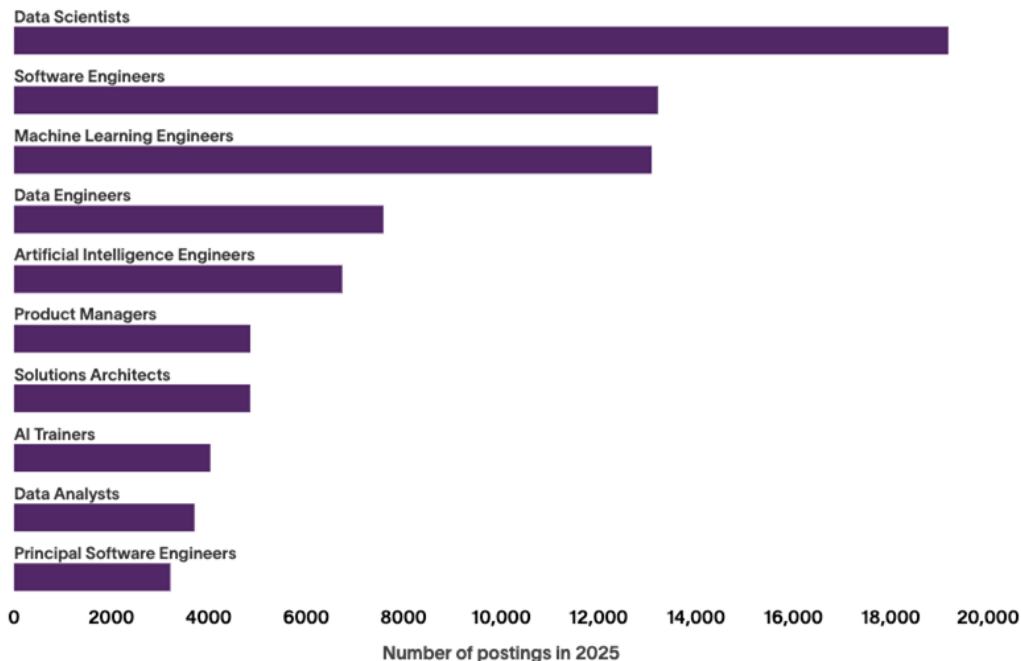
Career areas are at different stages of adoption and **therefore need different AI strategies**



IT leads for AI adoption

- Software developers / engineers are by far the occupation creating the largest volume of AI postings demand.
- Top occupations cover all aspects of technology - from building, to product, data and analysis - as well as cyber security.

The top 10 occupations for volume of AI -related recruitment activity



Source: Lightcast job postings data



But AI adoption is growing fast, and is no longer just a 'tech - thing'

- Alongside IT, occupations related to marketing and PR, science and research, social analysis, and design and media now frequently mention AI skills.
- Demand for AI skills remains lower in roles requiring human skills and physical presence.

AI skills are now increasingly in-demand in a range of career areas / functions

Share of postings in each occupation area mentioning AI skills %

	2016	2018	2020	2022	2024
Information Technology and Computer Science	4.33%	7.55%	9.02%	11.06%	14.00%
Marketing and Public Relations	2.27%	3.58%	4.76%	5.25%	8.11%
Science and Research	2.63%	3.86%	4.13%	5.49%	6.16%
Social Analysis and Planning	2.02%	2.29%	3.42%	3.87%	4.01%
Engineering	1.85%	2.74%	3.06%	3.83%	3.80%
Design, Media, and Writing	0.97%	1.16%	1.57%	1.78%	3.06%
Military	0.53%	0.79%	0.88%	2.11%	2.18%
Human Resources	0.79%	1.36%	1.15%	1.53%	2.00%
Performing Arts	0.50%	0.69%	0.58%	1.00%	1.65%
Business Management and Operations	0.54%	0.81%	0.74%	1.03%	1.40%
Education and Training	0.71%	0.73%	0.79%	1.10%	1.34%
Finance	0.45%	0.70%	0.62%	1.01%	1.33%
Customer and Client Support	0.46%	0.64%	0.57%	0.87%	1.04%
Law, Compliance, and Public Safety	0.36%	0.52%	0.41%	0.69%	0.95%
Sales	0.20%	0.43%	0.46%	0.61%	0.76%
Maintenance, Repair, and Installation	0.21%	0.39%	0.49%	0.41%	0.65%
Clerical and Administrative	0.26%	0.36%	0.31%	0.56%	0.56%
Manufacturing and Production	0.26%	0.37%	0.32%	0.46%	0.52%
Community and Social Services	0.33%	0.38%	0.29%	0.35%	0.43%
Healthcare	0.14%	0.20%	0.24%	0.28%	0.37%
Agriculture, Horticulture, & the Outdoors	0.40%	0.61%	0.46%	0.37%	0.35%
Construction, Extraction, and Architecture	0.16%	0.18%	0.18%	0.29%	0.30%
Transportation	0.10%	0.15%	0.13%	0.16%	0.20%
Personal Services	0.10%	0.11%	0.10%	0.16%	0.17%
Hospitality, Food, and Tourism	0.09%	0.09%	0.06%	0.07%	0.10%

Source: Lightcast job postings data

AI is just one word but actually there are 300+ 'AI skills'.
Different jobs need different AI skills.

Artificial Intelligence:
"Generalist", broad AI skills such as AI Literacy

Machine Learning:
Development of algorithms and statistical models.

Generative AI:
AI systems able to create new content

Natural Language Processing:
combination of computer algorithms with machine learning techniques

Autonomous driving:
AI that enables machine to operate without humans

Neural Networks: subset of machine learning mimicking the human brain

AI Agents:
AI that carries out tasks in place of humans

Visual Image Recognition:
AI algorithms identifying patterns in images

AI ethics, governance and regulations:
The rules overseeing the use of AI

Robotics:
the design, construction, programming and operation of robots.

What isn't changing are the foundations - and they are deeply human

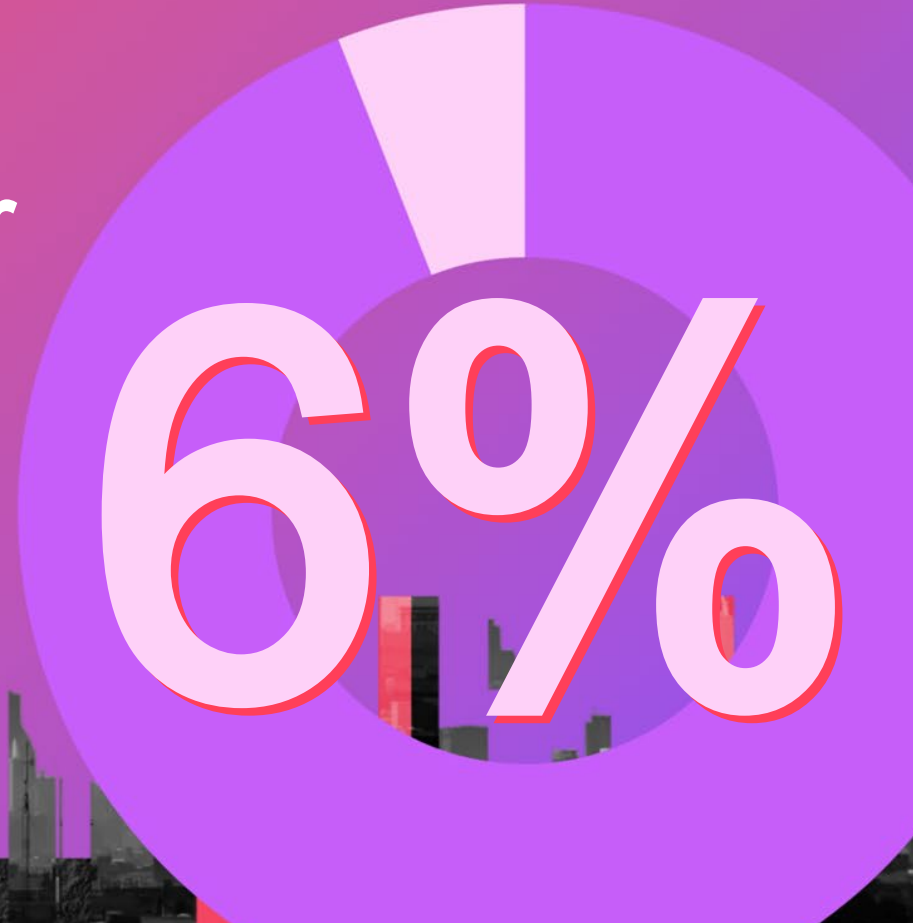
- Some, like communication, management and leadership are highly demanded across all jobs, not just AI jobs
- Others, like research, are more likely to be among the top mentioned skills in AI job postings across functions vs. other job postings

The top 10 skills most frequently mentioned in AI job postings

Skill name	Description
Communication	Communication is the ability to effectively interact, convey information, and collaborate with others in a clear and understandable manner.
Artificial Intelligence	This skill encompasses the development of algorithms and models that enable machines to perform tasks such as learning, reasoning, problem -solving, and understanding natural language.
Management	Management is a set of skills that involve a variety of tasks, such as planning, organizing, leading, and controlling resources to achieve specific goals.
Operations	Operations is a fundamental skill that involves managing and overseeing the day-to-day activities of a business or organization.
Leadership	Leadership is a skill that involves the ability to motivate and guide a team towards achieving common goals.
Research	Research is a skill that involves gathering and analyzing information to answer questions or solve problems. It involves identifying reliable sources of information, evaluating the credibility of those sources, and synthesizing the information to draw meaningful conclusions.
Machine Learning	Machine Learning is a subset of artificial intelligence that involves the development of algorithms and statistical models that enable systems to perform tasks without explicit instructions.
Customer Service	Customer service is a necessary and common skill in almost every field and industry. It involves effectively communicating with customers to understand their needs, answering their questions or concerns, and providing them with excellent support and service.
Writing	Writing is a skill that involves putting thoughts and ideas into words through the use of language. It is an essential communication tool used to convey messages, express thoughts and emotions, and share information.
	Problem solving is the process of identifying, analyzing and resolving problems that

However... AI has fractured the educator -employer connection.

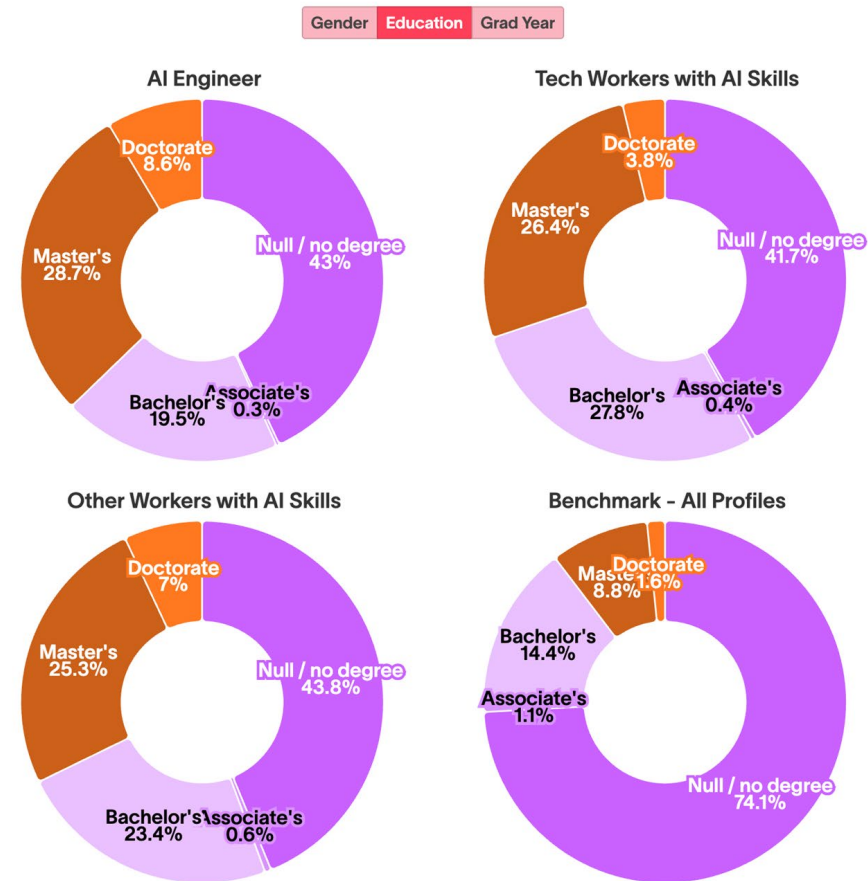
Only 6% of AI workers' degrees are AI-related as of Nov 2025.



AI talent is not a mirror of the wider workforce: they are **younger** , **more highly educated** - and disproportionately **male** .

AI Talent - Gender, Education, and Graduation Year Distributions

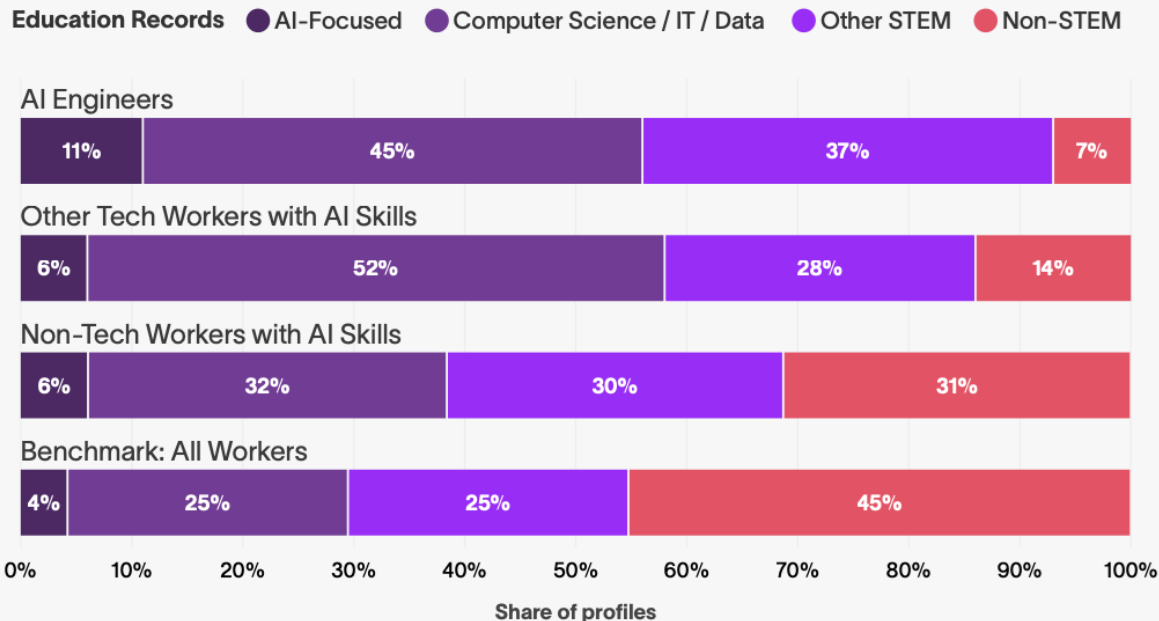
Distribution of different types of AI workers across factors, benchmarked against all profiles



And AI
workers rarely
studied AI
itself.

Only a small share of AI workers' credentials are AI-related.

AI Talent by Field of Study



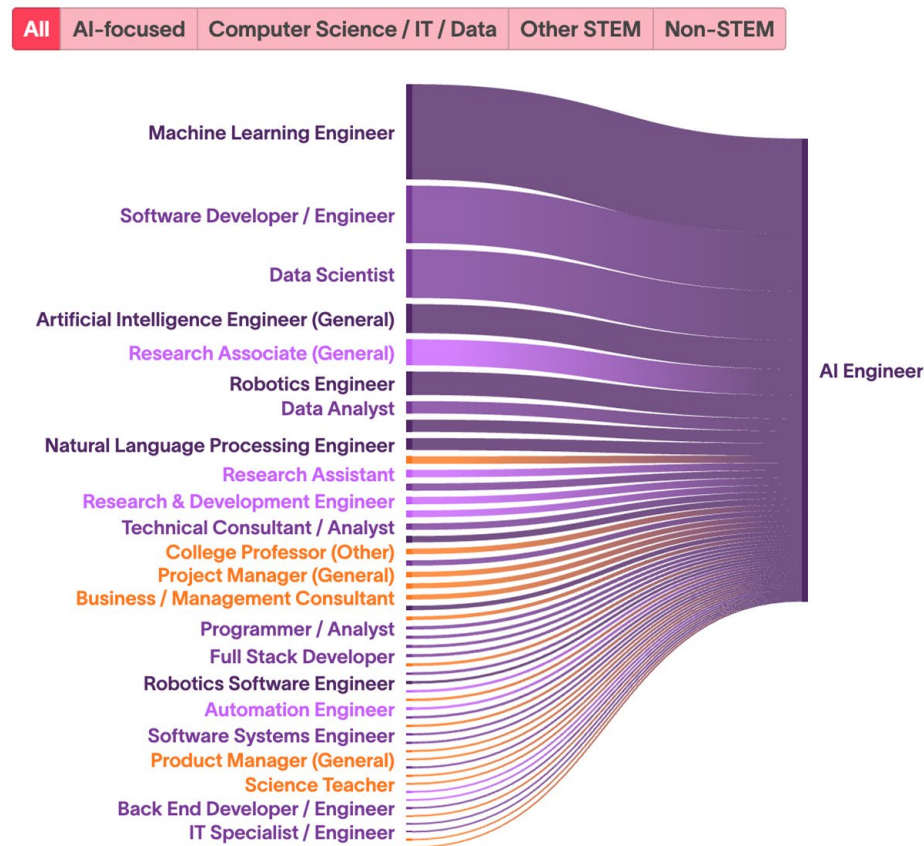
Source: Lightcast Professional Profiles Data

First jobs seem to be better predictors of AI careers than education, but even there, the link isn't perfect.

On average, people working as AI engineers changed two jobs before landing into an AI job.

Most Common First Jobs for AI Engineers

Based on jobs beginning after an individual's final education graduation date

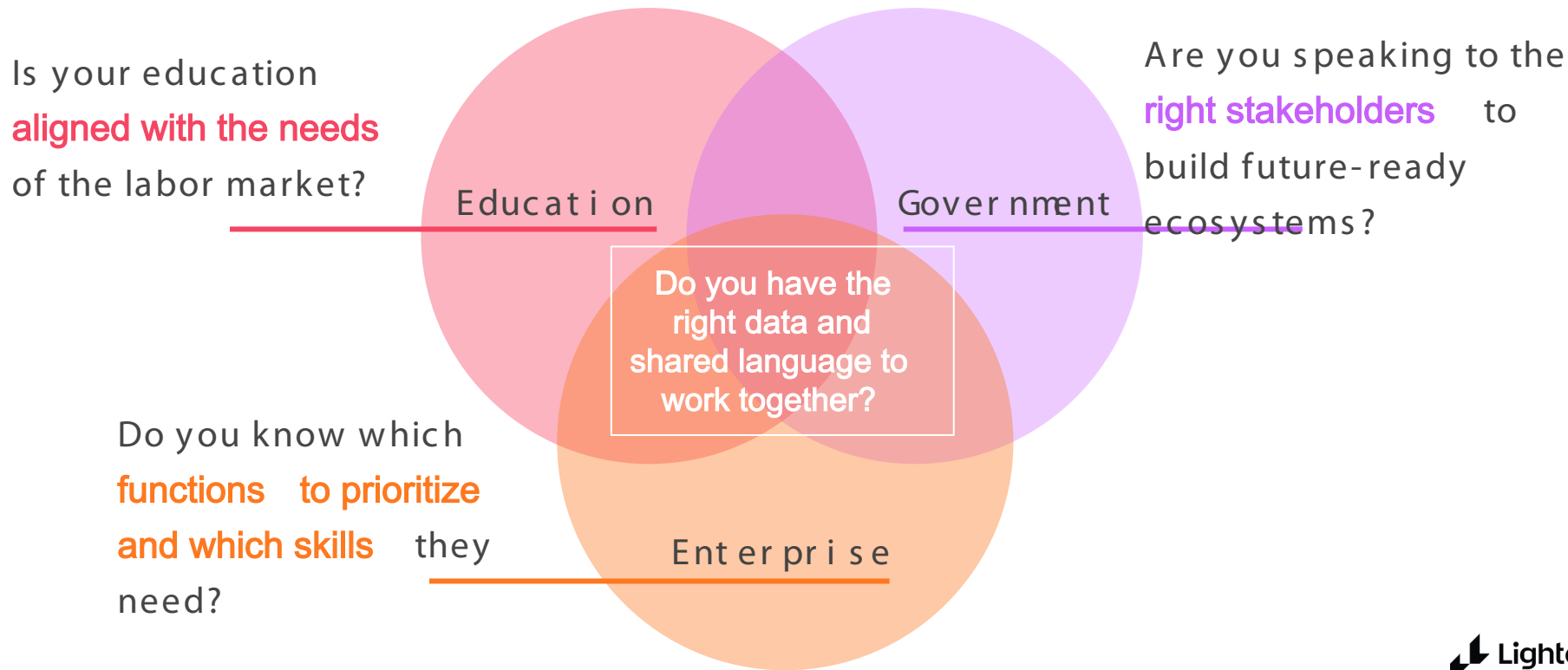


Source: Lightcast, profiles data

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A future-ready Ohio requires clear priorities and strong collaboration to build on existing regional strengths



Thank you!

Elena Magrini

Head of Global Research, Lightcast

elena.magrini@lightcast.io

