



NITIC

National Information Technology
Innovation Center

Labor Market Bytes

A data-driven briefing designed to inform IT faculty and workforce stakeholders of the latest employment trends, in-demand skills, and projections shaping the tech landscape.

September 2025

Introduction

The data in this report is inspired from topics in the BILT Trends meeting on August 19. Highlights shared from employers included the need for incoming technicians to be prepared with generative AI skills including prompt engineering. Additionally, this report digs into the intersection of Cybersecurity and AI as employers investigate the need to secure their own AI and LLM content. All labor marked data in this report is drawn from Lightcast.

Labor Market Questions:

- Does the supply of AI skills in the job market align with the demand of AI as a needed skill in entry-level IT job postings?
- How does AI show up in Cybersecurity jobs postings?

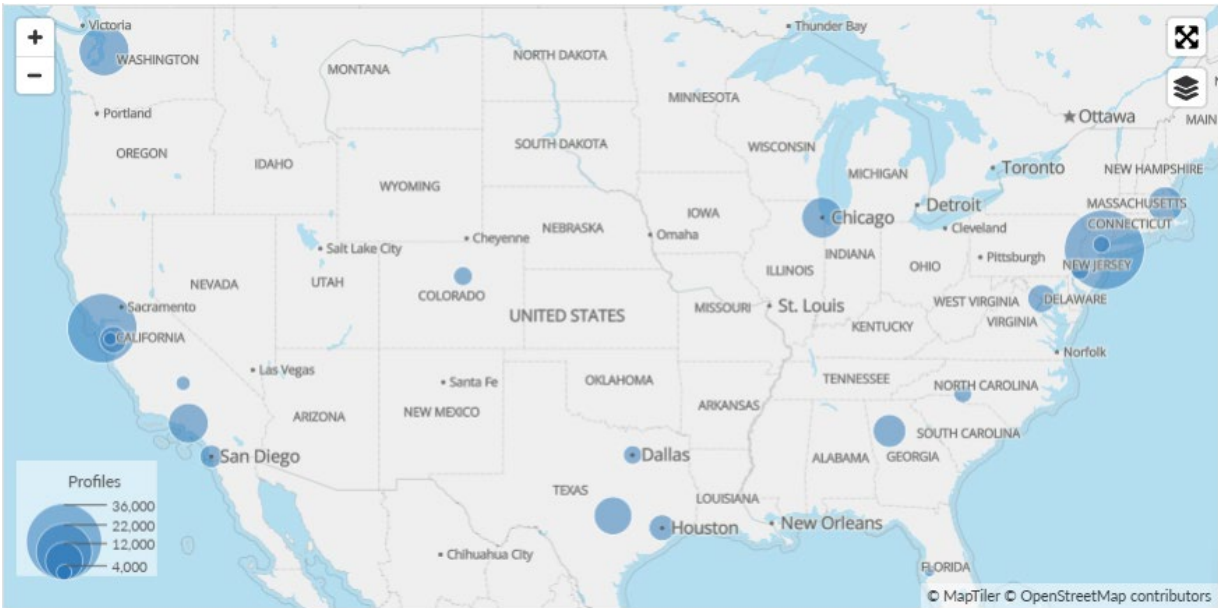
Artificial Intelligence in IT

The prevalence of Artificial Intelligence (AI) skills in IT roles is significant, indicating a strong supply of talent in the job market. Since 2023, over 550,000 profiles on professional networking platforms associated with NITIC-aligned occupations (see SOC Code appendix) have listed at least one AI-related skill¹ (Graphic 1). These profiles are most concentrated in major tech hubs, including New York City (7.3%), San Francisco (5.8%), Seattle (3.4%), and Chicago (2.5%). Leading employers of these professionals include Amazon (2.7%), Microsoft (1.9%), Google (1.8%), and Meta (1.2%).

Notably, 53% of AI-skilled profiles belong to individuals with 0–3 years of experience in their occupation, suggesting strong entry-level adoption. Common job titles among this group include Software Engineer (7.3%), Data Scientist (3.4%), Machine Learning Engineer (2.5%), and Data Analyst (2.2%). Entry-level roles span all education levels, with 0.93% of these profiles indicating an associate degree as the highest level of educational attainment.

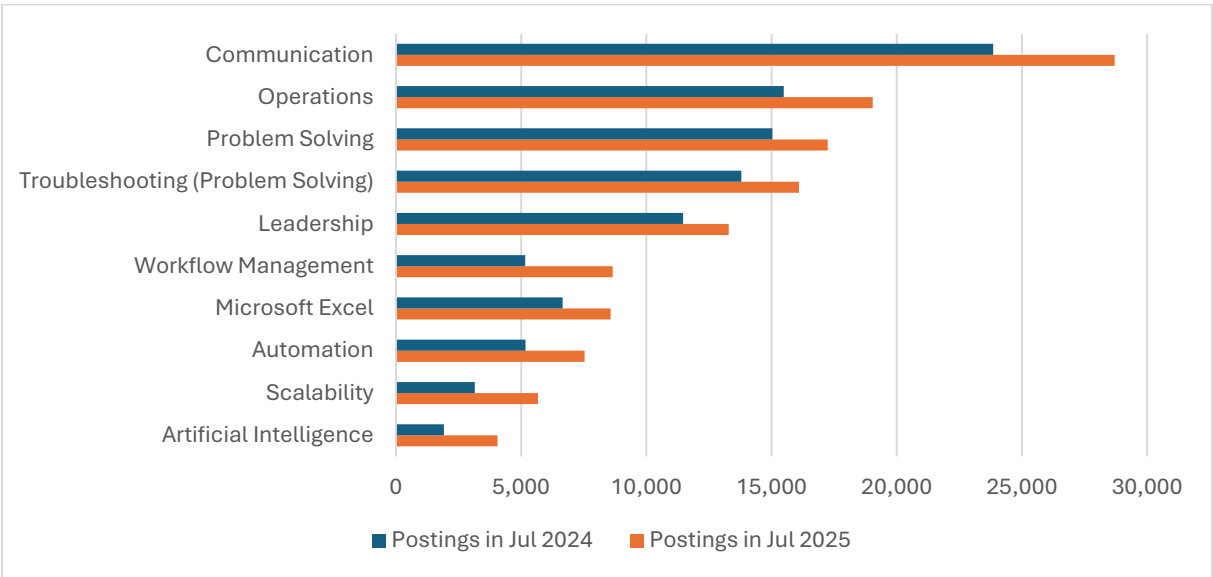
¹ Artificial Intelligence-related skills in Lightcast: Artificial Intelligence, Generative Artificial Intelligence, Artificial General Intelligence, Artificial Intelligence Development, Artificial Intelligence Risk, Applications Of Artificial Intelligence, Artificial Intelligence Systems, AIOps (Artificial Intelligence For IT Operations), Artificial Intelligence Markup Language (AIML)

Graphic 1. US map of professional networking site profiles that include an AI-related skill



On the demand side in all entry-level job postings of occupations that align with the academic programs NITIC supports, including those that do not mention AI-related skills, soft skills and specialized skills dominated employer needs. Like network platform profiles, entry-level includes job postings where 0-3 years of experience is required and can also include any degree type. Of the top 10 skills that experienced the greatest posting increase from July 2024-2025, Artificial Intelligence was the skill with the highest percent change at 112% and represents a growing segment of the skill market (Graphic 3).

Graphic 2. Hot Skills in IT Jobs Postings from July 2024-2025



Graphic 3. Artificial Intelligence Skill Snapshot from Entry-Level Postings in July 2024-2025

	Postings in July 2024	Postings in July 2025	Change	Percent Change
Artificial Intelligence	1913	4052	+2139	112%

Entry-level IT job postings that include an AI-related skill have increased by 394% over the past five years. The top job titles from the past year that include an AI-related skill in the entry-level job description have an average posting intensity 2.3 : 1 of total to unique postings and an average posting duration of 26.8 days (Graphic 5).

Graphic 4. Entry-level IT job postings that include an AI-related skill



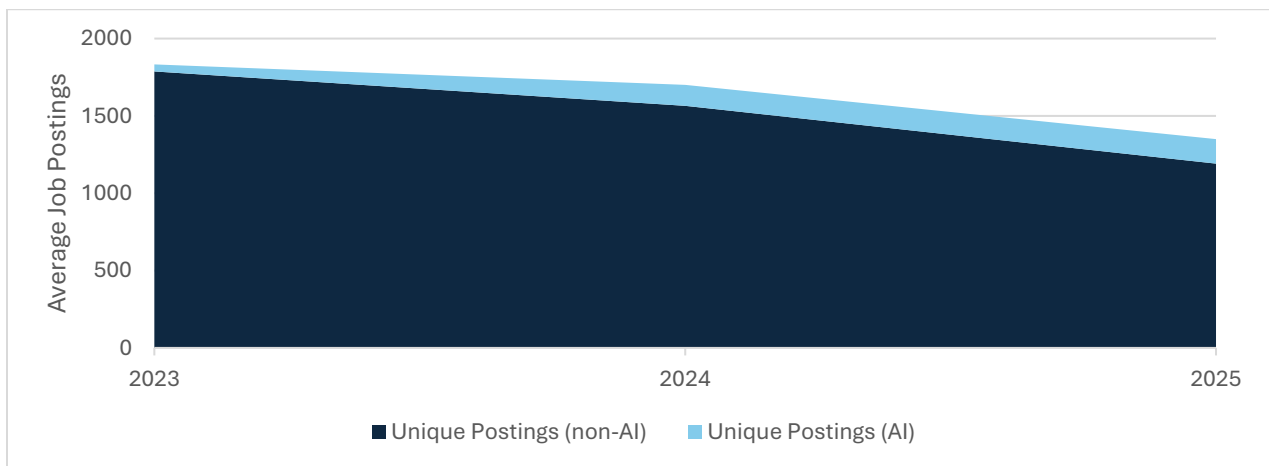
Graphic 5. Top entry level job titles that include an AI-related skill

Job Title	Total Postings (Jul 2024 - Jul 2025)	Unique Postings (Jul 2024 - Jul 2025)	Median Posting Duration
Data Center Technicians	424	140	28 days
Power Business Intelligence Developers	75	55	12 days
Desktop Support Technicians	72	21	36 days
Business Immigration Paralegals	59	56	34 days
Field Service Professionals	50	21	24 days

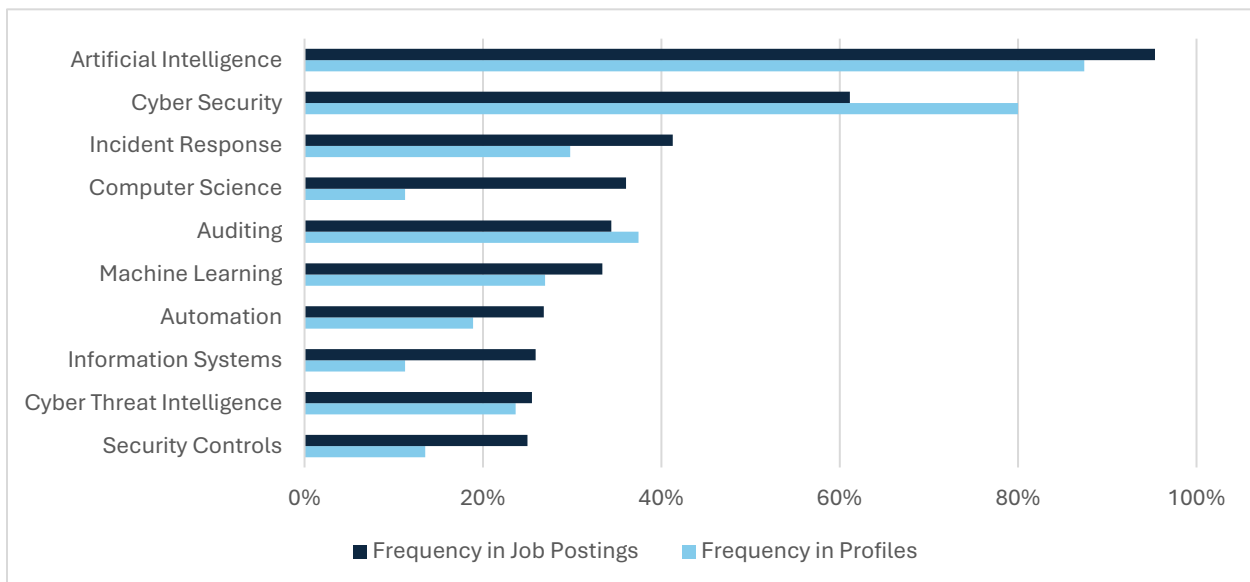
Cybersecurity and AI

From summer 2023 to summer 2025, there is a trend difference in job postings between all cybersecurity jobs (SOC 15-1212) and those that explicitly mention “Artificial Intelligence” or AI in their job description. The average year-to-year job posting in all cyber jobs decreased by 8% as more jobs are filled whereas postings that mention AI have increased by 62% year-to-year, taking up a growing share of total postings by 2025 (Graphic 6). From 2024-2025, entry-level job descriptions that included AI comprised 12% of all entry-level active postings in cybersecurity.

Graphic 6. Open cybersecurity job postings with and without AI-skills in job description



Graphic 7. Skill Supply and Demand Co-Located with AI in Cybersecurity Job Postings



Appendix of SOC Codes Aligned with NITIC

Code	Name
11-1021	General and Operations Managers
11-3021	Computer and Information Systems Managers
13-1111	Management Analysts
15-1211	Computer Systems Analysts
15-1212	Information Security Analysts
15-1221	Computer and Information Research Scientists
15-1231	Computer Network Support Specialists
15-1232	Computer User Support Specialists
15-1241	Computer Network Architects
15-1242	Database Administrators
15-1243	Database Architects
15-1244	Network and Computer Systems Administrators
15-1251	Computer Programmers
15-1252	Software Developers
15-1253	Software Quality Assurance Analysts and Testers
15-1254	Web Developers
15-1255	Web and Digital Interface Designers
15-1299	Computer Occupations, All Other
15-2031	Operations Research Analysts
15-2041	Statisticians
15-2051	Data Scientists
17-3029	Engineering Technologists and Technicians, Except Drafters, All Other
43-9021	Data Entry Keyers

Data Source: Lightcast