



coursera

The Job Skills of 2024

The Fastest-Growing Job Skills for
Businesses, Governments, and
Higher Education Institutions

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Introduction



Foreword: The State of Job Skills in 2024

Coursera's third annual Job Skills Report helps guide institutions through our rapidly changing world by highlighting essential skills and credentials. This year, we also examine areas like leadership, cybersecurity, and AI—topics that have seen a remarkable surge in enrollment on our platform.

A great example is the “Generative AI for Everyone” course, developed by Coursera co-founder and renowned AI expert Andrew Ng. In just its first week, this course became our fastest-growing offering this year, attracting an astounding 43,000 learners.¹

In a world that is increasingly reshaped by technology, AI, and globalization, companies must equip individuals with the right skills to promote career success and stay competitive. Global talent shortages are at a 17-year high, and four out of five employers are struggling to find skilled talent.² On top of that, many business leaders worry that recent graduates aren't adequately prepared for the workforce^{3,4}—a concern intensified by the rapid advancement of AI and the profound ways in which it is impacting how we live, learn, and work.

This moment is pivotal, and the stakes are high. Up to 49% of workers could see significant changes in their jobs due to large language models like ChatGPT.⁵ But if harnessed effectively with a workforce well-trained in the technology, generative AI could contribute a staggering \$4.4 trillion in productivity gains to the global economy.⁶

In my conversations with governments, universities, and businesses worldwide, I've seen firsthand the challenges of navigating these profound shifts. These challenges range from preparing workforces for an AI-augmented future to reimagining educational certifications to meet industry demands. It's clear that forward-thinking businesses are gaining an edge by focusing on training that emphasizes practical, job-relevant skills.

By analyzing the skills that millions of Coursera learners are seeking across various sectors, we aim to provide a valuable reference point for developing innovative skill strategies. Together, we can create a world where anyone, regardless of where they are, has the power to transform their lives through learning.



Jeff Maggioncalda,
CEO, Coursera



Why Skills Matter

Businesses, governments, higher education are aligned in empowering citizens, employees and students with the skills for thriving careers. While identifying which skills to prioritize can be challenging in an ever-changing world, it is a crucial step. This report offers a data-driven approach to identifying critical skills that can bring your organization one step closer to the concrete outcomes below.



Businesses

Equip employees with critical skills to **drive innovation and profitability**.



Governments

Identify critical skills for citizens and employees to **build a productive labor force**.



Higher education institutions

Teach students critical skills to prepare them for strong **career outcomes**.

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We're not paying for training. We're paying for the outcomes that trained people can achieve.

Tim Robbins,
Engineering Leader at Walmart



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Skills are increasingly becoming central to continuous adaptation of the workforce in Latin America and the Caribbean. Whether our learners need to prepare for the challenges of digital transformation or sustainability, we aim to provide them with the skills needed to adapt to change.

Juan Cristobal Bonnefoy,
Chief of the Inter-American Institute for Economic and Social Development (INDES) at Inter-American Development Bank (IDB)



“

Students want to know that their learning is linked to a career pathway. They want to acquire skills that prepare them for work immediately, and employers want the same thing.

Mark Rosenbaum,
Dean, College of Business, Hawai'i Pacific University



Using Data to Identify Critical Skills

The Job Skills of 2024 report identifies the year's fastest-growing skills, based on insights from five million enterprise learners affiliated with 3,000 businesses, 3,600 higher education institutions, and governments in over 100 countries. These learners, who access Coursera through institutions focused on employment readiness and upskilling, represent a significant subset of Coursera's total learner base of more than 136 million. This foundation of learner data enables us to identify meaningful skill trends.

In addition to examining the fastest-growing skills in the business, technology, and data science domains, this year's report also explores the fastest-growing AI, cybersecurity, and leadership skills.

Coursera is the destination for understanding, developing, and demonstrating the impact of skills that change the world. By partnering with top companies and universities, we offer more than courses: We architect job-aligned pathways with critical skills that empower individuals, teams, and communities to achieve their goals.

Coursera original research

Each year, we surface insights based on millions of data points from Coursera learners to create in-depth resources that offer insights into the evolving skills landscape. Recent resources include:

- [The Global Skills Report](#) benchmarks the skills proficiency of distinct populations, helping institutions understand which job skills they should prioritize.
- [The L&D Investment Survey 2023](#) explores how learning and development leaders are proving the value of their programs.
- [The Advancing Higher Education with Industry Micro-Credentials](#) report confirms that job skills are a top priority and that industry micro-credentials aligned to career outcomes are key to driving employability.

How we define the fastest-growing skills

The fastest-growing skills of 2024 are identified through a comparative evaluation of Coursera enterprise learner enrollments between 2022 and 2023. Out of the roughly 300 most granular skills cataloged in the Coursera taxonomy, the fastest-growing skills are those that have seen the biggest increase in their overall enrollment ranking in this period and which therefore are expected to continue to grow or stay popular in 2024.

Executive Summary: Skill Trends for 2024

An overview of key trends featured in this report.

Trend #1

Leadership skills for supporting teams through organizational change are a growing priority.

All leadership skills have increased their rank this year. Both rapidly changing macroeconomic conditions and emerging technologies like AI are driving new demands on leadership—pushing learning leaders to increase their focus on cultivating skills like leading teams with empathy, team building, and team management.

Trend #2

AI-related skills are driving record-breaking course enrollments.

These skills enable businesses to untap productivity windfalls, while upskilling in AI can build employee or learner confidence at a time when many are concerned about its potential career impact.

Coursera now offers over 800 AI-related courses, which have collectively received over 6.8 million total enrollments this year. The course ‘Generative AI for Everyone’ received 43,000 total enrollments in its first week after release, making it the

fastest-growing course in 2023. Investing in AI-related skills will be key for increasing productivity and preparing learners for an AI-enabled world.

Trend #3

Demand is surging for cybersecurity and information security skills.

Half of the top tech skills listed are cybersecurity skills while System Security ranks as a top ten fastest-growing skill. Currently, many jobs in these areas go unfilled—around 3.4 million worldwide⁷—so institutions need to equip learners to meet this demand.

Trend #4

The fastest-growing skills are business skills.

Seven out of ten of the top fastest-growing skills overall are business skills this year, with digital marketing and customer experience skills topping the list. Given forecasted growth in the marketing and advertising industry,⁸ and heightened customer expectations,⁹ institutions can invest in these skill areas to unlock business productivity and individual employability.

Trend #5

Skills for understanding and communicating data continue to be among the fastest-growing.

Data visualization was a top fastest-growing digital skill last year—and the trend continues in 2024. However, there is a gap between executive interest in data-driven decision-making and the ability of employees to read, analyze, work with, and communicate with data.¹⁰ Institutional leaders can prioritize investing in skills related to data literacy and storytelling to achieve organizational goals and meet market demand.

Trend #6

Demand for web development and computing skills remains high.

Several of the fastest-growing tech skills are focused on web frameworks and cloud computing skills. These are crucial for job-seekers—given ongoing skill shortages in these areas¹¹—but also reflect the ongoing need for employees in these technical roles to upskill and stay up to date with the latest tools and technologies.

Trend #7

Skills for providing oversight and compliance are increasingly essential.

Audit is one of the fastest-growing business skills—showcasing a growing focus on applying regulatory frameworks, protecting data, and deploying new technologies (such as AI) safely. With institutions worldwide looking to meet the challenges relating to data, copyright, and more that AI presents, these skills will only become more important.

Trend #8

Curated learning paths, like Professional Certificates and Specializations, are driving the largest skill rank changes.

Professional Certificates and courses offered by institutions like Google, Meta, West Virginia University, and DeepLearning.AI, are driving changes for in-demand skills. These curated learning paths can improve business productivity, boost student employability—with employers 72% more likely to hire someone with a Professional Certificate¹²—and improve internal mobility.

The Fastest-Growing Skills: Overall

SKILL	RANK	DEFINITION
E-Commerce	1	Buy and sell products or services through digital channels.
Media Strategy & Planning	2	Determine the objectives, strategy and plan for delivering the right content to audiences.
System Security	3	Secure the networks and resources of your organization.
Search Engine Optimization	4	Optimize website content for the best possible search engine ranking.
Customer Success	5	Identify opportunities and proactively solve problems for customers to ensure their continued success.
Power BI	6	Use Power BI to surface data insights.
Linux	7	Use the Linux operating system for all devices.
Systems Design	8	Define the architecture, product design, modules, interfaces, and data to satisfy specified requirements.
Audit	9	Evaluate and improve the effectiveness of risk management, control, financial, and governance processes.
Marketing Management	10	Promote and advertise a business using different tools and strategies.

The Fastest-Growing Job Skills for 2024



Fastest-Growing Business Skills

Business Skill Trends for 2024

SKILL	RANK	DEFINITION
E-Commerce	1	Buy and sell products or services through digital channels.
Media Strategy & Planning	2	Determine the objectives, strategy and plan for delivering the right content to audiences.
Search Engine Optimization	3	Optimize website content for the best possible search engine ranking.
Customer Success	4	Identify opportunities and proactively solve problems for customers to ensure their continued success.
Power BI	5	Use Power BI, a powerful business intelligence tool for surfacing data insights.
Audit	6	Evaluate and improve the effectiveness of risk management, control, financial, and governance processes.
Marketing Management	7	Promote and advertise a business using different tools and strategies.
Customer Relationship Management	8	Engage with customers to enhance overall customer experience with a business
Advertising	9	Use advertising to inform and influence your target audience.
People Management	10	Build successful teams and optimize talent to improve overall business results.

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With more than half of the world's population using social media, skills related to social media marketing—as part of a greater digital marketing skill set—are highly in-demand by employers. Investments in competencies around media planning and strategy, brand management, and marketing management will be key for businesses to get the most out of their social media channels.

David Vogt,
Head of Emerging Programs and Partnerships, Meta, Business Education



Digital marketing skills are in demand as technology and consumer behavior evolves

Digital marketing skills make up half of the top ten fastest-growing business skills, with **e-commerce, media strategy & planning, and search engine optimization** the top three overall. This continues a trend seen last year, when **e-commerce** was also among the fastest-growing skills.

The demand for digital marketing skills reflects the rapid growth of the global advertising and marketing industry—which is forecast to rise from a total worth of \$531 billion in 2022 to \$1.5 trillion in 2030.¹³ In the US alone, employment in digital marketing related professions is projected to grow rapidly up to 2032.¹⁴ This will be further fueled by the emergence of new marketing technologies. Meanwhile, shifting consumer behaviors—powering trends like increased social selling—with 76% of people shopping on social media—call for new skills from digital marketers.¹⁵ To meet this shift, institutions should invest now in equipping learners with the skill sets to deliver modern marketing strategies.

Customer experience skills will be central to institutions' success

Customer success and customer relationship management skills are among the top ten fastest-growing business skills, showcasing the need for businesses to retain customers and expand the value delivered to them. Customer expectations continue to rise—and almost half (49%) of consumers report leaving a brand in the past year due to a bad customer experience.¹⁶ This doesn't only impact private companies, for example, in the United States most customers of federal government services rank their experience as “poor” or “very poor”.¹⁷ Meanwhile, employees in customer-facing roles report that the expectations of those customers are only growing.¹⁸

According to McKinsey, unlocking new revenues from existing customers accounts for 80% of value creation in leading growth companies. Bridging the gap between customer experience and expectations is crucial for tapping into this potential.¹⁹ Industry-led content, such as [Google's Satisfaction Guaranteed: Develop Customer Loyalty Online course](#) and [SAP's Technology Consultant Professional Certificate](#), can help learners build new strategies for engaging with customers and boosting satisfaction.



SAP stands at the forefront of addressing the skills gap in the tech workforce. We're investing in the future through our skills initiative to foster the growth of digital proficiencies, and soft skills like client engagement and communication, while empowering individuals to forge new opportunities within the SAP ecosystem. By amplifying these skills, we are not only expanding career opportunities for individuals; we are also ensuring that our global customers and partners benefit from a talent pool that is equipped with the soft and technical skills needed to drive innovation and growth.

Karina Edmonds,
SVP, Global Head of Academies and University Alliances, SAP



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Individuals who develop customer service skills are finding themselves highly sought after in today’s job market. The practical abilities to effectively process transactions, handle conflicts, and understand various service roles are increasingly critical in retail and beyond.

Rick Laferriere,
Lead Director, Workforce Initiatives, CVS Health



Institutions rush for audit skills to meet challenges of regulation and AI

Audit skills are among the top fastest-growing skills overall—and have seen particularly high growth among learners affiliated with government programs (see our Vertical Data in the [Appendix](#) for more details). Auditing is a broad skill set that entails the process of managing and executing a variety of risk frameworks related to information technology, data governance, data privacy, and environmental, social, and governance (ESG). In next year’s report we will be exploring more granular definitions of auditing as reflected in our updated taxonomy.

With generative AI transforming productivity, while creating a new set of challenges when it comes to data governance and protection, institutions of all kinds need to keep up. Yet currently, just 37% of HR leaders, in-house counsel, and executives provide employees with guidance on use of AI tools.²⁰ Meanwhile, data privacy and security rank as the top concerns of Chief Intelligence Officers when it comes to AI.²¹

To harness the productivity-enhancing advantages of next-generation technology while keeping up with rapidly changing regulatory landscapes (including recent legislation in United States and the European Union’s),²² it will be crucial to develop the capability of employees to review and evaluate an organization’s compliance. Notably, **audit** is the second-highest ranked business skill among learners in the Government vertical.

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What I’ve learned through Coursera has helped me grow into new roles, which has allowed me to increase my income and has changed my family’s life. The ability to learn everything from leading with emotional intelligence to the Internet of Things, on my own time, is a powerful advantage.

Amista Phillips,
Software Testing Coordinator, iMFLUX (subsidiary of Procter and Gamble)



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Spotlight

Fastest-Growing Leadership Skills

SKILL	RANK	DEFINITION
People Management	1	Build successful teams and optimize talent to improve overall business results.
Negotiation	2	Reach mutually acceptable agreements using techniques like active listening and trading concessions.
Influencing	3	Get others to see your point of view using techniques like establishing trust and offering reciprocity.
Employee Relations	4	Create and maintain positive relationships with employees in order to improve employee morale and engagement.
People Development	5	Realize the value of personnel—from training and evaluation to feedback and incentives.

Increased organizational change is driving leadership skill demands

Macroeconomic disruptions and emerging technologies are leading to a demand for skills that enable institutions to navigate change. These include **people management**, **negotiation**, **influencing**, and **employee relations**.

“Manager effectiveness” is ranked as the top priority for HR leaders²³—and employees are facing change fatigue, with willingness to support organizational change collapsing from 74% in 2016 to 38% in 2022.²⁴ To effect change, the leaders of tomorrow will need to be nimble, compassionate and able to keep individuals and the business aligned. A recent survey of 650 L&D and HR leaders, found that the majority of leaders ranked business (52%) and human skills (46%) as their top priority for L&D programs; these domains include critical skills such as project management, leadership, adaptability, and agility.²⁵ In turn, these leadership skills can help organizations overcome new challenges and retain talent in a volatile labor market.

Build leadership skills with courses from world-class organizations on Coursera



[Leading People and Teams Specialization](#)

- Gain important leadership skills, learn how to motivate and inspire others, influence without relying on a position of authority, and become a better manager of teams and people.



[Strategic Leadership and Management Specialization](#)

- Discover the foundations for cultivating a strategic, human, and sustainable approach to leadership.



[Connected Leadership](#)

- Boost your capacity to make the most of opportunities, create your own leadership toolkit, and get to grips with the complexities of ‘system thinking’.

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Interest in leadership training is growing, as our employees recognize that having these critical skills can strengthen their personal and professional growth, and unlock new opportunities at every stage of their career.

Albena Trifonova,

Director of Pernod Ricard University, Pernod Ricard



Pernod Ricard

[Read the story](#)

Fastest-Growing Data Science Skills

Data Science Skill Trends for 2024

SKILL	RANK	DEFINITION
Power BI	1	Use Power BI, to surface data insights.
Tableau Software	2	Use Tableau Software to surface data insights.
Data Visualization	3	Design, develop, and evaluate information visualizations.
Data Model	4	Use data models to describe the structure and integrity of stored data in data management systems.
PostgreSQL	5	Use advanced open source relational database systems for database design to data architecture.
Knitr	6	Use knitr, an R package that helps to integrate computing and reporting.
Reinforcement Learning	7	Develop a well-rounded machine learning model with reinforcement learning.
MATLAB	8	Integrate computation, visualization, and programming with MATLAB.
Business Intelligence	9	Generate insights from business data to inform critical decisions.
R Programming	10	Use the R open source programming language and software environment for statistical computing and data analysis.

Institutional leaders recognize value of data storytelling

Across all verticals, skills for understanding and communicating data are among the fastest-growing, showcasing that data-literacy is becoming a baseline expectation for employers. According to Forrester and Tableau, 70% of employees will be expected to heavily use data by 2025.²⁶

Within data skills, **data visualization** is the fastest-growing among business learners. Today, only 11% of employees are confident in their ability to read, analyze, work with and communicate with data—showcasing the vast need for upskilling and learning.²⁷ Institutional leaders recognize the need to respond, with 85% of C-suite executives believing that being data-literate will be as vital in the future as the ability to use a computer is today.²⁸

Meanwhile, skills for working with tools to visualize and draw insights from data are also on the rise, with **Tableau software**, **Power BI**, and **business intelligence** being the top-three fastest-growing data science skills for university learners, and Power BI and business intelligence also ranking in the top three fastest-growing data science skills for government learners.

As the level of information gathered by institutions grows, skills that enable people to tell stories, draw conclusions, and make decisions based on complex information will in turn help institutions execute on strategic priorities. Courses such as [Getting Started with Power BI Desktop](#) or [Share Data Through the Art of Visualization](#), can offer learners an accessible entry point.

Employers are creating more specialist roles in data science

Demand for foundational data analysis and data science skills is high, with [PostgreSQL](#), [MATLAB](#) and [R Programming](#) skills in the top 10 this year. Competency in these skills enable individuals to effectively manage, store and analyze data—supporting a range of business functions from forecasting sales and protecting sensitive information to targeted advertising.

According to the US Bureau of Labor Statistics, the number of job openings for analysts is expected to grow by 23% between 2021 and 2031. This figure is significantly higher than the five percent average job growth projected for all jobs in the country.²⁹ Meanwhile, in India, data science and analytics jobs grew by 30.1% between April 2021 and April 2022.³⁰ These trends are likely to be accelerated globally by the growing need for automation and implementation of new technologies, which the World Economic Forum states are underpinning a structural reconfiguration of labor markets.³¹

Curated learning paths are driving skill rank changes

Across all skill domains including data science, Coursera's Professional Certificates and Specializations, created by leading industry and academic partners, are driving skill rank changes. In the past year, enterprise learner enrollments in non-entry-level Professional Certificates have increased by 34%, entry-level Professional Certificates by 27%, and Specializations by 18%. The growth of these offerings may speak to increasing "stackability" of learning content on the Coursera platform. Five-to-ten minute video clips lead to engaging with learning in three-to-four week courses which in turn count as credit to Professional Certificates and Specializations which can in turn count toward course credit and degrees. Curated learning paths created with stackability in mind are especially prescient given that the top challenge facing L&D leaders is being unable to effectively create meaningful learning experiences from the vast volume of learning content available.³²

Historically, 20+ Coursera Professional Certificates and Specializations have qualified for American Council on Education (ACE®) credit recommendations. Recently, the Foundation for International Business Administration Accreditation (FIBAA) certified 12 Professional Certificates from Google and IBM, with European Credit Transfer and Accumulation System (ECTS) credit recommendations available exclusively on Coursera.

These include offerings such as the [Google Data Analytics Professional Certificate](#), which has had over 1.8 million total enrollments and offers a pathway to a career in data analytics from a beginner level. Alongside certifications from other [industry leaders like IBM](#), as well as academic partners, these courses offer an accelerated route for global learners to gain the hands-on skills needed to start, switch, or advance careers.

Spotlight

Fastest-Growing AI Skills

SKILL	RANK	DEFINITION
Reinforcement Learning	1	Develop a well-rounded machine learning model with reinforcement learning.
Bayesian Network	2	Understand the relationships between random variables to causal probabilities.
Problem Solving	3	Tackle and overcome challenges with logic.
Big Data	4	Process, generate, and analyze the largest datasets.
Deep Learning	5	Use supervised and unsupervised machine learning to analyze huge amounts of data.

AI transforms the skills landscape

Generative AI has had a rapid impact on the skills landscape over the course of 2023, and its influence is set to continue in 2024. The market for AI solutions is set to explode, growing to \$1.3 trillion over the next decade, according to some estimates,³³ while job listing site Upwork reported a 1000% increase in the number of generative AI job posts made in the first half of 2023.³⁴ Further, generative AI could potentially improve a highly skilled worker's performance by as much as 40% compared with workers who don't use it.³⁵

Coursera now offers over 800 AI-related content offerings, which have accrued over 6.8 million enrollments among all learners this year. 'Generative AI for Everyone' stands out as the fastest-growing course in 2023, with 43,000 total learners enrolling in just the first week.

Within this field, **Reinforcement Learning** is the fastest-growing AI skill, both overall and across all verticals—with particularly fast growth among government-affiliated learners. These skills enable learners to build machine learning models, and can act as a basis for other related skills in fields including AI, video game development, and automation.

With a five-fold increase in demand for AI skills in US jobs since 2015, and a nine-fold increase in global tech-AI jobs,³⁶ cultivating foundational AI skills is a valuable investment for institutions and learners.

Additional generative AI learner trends

On-platform searches for terms such as “AI,” “ChatGPT,” and “generative AI” among enterprise learners on Coursera have grown significantly year-over-year. Notably, searches began rising in late 2022, coinciding with the availability of ChatGPT. In Q3 2023, searches peaked with a 271% year-over-year increase among all enterprise learners.³⁷

Similarly, enterprise learners are enrolling in AI-related content on Coursera at an increased rate—with a 157% year-on-year increase in enrollments in generative AI courses.³⁸ This skyrocketing demand has been met with 35+ new generative AI courses on Coursera, including DeepLearning. AI’s recently launched [Generative AI for Everyone](#) and Vanderbilt University’s [Prompt Engineering for ChatGPT](#), and Google Cloud’s [Introduction to Large Language Models](#).

Drawing on a breadth of industry and institutional experience and knowledge from partners including Google Cloud, DeepLearning, Amazon Web Services (AWS), and Vanderbilt University, these courses are enabling learners to further careers in this burgeoning area at a time when 40% of organizations report they plan to increase their investment in AI.³⁹

Prepare your learners with GenAI Academy

GenAI Academy from Coursera rapidly builds generative AI skills across all skill levels to help drive innovation and productivity gains that each learner requires to be successful in their job role. With GenAI Academy, you can:

- Build and grow skills with trusted, high-quality content from GenAI Industry and University subject matter experts paving the way for timely and successful business application.
- Personalize training at scale to build foundational AI literacy and skill development with turnkey curated catalogs at an affordable price for your entire organization.
- Develop the most in demand GenAI skills with hands-on and tool-based learning.

[Get in touch to learn more](#)

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Just as electricity transformed industries a century ago, AI is reshaping our global economy. In this rapidly evolving world, leaders have a responsibility to equip the individuals they serve with the necessary AI skills, not only to enhance their employability, but also to empower them to reshape the nature of their work.

Andrew Ng,
Co-founder and Chairman, Coursera and TIME 100 AI Leader
coursera

Fastest-Growing Tech Skills

Tech Skill Trends for 2024

SKILL	RANK	DEFINITION
System Security	1	Secure the networks and resources of your organization.
Linux	2	Use the Linux operating system for all devices.
Systems Design	3	Define the architecture, product design, modules, interfaces, and data to satisfy specified requirements
React (Web Framework)	4	Create intuitive user interfaces with the React open-source web framework from Meta.
Software Architecture	5	Translate software characteristics into a structured solution that matches business and technical requirements.
Computer Security Incident Management	6	Create a comprehensive and robust IT security infrastructure.
Django (Web Framework)	7	Use Django, a high-level Python web framework that enables rapid development of secure and maintainable websites.
Cyberattacks	8	Protect your organization's people and assets against cybercriminals, from ransomware to denial of service.
Security Software	9	Ensure your devices and networks are secure and ready for any challenges, from email security to intrusion detection.
Security Strategy	10	Develop a dynamic and proactive cybersecurity strategy.

A rapidly changing job market is boosting the need for developer skills

Three out of ten of the fastest-growing tech skills this year are developer skills—**React** (a web programming framework), **software architecture**, and **Django** (also a web framework). They are in demand across verticals and growing the fastest among government-affiliated learners. This correlates with global job growth.⁴⁰ In the United States alone over 400,000 new developer jobs are expected to be created by 2031.⁴¹ The skill requirements of developers are meanwhile evolving, as AI-augmented tools like Github Copilot helps teams by making suggestions that enable them to code faster.

The need for developer skills may also reflect an accelerated investment in both end-user experiences of government websites and e-servicing platforms, alongside digital transformation in key public services, such as benefit applications. Further, the rise in developer skills could factor into a shift in which job-seekers or current employees from non-technical backgrounds seek to expand their skill sets into new areas—with 73% of employees globally reporting that they do not currently feel equipped to learn the digital skills needed by businesses now.⁴²

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With the global cloud computing market expected to reach nearly \$600 billion by the end of 2023, cloud technology consultants are emerging as an in-demand role. Education, government, and industry leaders have the opportunity to work together to help close the tech skills gap by providing a job-aligned, flexible, and accessible curriculum to learners around the world. Together, we can help learners launch and grow prosperous careers in tech.

Maureen Lonergan,
VP, Training and Certification, Amazon Web Services (AWS)



Cloud computing skills are key to driving scalable growth

Among the top ten rapidly expanding tech skills, three are in the flourishing area of cloud computing: **Linux, systems design, and software architecture**. Notably, Linux and systems design are ranking particularly high among Coursera for Business learners.

Gartner expects the global cloud computing market to have skyrocketed from \$490.3 billion in 2022 to \$591.8 billion in 2023.⁴³ It presents an exciting opportunity for both businesses and job seekers, with cloud computing jobs being some of the most in-demand roles in the tech industry.⁴⁴ Businesses and governments that invest in cloud computing stand to benefit from better data management, more agile development, and scalable processes.

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Our partnership with Coursera empowers us to keep pace with our significant growth. Through learner-led, high-quality, Coursera content, employees are inspired to innovate and advance in their work. With knowledge sharing and continued learning, we can increase productivity and keep delivering the excellent client services that support our revenue goals.

Manpreet Singh Ahuja,
Chief Digital Officer, PwC India



[Read the story](#)

Spotlight

Fastest-Growing Cybersecurity Skills

SKILL	RANK	DEFINITION
System Security	1	Secure the networks and resources of your organization.
Computer Security Incident Management	2	Create a comprehensive and robust IT security infrastructure.
Cyberattacks	3	Protect your organization's people and assets against cybercriminals, from ransomware to denial of service.
Security Software	4	Ensure your devices and networks are secure and ready for any challenges, from email security to intrusion detection.
Security Strategy	5	Develop a dynamic and proactive cybersecurity strategy.

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Cyber attacks increased nearly 40% this year. Meanwhile, businesses report a growing cybersecurity skills gap. The data is clear—we must create more pathways for people to enter the cybersecurity field and build a lasting career. We're proud that the Google Cybersecurity Certificate is helping businesses fill cybersecurity roles and enabling people to earn an industry-recognized credential that will qualify them for well-paying jobs.

Lisa Gevelber,
Founder, Grow with Google

Grow with  Google

Build cybersecurity skills with new Coursera Professional Certificates

Coursera features 30+ cybersecurity Professional Certificates and Specializations, which can help prepare for other certifications like CompTIA Security+, including:

ISC2

[ISC2 Certified in Cybersecurity Specialization:](#)

- Advance your IT career with cybersecurity skills from initial principles through to network security.

Google

[Google Cybersecurity Professional Certificate:](#)

- Learn in-demand skills that will have you job-ready in less than six months, without any background experience or degree required.

IBM

[IBM Cybersecurity Analyst Professional Certificate:](#)

- Gain the skills to launch a career in cybersecurity with this four month program—no degree or prior experience needed.

Institutions are mitigating risks with cybersecurity skills

For the first time, **system security** ranks as a top-ten overall fastest-growing skill. Meanwhile, **cybersecurity skills** make up half of the top ten fastest-growing skills in the tech domain. This reflects the surging demand for cybersecurity experts in both the public and private sectors, alongside the ambitions of learning institutions and providers like Coursera to meet that demand with new content and certifications.

Across the globe, there's an estimated shortfall of more than 3.4 million cybersecurity workers.⁴⁵ That figure is likely to climb, with employment of information security analysts expected to grow 32% from 2022 to 2032 in the United States alone.⁴⁶ With the critical need to protect against growing numbers of cyberattacks worldwide,⁴⁷ and the increasing capabilities of AI creating new security considerations, investment in cybersecurity skills is set to benefit both employees and institutions alike in the year ahead.

Conclusion



In 2024, skills in emerging technology and human leadership will be equally vital

The skills landscape is shifting. In 2024, the meteoric rise of AI will continue—with demand for related skills accelerating alongside it. Institutions, looking to capitalize on the promise of greater productivity and increased competitiveness, will be seeking AI specialists ranging from prompt engineers to large language model experts.

Yet rapid technological change can also lead to new risks. Cybersecurity has also seen significant growth this year, alongside audit skills—both of which are vital to keeping data protected, secure, and compliant. Meanwhile, demand for leadership skills has become more prominent, as institutions seek people capable of steering teams and businesses through these times of change and innovation.

Together, these changing contexts only cement the need for institutions to identify and invest in the right skills for their learners and employees; those that both empower career success and fuel the engines of business, academia and government into tomorrow.

Coursera empowers learners with the skills for thriving careers in an ever-changing world. Coursera unites a global ecosystem that includes:

136M⁺
learners

7000⁺
institutions

100
countries

Contact us to learn how we can partner with you to ensure your program is impactful and aligned to your institution's objectives.

[Request a consultation](#)

“

The scope and flexibility of Coursera helps us deepen a culture of learning that encourages all employees to take the next step forward in their careers.



Gail Wetzel,
VP of Data and Analytics, Equifax



Appendix



Regional Data: The Fastest-Growing Job Skills for 2024

APAC

BUSINESS SKILLS	RANK	DATA SCIENCE SKILLS	RANK	TECH SKILLS	RANK
E-Commerce	1	Tableau Software	1	System Security	1
Media Strategy & Planning	2	Power BI	2	React (Web Framework)	2
Customer Success	3	R Programming	3	Systems Design	3
Search Engine Optimization	4	Data Model	4	Interactive Design	4
Marketing Management	5	MATLAB	5	Internet Of Things	5

EU

BUSINESS SKILLS	RANK	DATA SCIENCE SKILLS	RANK	TECH SKILLS	RANK
E-Commerce	1	Data Visualization	1	Linux	1
Media Strategy & Planning	2	Power BI	2	System Security	2
Search Engine Optimization	3	Reinforcement Learning	3	React (Web Framework)	3
Digital Marketing	4	Data Model	4	Front-End Web Development	4
Marketing Management	5	Tableau Software	5	Networking Hardware	5

LATAM

BUSINESS SKILLS	RANK	DATA SCIENCE SKILLS	RANK	TECH SKILLS	RANK
People Analysis	1	Data Visualization	1	Linux	1
Human Resources Operations	2	Tableau Software	2	Internet Of Things	2
Corporate Accounting	3	Power BI	3	Scrum (Software Development)	3
Audit	4	Network Analysis	4	Small Data	4
E-Commerce	5	Knitr	5	Hardware Design	5

MENA

BUSINESS SKILLS	RANK	DATA SCIENCE SKILLS	RANK	TECH SKILLS	RANK
Adaptability	1	Power BI	1	Android Development	1
Customer Success	2	Business Intelligence	2	React (Web Framework)	2
Customer Relationship Management	3	PostgreSQL	3	Front-End Web Development	3
E-Commerce	4	Tableau Software	4	Software Architecture	4
People Development	5	Clinical Data Management	5	System Security	5

NAMER

BUSINESS SKILLS	RANK	DATA SCIENCE SKILLS	RANK	TECH SKILLS	RANK
E-Commerce	1	Power BI	1	System Security	1
Audit	2	Reinforcement Learning	2	Security Software	2
Customer Success	3	SAS (Software)	3	Computer Security Incident Management	3
Search Engine Optimization	4	Data Visualization	4	Cyberattacks	4
Customer Relationship Management	5	Microsoft Excel	5	Web Development Tools	5

SSA

BUSINESS SKILLS	RANK	DATA SCIENCE SKILLS	RANK	TECH SKILLS	RANK
Audit	1	Power BI	1	Django (Web Framework)	1
E-Commerce	2	Business Intelligence	2	Docker (Software)	2
Customer Success	3	Tableau Software	3	Software Architecture	3
Power BI	4	ArcGIS	4	System Security	4
Vendor Management	5	PostgreSQL	5	React (Web Framework)	5

Vertical Data: The Fastest-Growing Job Skills for 2024

Coursera for Business

BUSINESS SKILLS	RANK	DATA SCIENCE SKILLS	RANK	TECH SKILLS	RANK
E-Commerce	1	Data Visualization	1	Linux	1
Media Strategy & Planning	2	Tableau Software	2	Software Security	2
Search Engine Optimization	3	Financial Analysis	3	Systems Design	3
Marketing Management	4	Knitr	4	Web Development Tools	4
Advertising	5	Microsoft Excel	5	System Security	5

Coursera for Campus

BUSINESS SKILLS	RANK	DATA SCIENCE SKILLS	RANK	TECH SKILLS	RANK
E-Commerce	1	Tableau Software	1	React (web framework)	1
Media Strategy & Planning	2	Power BI	2	Internet Of Things	2
Employee Relations	3	Business Intelligence	3	System Security	3
Power BI	4	MATLAB	4	Interactive Design	4
Customer Success	5	PostgreSQL	5	Software Framework	5

Coursera for Government

BUSINESS SKILLS	RANK	DATA SCIENCE SKILLS	RANK	TECH SKILLS	RANK
E-Commerce	1	Business Intelligence	1	Software Architecture	1
Audit	2	Power BI	2	Django (Web Framework)	2
Business Intelligence	3	Reinforcement Learning	3	React (web framework)	3
Search Engine Optimization	4	Tableau Software	4	Security Software	4
Power BI	5	Statistical Tests	5	System Security	5

Technical Appendix

About Coursera Learner Data

The skill trends and proficiency analyses in this report represent a view of the world through the nearly 5 million enterprise learners on Coursera. While Coursera facilitates the education of more than 136 million learners, enterprise learners are those who are specifically enrolled in a course on Coursera through a partnership between Coursera and a business, government, or educational institution. A person can be enrolled in multiple classes, but we count them as a learner once.

Our skills taxonomy is periodically updated to stay relevant and accurate. Consequently, slight variations in skill rankings may occur year to year. When interpreting these rankings, we advise focusing on broader trends rather than specific ranks.

An individual's ability to access and use Coursera is influenced by many factors, including internet infrastructure, educational background or past training, and local culture or norms. We also use learner profile data such as location.

The results may also be influenced by local economic or social conditions. For example, economic downturns sometimes drive learners to Coursera. Our industry partnerships also sometimes quickly bring thousands of new learners onto the platform. The results of this report may also reflect the availability of new content launched by Coursera partners.

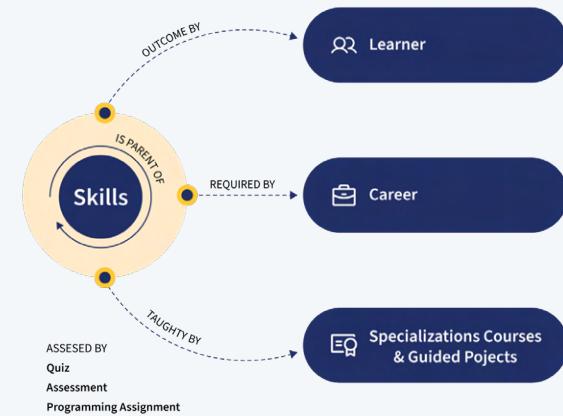
In general, our goal is to objectively represent what is happening across the Coursera ecosystem. Sometimes our results capture what is happening across an entire economy. At other times, the demographics and behavior of Coursera learners mean that some results should not be extrapolated or interpreted as representing broad populations but as a way of indicating directional shifts in enterprise learner interest.

The Coursera Skills Graph

The Coursera Skills Graph maps the connections among skills, content, careers, and learners on the Coursera platform.

For the Job Skills of 2024 Report, we leverage the following parts of the Skills Graph:

1. Skill to skill: Describes the connections among skills and generates a skills taxonomy where broad, higher-level skills are parents of more granular, lower-level skills.
2. Skill to content: Maps skills to the Coursera courses that teach them.



Growing Skills and Share of Enrollments Among Enterprise Learners

To determine which skills are growing, we study two year-long periods:

1. October 1, 2021 through September 30, 2022
(the “start period”)
2. October 1, 2022 through September 14, 2023
(the “end period”)

For each of the two periods, we measure each skill's popularity by calculating the share of Coursera enterprise learner enrollments in content that teaches the skill. We then calculate growth as follows:

For each time period, rank each skill by its enrollment share in descending order (say skill S is ranked 70th in the start period and 50th in the end period)

Compute the “rank improvement” of skill S by comparing the start period rank and the end period rank (skill S rank improvement is $70 - 50 = 20$)

Fastest-growing skills are the skills with the largest rank improvement (if skill S2 has a rank improvement of 25 ranks, it grew more than skill S1 that saw a rank improvement of 20 ranks)

We consider the same set of skills in both the start and end period: All granularity 3 skills in Coursera's clean skill taxonomy, which spans business, technology, and data science domains. Some similar granular skills were combined for clarity. The notion of whether a course teaches a skill is derived from the Coursera Skills Graph, which was described earlier in this appendix. Our skills taxonomy is periodically updated to stay relevant and accurate. Slight variations in specific skill rankings may thus occur year to year. When interpreting these rankings, we advise focusing on broader trends rather than specific ranks.

Endnotes

1. Coursera, Learner Data (2023)
2. [ManpowerGroup, 2023 Global Talent Shortage](#) (2023)
3. [Intelligent, 4 in 10 Business Leaders Say Recent College Grads are Unprepared to Enter Workforce](#) (2023)
4. [Wheebox, Roadmap to India's Skills and Talent Economy 2030](#) (2023)
5. [Tyna Eloundou et. al, GPTs are GPTs: An Early Look at the Labor Market Impact Potential of Large Language Models](#) (2023)
6. [McKinsey, The economic potential of generative AI: The next productivity frontier](#) (2023)
7. [ISC, Cybersecurity Workforce Study](#) (2022)
8. Research and Markets, Digital Advertising and Marketing - Global Strategic Business Report (2023)
9. [Emplifi, 11 key things consumers expect from their brand experiences today](#) (2021)
10. [The Data Literacy Project, The Upskilling Evolution](#) (2022)
11. [Salesforce, Global Digital Skills Index: In-Depth Insights from 23,000 Workers](#) (2022)
12. [Coursera, Advancing Higher Education with Industry Micro-Credentials](#) (2023)
13. [Research and Markets, Digital ADvertising and Marketing - Global Strategic Business Report](#) (2023)
14. [U.S. Bureau of Labor Statistics, Advertising, Promotions, and Marketing Managers](#) (2023)
15. [Bazaarvoice, Driving sales in beauty, beverages, and everything in between](#) (2023)
16. [Emplifi, 11 key things consumers expect from their brand experiences today](#) (2021)
17. [McKinsey, How US government leaders can deliver a better customer experience](#) (2023)
18. [HubSpot, 2022 U.S. Consumer Trends Report](#) (2022)
19. [McKinsey, Experience-led growth: A new way to create value](#) (2023)
20. [Littler, AI in the Workplace, A Littler Survey Report](#) (2023)
21. [Evanta, CIO Community Pulse on AI & Your Business](#) (2023)
22. [Bloomberg, Regulate AI? How US, EU and China Are Going About It](#) (2023)
23. [SoftBank Vision Fund, Despite layoffs, talent is still king](#) (2023)
24. [Gartner, Is This the Calm Before the Next Storm?](#) (2023)
25. [Coursera, L&D Investment Survey 2023](#) (2023)
26. [Tableau, Data Literacy](#) (2023)
27. [The Data Literacy Project, The Upskilling Evolution](#) (2022)
28. ibid
29. [U.S. Bureau of Labor Statistics, Operations Research Analysts](#) (2023)
30. [Aim, Analytics & Data Science Jobs in India](#) (2022)
31. [World Economic Forum, The Future of Jobs Report 2023](#) (2023)
32. [Coursera, L&D Investment Survey 2023](#) (2023)
33. [Bloomberg, Generative AI to Become a \\$1.3 Trillion Market by 2032, Research Finds](#) (2023)
34. [Upwork, Welcoming the Era of Generative AI to Upwork](#) (2023)
35. [Harvard Business School, Navigating the Jagged Technological Frontier](#) (2023)
36. [Oxford Martin School, Skills That Pay](#) (2023)
37. Coursera, Learner Data (2023)
38. ibid

39. [McKinsey, The state of AI in 2023: Generative AI's breakout year](#) (2023)
40. [McKinsey, McKinsey Technology Trends Outlook 2023](#) (2023)
41. U.S. Bureau of Labor Statistics
42. [Salesforce, Global Digital Skills Index: In-Depth Insights from 23,000 Workers](#) (2022)
43. [Gartner, Gartner Forecasts Worldwide Public Cloud End-User Spending to Reach Nearly \\$600 Billion in 2023](#) (2022)
44. [McKinsey, Technology Trends Outlook 2023](#) (2023)
45. [ISC, Cybersecurity Workforce Study](#) (2022)
46. [U.S. Bureau of Labor Statistics](#) (2023)
47. [Check Point, Check Point Research Reports a 38% Increase in 2022 Global Cyberattacks](#) (2023)

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