2023

Global Skills Report

coursera

Foreword from our CEO, Jeff Maggioncalda

Since the beginning of the year, generative artificial intelligence (AI) has dominated my dialogues with leaders globally, spotlighting its impending effect on jobs, skills, and education.

I'm proud to present our fifth annual Global Skills Report, which draws on data from millions of learners on Coursera to help leaders in business, government, and higher education understand the rapidly changing skills landscape and talent distribution worldwide.

Digital transformation, automation, and globalization are reshaping the labor market and creating an unprecedented need for reskilling and upskilling. Generative AI intensifies this urgency,[1] posing a threat to a new class of knowledge workers. The World Economic Forum's Future of Jobs Report predicts that over 60% of workers will need retraining between now and 2027, but only half of these workers have access to adequate training opportunities.[2]

Public and private sector leaders must work together to respond to new workforce needs at the speed and scale demanded by our changing world. Governments and higher education institutions need to offer workforce development and academic programs that address job dislocation and unemployment while preparing workers for job opportunities created by new technologies. At the same time, employers can adopt a skills-focused approach to expand their hiring pipelines and create reskilling pathways for workers at risk.

To do this, leaders need a clear understanding of their workforce's strengths and potential development areas. The Global Skills Report reveals, for example, that learners in Latin America and the Caribbean are leading the world when it comes to average scores in data science and technology skills—marking the region as a rising hub for tech talent. Additionally, Professional Certificates—a type of micro-credential 76% of employers find valuable[3]—see high year-over-year enrollment growth in the Philippines, Brazil, and Spain.

With over 120 million learners, 7,000 institutions, and 5,400 courses from 300 of the world's top universities and industry partners, Coursera has one of the largest data sets for identifying and measuring skill trends. We hope this report offers leaders a starting point for navigating change and disruption. Together, businesses, governments, and higher institutions can create a world where anyone, anywhere has the power to transform their lives through learning.

Table of Contents

Introduction

Lochan Khullar, India
Coursera Learner

Executive Summary

What is the state of the global skills and credentials landscape?

The Global Skills Report 2023 presents data on 100 countries drawn from Coursera's registered learner base of more than 124 million learners. We concentrate on three of the most popular, job-relevant skill domains: business, technology, and data science. We use this data to illustrate regional and national trends around talent skill proficiency and opportunity.

Learners on Coursera acquire skills by engaging with content from 275 leading universities and companies. We offer a range of formats to meet different skill needs—from hands-on projects and courses to job-ready certificate and degree programs.

Whether you're a workforce development, higher education, or business leader, this report will help you answer three questions:

- **How proficient is your workforce in critical job skills?**
- **What skills are popular among learners in your country or region?**
- **How much of your workforce is preparing for in-demand, digital roles?**

KEY FINDINGS:

1. Economic growth is tied to skill proficiency
2. Internet access is tied to economic opportunity
3. Learners in high-income countries are more likely to invest in learning human skills
4. Learners with postgraduate education are most likely to invest in AI-related skills
5. Many countries are closing the gender gap in online learning
6. Learners around the world are preparing for digital roles with Professional Certificates
7. Skilled talent can be found around the world

1 ECONOMIC GROWTH IS TIED TO SKILL PROFICIENCY

There are strong correlations between higher skill proficiency and economic advances like human capital potential[4] and innovation.[5] Notably, the combined Average GDP per Capita of countries where learners have demonstrated cutting-edge proficiency scores is roughly four times higher than that of countries where learners are falling behind in skill proficiencies.

INSIGHTS IN ACTION: Businesses, government, and higher education leaders investing in the skills development of their people are investing in greater economic and social advantages, often through employment. The 2023 Coursera Learner Outcomes Report found that 85% of learners enroll in courses on Coursera to land their first professional role, switch careers, or advance in their current role. Furthermore, 77% of learners have reported a beneficial impact on their career from completing their most recent course or program.[6]

2 INTERNET ACCESS IS TIED TO ECONOMIC OPPORTUNITY

Online learning makes it possible for more individuals to access educational opportunities that lead to better job prospects, particularly amid the rise of remote work. Countries where learners have competitive and cutting-edge overall skill proficiency scores also have higher average internet scores than countries where learners have lagging and limited scores, highlighting the role of internet and online learning in driving economic growth.

INSIGHTS IN ACTION: By investing in broadband and digital skills training in partnership with the private sector, governments can unlock new remote job opportunities for locals without them ever having to leave home. For instance, Rwanda's Ministry of Information and Communications Technology and Innovation launched the MTN Skills Academy in partnership with MTN, Africa's largest mobile network operator, and Coursera. This program aims to provide people in impoverished communities across Sub-Saharan Africa with free internet devices and online training for digital jobs.

3 LEARNERS IN HIGH-INCOME COUNTRIES ARE MORE LIKELY TO INVEST IN LEARNING HUMAN SKILLS

In comparison to middle- and low-income countries, learners in high-income countries are more likely to invest in skills that cannot easily be automated, such as project management, change management, and collaboration. Meanwhile, learners in middle-income countries are more likely to invest in digital skills, such as software architecture, mobile development, and programming principles, which may enable them to participate in local and remote talent opportunities that require digital skills.

INSIGHTS IN ACTION: A resilient workforce needs a combination of both digital and human skills: both to harness the opportunities of automation and to side-step its repercussions. Digital skills hold the promise of higher income and greater career opportunities.[8] Meanwhile, human skills like analytical judgment, flexibility, and emotional intelligence are essential for employees in an AI-powered future.[9] Business, government, and higher education institutions must drive skills development for both.

> "MTN wants a prosperous Africa; one in which everyone benefits from a modern connected life. Our work is inextricably linked to the wellbeing of the communities we serve. With the MTN Skills Academy, Africans can prepare for emerging careers at unprecedented speed and scale, contributing significantly to solving the unemployment challenges the continent faces.

Nompilo Morafo
Chief Sustainability & Corporate Affairs Officer, MTN Group[7]

4 LEARNERS WITH POSTGRADUATE EDUCATION ARE MOST LIKELY TO INVEST IN AI-RELATED SKILLS

Learners with a postgraduate degree are more likely to learn skills that drive the development and research of AI, including skills such as artificial neural networks, applied machine learning, and computer vision, in comparison to learners with less education.

INSIGHTS IN ACTION: Almost everyone will need some level of AI proficiency in the future. Up to 49% of workers could have half or more of their tasks impacted by large language models like those that power ChatGPT.[10] A recent survey of UK employers also found that 67% of respondents believe it will be important for candidates to have AI skills, experience, or qualifications.[11] Fortunately, learners without postgraduate degrees are already investing in some of the foundational skills needed to work with AI, like data analysis and computer programming. To ensure competitiveness, regional leaders should continue investing in foundational AI-related skill training for their workforce.

5 MANY COUNTRIES ARE CLOSING THE GENDER GAP IN ONLINE LEARNING

On average, only 43% of Coursera learners from the countries covered in this report identify as women. Canada (55%) has one of the highest percentages of learners who are women on the Coursera platform. Other countries that have achieved fifty-fifty parity in access to online learning include the Philippines (51%), Thailand (51%), Mexico (51%), and Spain (50%). The share of STEM-related certificate enrollments from women increased from 25% in 2019 to 38% in 2022.

INSIGHTS IN ACTION: To enhance social and economic mobility for women, collaboration among governments, businesses, and higher education institutions is crucial. Leaders should invest in free online STEM education programs for women and girls and offer vital support services like broadband access, local mentorship, and job placement. Governments, including the Guyana Ministry of Health and Human Services and the U.K. Girls' Education Skills Partnership, are offering tens of thousands of scholarships for women and girls in emerging economies to develop skills on Coursera.[12]

> "The Girls' Education Skills Partnership exemplifies the commitment of the U.K. government and the private sector in addressing the critical gap in skilling girls for 21st century opportunities.
>
> **Kevin Frey**
> Chief Executive Officer, Generation Unlimited

6 LEARNERS AROUND THE WORLD ARE PREPARING FOR DIGITAL ROLES WITH PROFESSIONAL CERTIFICATES

Global demand for Professional Certificates is surging year-over-year (YOY), particularly in Sub-Saharan Africa (80%), the Asia Pacific region (69%), and North America (53%). The highest growth rates are in the Philippines (253%), Pakistan (228%), and Brazil (171%). The United States leads in overall Professional Certificate enrollment with 1.3 million enrollments, followed by India (654,000) and Nigeria (142,000). Notably, low-income countries experience the greatest enrollment growth, while high-income countries have the highest overall enrollments.

INSIGHTS IN ACTION: Institutions must help displaced workers transition into new careers by focusing on skills-based hiring and learning. Micro-credentials, in particular, are effective in preparing talent for new and emerging careers.[13] For instance, the Ministry of Science and Education in the Republic of Kazakhstan launched a nationwide initiative to prepare 20,000 students and faculty across 25 public universities for the digital economy by embedding over 600 career credentials into degree programs.[14]

7 SKILLED TALENT CAN BE FOUND AROUND THE WORLD

Europe leads the global skill rankings with eight of the top ten countries. The remaining two are Indonesia and Japan. European learners excel in business skills, while those in Latin America and the Caribbean lead in technology and data science. Strengths can be found across regions and countries. For example, learners in Botswana demonstrate high proficiency in business skills, and learners in Kazakhstan excel in technology skills.

INSIGHTS IN ACTION: Access to high-quality, job-focused online education creates social and economic mobility for individuals around the world. This is especially the case for developing economies, where 91% of learners report career benefits from enrolling in a course on Coursera.[15] By investing in training programs that target specific skill gaps, leaders can build a more talented workforce.

> “You can study for a degree with a university on the other side of the world, wherever you are, at whatever stage of life you’re at: If you’re rearing kids, if you’re busy at work, if you have a disability, which would prevent you coming to campus on a traditional face-to-face degree… it’s independent of time and space and location. And that’s the inherent flexibility of this mode of education.
>
> **Sam Brenton**
> Director of Online Education, University of London
>
> UNIVERSITY OF LONDON

Partner perspectives

Search interest for ‘how to become a data analyst’ reached a global all-time high in 2023. People are eager to enter this growing field. Data analytics skills are in-demand across industries as businesses of all types around the world recognize that strong analytics improve business performance. These skills can lead to well-paying jobs even at entry-level positions, and they offer significant upward career opportunities.

Lisa Gevelber
Founder, Grow with Google

Learn more about Google Data Analytics Certificates

Cloud is accelerating opportunities for organizations of all sizes, around the globe, to completely transform their business. Fueling this cloud transformation will be individuals with the right in-demand digital skills. We are delighted to continue partnering with institutions, like Coursera, that help individuals build pathways towards cloud careers with skills-based trainings and certifications.

Maureen Lonergan
VP, AWS Training and Certification

Learn more about AWS Cloud Solutions Architect Professional Certificate

Demand for cybersecurity professionals is at an all-time high, with 3.5 million job openings expected globally by 2025. As a recognized leader in security, Cisco is committed to helping close the readiness gap. The Cisco Cybersecurity Operations Specialization available on Coursera enables individuals to gain the skills to identify threats, secure the network, and start a career in cybersecurity.

Par Merat
VP, Cisco Learning and Certifications

Learn more about Cisco’s Cybersecurity Operations Specialization

How to Read this Report

Understanding skill proficiencies

Coursera has a registered learner base of 124M learners and we draw from this base of learners to report skills insights for 100 countries in this report.

While the skill proficiencies of learners in countries correlate with positive economic indicators, they are not necessarily representative of a population within a country, given that this data can only surface trends among those who are registered learners on Coursera.

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 gender, age, and 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. 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. Other times, the demographics and behavior of Coursera learners means that some results should not be extrapolated or interpreted as representing broad populations. Nevertheless, we believe sharing these insights presents an opportunity to generate new, more granular insights and complement other, more traditional data sources on education.

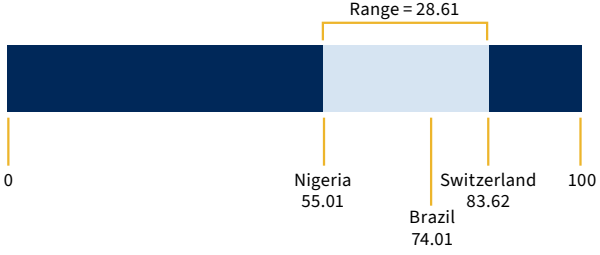
Reading country rankings

To benchmark skill proficiency at the country level, we first measure the skill proficiency of each learner in each skill. Then, we aggregate those proficiencies to compute insights—for example, a country's proficiency in a particular skill is an average of all learners' skill scores in that country.

We then compare these proficiency levels against one another by using percentile rankings. A country that is at 100% ranks at the top of the 100 countries featured in this report, while a country at 0% is at the bottom.

The percentile rankings are divided into four proficiency categories:

- **Cutting-edge:** 76th percentile or above
- **Competitive:** 51st-75th percentile
- **Limited:** 26th-50th percentile
- **Lagging:** 25th percentile or below



Though we present these percentiles in relative rankings of 1 to 100, the actual raw difference in overall proficiency scores among countries is much closer than it may seem, with a range of 28.61. The above image illustrates the range of the raw proficiency score (not to be confused with the proficiency percentile).

Understanding the relationships among skills

We assemble a vast skills taxonomy of over 4,000 skills in the subject areas of business, technology, and data science through a combination of open-source taxonomies like Wikipedia and crowdsourcing from Coursera educators and learners.

Guided by open-source data combined with knowledge from industry experts, we assemble a structured taxonomy that connects Coursera domains to the set of skills within them, ranging from competencies down to very specific skills.

Level 1 Skills: Also known as domains, Level 1 Skills constitute the largest levels of granularity for skills. In this report, we focus on three domains: business, technology, and data science. Skills found in these domains are among our most popular and reflect the skills that employers need.

- *Business:* These include skills that involve the management and operation of organizations—like marketing and supply chain systems—and also human skills like leadership & management.
- *Technology:* These are skills that involve computer science, information technology, and applied mathematics. Some examples are software engineering and Java.
- *Data Science:* These are skills that involve the creation and use of information. Some examples are SQL, big data, and machine learning.

Level 2 Skills: Also known as competencies in Coursera's Skills Taxonomy, Level 2 Skills are the next layer of granularity following domains. For the Global Skills Report, we focus on measuring learner *skill proficiency* at the competency level.

Level 3 Skills: These are the more granular skills of Coursera's Skills Taxonomy that are covered in this report and these ladder directly up to Level 2 Skills. When we discuss over-indexing skills in the Global Skills Report, we are looking exclusively at Level 3 Skills. Because these skills form the building blocks found in many Level 2 Skills, they can be found in multiple skill domains. For instance, linear algebra is a foundational skill for Level 2 skills in both the technology and data science domains.

To illustrate the mapping among domains, competencies, and skills, here is a snapshot of a subsection of Coursera's Skills Taxonomy:

Level 1

Level 2

Level 3

Level 2

Level 3 ...

This sample of the Coursera Skill Taxonomy includes all Level 1 and Level 2 covered in the Global Skills Report but only a small selection of the Level 3 skills covered in the report.

Business

Accounting
- Auditing

Communication
- People skills

Enterpreneurship
- Adaptability

Finance
- Blockchain

Human Resources
- Benefits

Leadership & Management
- People management

Marketing
- Digital marketing

Sales
- Cross-selling

Strategy & Operations
- Operations management

Technology

Cloud Computing
- Software as a Service

Computer Networking
- Cloud computing

Computer Programming
- JavaScript

Databases
- Relational database

Mobile Development
- Android development

Operating Systems
- Mobile app development

Security Engineering
- Cybersecurity

Software Engineering
- Software architecture

Theoretical Computer Science
- Algorithms

Web Development
- Angular

Data Science

Data Analysis
- Exploratory data analysis

Data Management
- Cloud APIs

Data Vizualization
- Tableau

Machine Learning
- Multi-task learning

Mathematics
- Calculus

Probability & Statistics
- Regression

Statistical Programming
- Python

Global Overview

Mo Rebaie, Lebanon
Coursera Learner

GLOBAL OVERVIEW

GLOBAL AVERAGES: These figures reflect averaged data for the 100 countries covered in this report.

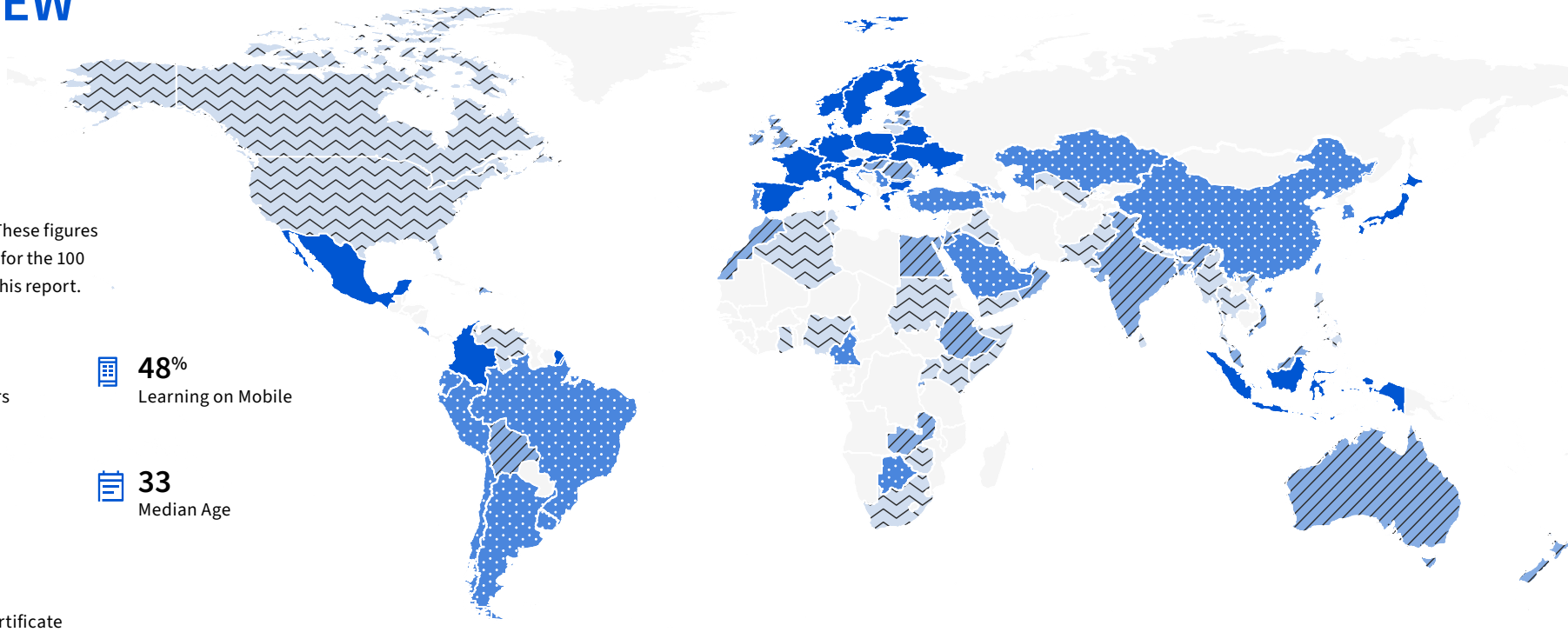
43%
Women Learners

48%
Learning on Mobile

75%
Internet Access

33
Median Age

↑46%
Professional Certificate Enrollment Growth



Cutting-edge (75%-100%)

WHERE THEY ARE: Europe and parts of Asia Pacific, including Hong Kong and Singapore

73%
Avg. Human Capital Index Score

4.67%
Avg. Percent of Working Age Population Registered on Coursera

87%
Avg. Internet Access

Competitive (50%-75%)

WHERE THEY ARE: Primarily Europe and Latin America, though also countries like South Korea, United Arab Emirates, and Botswana

63%
Avg. Human Capital Index Score

4.32%
Avg. Percent of Working Age Population Registered on Coursera

82%
Avg. Internet Access

The Human Capital Index (HCI) score is based on a set of indicators that capture the quantity and quality of education, health, and work experiences of people in each country, or region.

Limited (25%-50%)

WHERE THEY ARE: Primarily Asia Pacific, Europe, and the Middle East and North Africa

59%
Avg. Human Capital Index Score

3.34%
Avg. Percent of Working Age Population Registered on Coursera

72%
Avg. Internet Access

Lagging (0-25%)

WHERE THEY ARE: Primarily Asia Pacific, Middle East and North Africa, North America, and Sub-Saharan Africa

52%
Avg. Human Capital Index Score

2.68%
Avg. Percent of Working Age Population Registered on Coursera

56%
Avg. Internet Access

Global Rankings

GLOBAL RANK	COUNTRY NAME
1	Switzerland
2	Spain
3	Germany
4	Luxembourg
5	Japan
6	Indonesia
7	Slovakia
8	The Netherlands
9	France
10	Belgium
11	Denmark
12	Italy
13	Sweden
14	Austria
15	Ukraine
16	Singapore
17	Finland
18	Bulgaria
19	Colombia
20	Hong Kong
21	Belarus
22	Norway
23	Greece
24	Poland
25	Mexico

GLOBAL RANK	COUNTRY NAME
26	South Korea
27	Czech Republic
28	Brazil
29	Botswana
30	Argentina
31	Kazakhstan
32	United Arab Emirates
33	Serbia
34	China
35	Armenia
36	Croatia
37	Cyprus
38	Peru
39	Turkey
40	Taiwan
41	Saudi Arabia
42	Costa Rica
43	Chile
44	Azerbaijan
45	Ecuador
46	Israel
47	Uruguay
48	Cameroon
49	Georgia
50	Portugal

GLOBAL RANK	COUNTRY NAME
51	Hungary
52	Rwanda
53	Bahrain
54	Romania
55	Vietnam
56	New Zealand
57	Oman
58	Zambia
59	Australia
60	India
61	Egypt
62	Bolivia
63	Dominican Republic
64	United Kingdom
65	Lebanon
66	Morocco
67	Malaysia
68	Ireland
69	Kuwait
70	Jordan
71	Latvia
72	Ethiopia
73	Bangladesh
74	Estonia
75	Côte d'Ivoire

GLOBAL RANK	COUNTRY NAME
76	Qatar
77	Zimbabwe
78	United States
79	Sri Lanka
80	Nepal
81	Lithuania
82	Canada
83	Thailand
84	Myanmar
85	Venezuela
86	South Africa
87	Tunisia
88	Yemen
89	Uzbekistan
90	Uganda
91	Algeria
92	Pakistan
93	Somalia
94	Palestinian Territories
95	Iraq
96	Sudan
97	Ghana
98	Kenya
99	The Philippines
100	Nigeria

Regional Skill Trends

Paulina Mensah, Ghana
Coursera Learner

REGIONAL SKILL TRENDS

ASIA PACIFIC

37.8M
Coursera Learners

30
Median Age

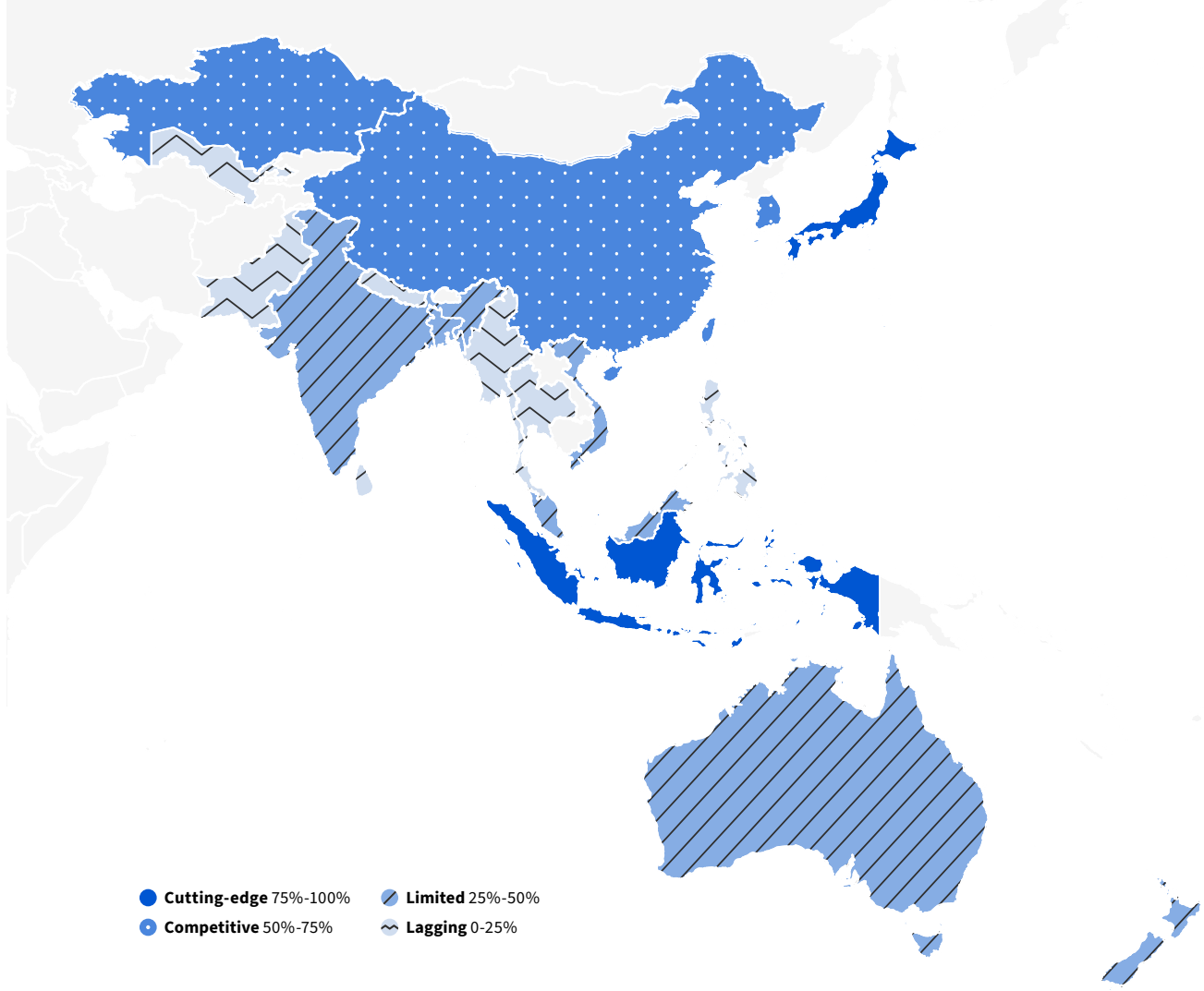
The Asia Pacific (APAC) economy is forecasted to grow 4.8% this year and maintain at this rate in 2024.[16] Learners in the region are on average more proficient in data science and technology skills than business skills. APAC has two of the top ten ranking countries for overall skill proficiency—Japan and Indonesia—and the second highest regional average year-over-year growth rate in Professional Certificates.

41%
Women Learners

53%
Learning on Mobile

69%
Internet Access

↑69%
Professional Certificate Enrollment Growth



Asia Pacific

STRENGTHS AND OPPORTUNITIES: Seven APAC countries attain an overall cutting-edge skill proficiency score—including Japan, Indonesia, Singapore, Hong Kong, and South Korea. However, there is considerable variation across countries in the region when it comes to specific skill domains. For business skills like finance and entrepreneurship, Hong Kong (85%) and Singapore (79%) lead the region. For technology skills, Indonesia (98%) leads, followed by Kazakhstan (96%) and Japan (92%) while Indonesia (100%), Japan (98%), and Hong Kong (94%) lead the region in data science skills.

OVER-INDEXING SKILLS: APAC learners are more likely than learners in other regions to invest in AI-related skills like applied machine learning (1.15x), machine learning algorithms (1.14x), deep learning (1.14x) and artificial neural networks (1.14x). Only one of the top five over-indexing business skills for the region is related to leadership, people analysis (1.22x), while other over-indexing skills relate to finance, such as investment management (1.28x) and fintech (1.2x).

Regional Skill Proficiencies

GLOBAL RANK	COUNTRY NAME	BUSINESS | 41%*	TECHNOLOGY | 49%*	DATA SCIENCE | 52%*
5	Japan	27%	92%	98%
6	Indonesia	1%	98%	100%
16	Singapore	79%	77%	79%
20	Hong Kong	85%	54%	94%
26	South Korea	63%	70%	88%
31	Kazakhstan	14%	96%	58%
34	China	75%	24%	93%
37	Cyprus	69%	63%	61%
40	Taiwan	57%	48%	78%
55	Vietnam	37%	62%	47%
56	New Zealand	51%	42%	52%
59	Australia	45%	36%	55%
60	India	52%	52%	34%
67	Malaysia	43%	46%	33%
73	Bangladesh	68%	15%	29%
79	Sri Lanka	18%	51%	28%
80	Nepal	12%	34%	49%
83	Thailand	34%	25%	22%
84	Myanmar	39%	17%	19%
89	Uzbekistan	5%	53%	17%
92	Pakistan	22%	10%	8%
99	The Philippines	16%	5%	1%

*Average regional scores

COUNTRY SPOTLIGHT

Australia

1.3M Coursera Learners

36 Median Age

59 Global Rank

Data science and business skills are key areas to invest in. There are also opportunities to capitalize on over-indexing business skills and further prepare learners for digital roles by investing in Professional Certificates, which 95% of Australian employers agree strengthens a candidate's job application.[17]

50% Women Learners

33% Learning on Mobile

90% Internet Access

↑12% Professional Certificate Enrollment Growth

STRENGTHS AND OPPORTUNITIES: Learners in Australia score lower in business skills overall, with human resources (81%) being a key strength and strategy & operations (28%) being a key area for improvement. Learners' technology scores rank #10 in APAC, ahead of New Zealand, with the highest scores in web development (74%) and databases (71%), and lowest in cloud computing (27%) and mobile development (30%). In data science, skill scores largely fall into the competitive ranking, with particular strengths in data analysis (72%) and data management (71%).

OVER-INDEXING SKILLS: In the business domain, Australian learners are more likely than learners in other countries to invest in resilience (2.18x), adaptability (2.09x) and critical thinking (1.31x). Australian learners over-index in technology skills related to math, like calculus (1.4x), and data science skills like bioinformatics (1.45x) and geovisualization (1.28x).

Global Rankings and Skill Proficiency Levels

BUSINESS | Rank 56		TECHNOLOGY | Rank 65		DATA SCIENCE | Rank 46	
Accounting	59%	Cloud Computing	27%	Data Analysis	72%
Communication	3%	Computer Networking	35%	Data Management	71%
Entrepreneurship	58%	Computer Programming	44%	Data Visualization	72%
Finance	70%	Databases	71%	Machine Learning	60%
Human Resources	81%	Mobile Development	30%	Mathematics	58%
Leadership & Management	44%	Operating Systems	44%	Probability & Statistics	44%
Marketing	58%	Security Engineering	54%	Statistical Programming	46%
Sales	72%	Software Engineering	34%		
Strategy & Operations	28%	Theoretical Computer Science	61%		
		Web Development	74%		

Top Over-Indexing Skills

BUSINESS	TECHNOLOGY	DATA SCIENCE
Resilience (2.18x)	Calculus (1.4x)	Bioinformatics (1.45x)
Adaptability (2.09x)	Mathematical Theory & Analysis (1.22x)	Geovisualization (1.28x)
Critical Thinking (1.31x)	Linear Algebra (1.13x)	Calculus (1.26x)
Spreadsheet Software (1.17x)	Distributed Computing Architecture (1.12x)	Epidemiology (1.24x)
Problem Solving (1.13x)	Graph Theory (1.06x)	Bayesian Statistics (1.19x)

COUNTRY SPOTLIGHT

India

19M
Coursera Learners

29
Median Age

60
Global Rank

India has the second-highest number of Coursera learners worldwide, second only to the U.S. However, just as in the U.S., this has resulted in very disparate scores across the country. Professional Certificates are especially in demand with 96% of students agreeing that they will help them secure the job that they desire.[18]

38%
Women Learners

59%
Learning on Mobile

43%
Internet Access

↑38%
Professional Certificate Enrollment Growth

See the India State-by-State Skill Trends on p. 53 for a more in-depth analysis

STRENGTHS AND OPPORTUNITIES: Learner performance levels vary significantly between states, resulting in lower overall scores for the nation. Learners demonstrate high business skill proficiency, earning cutting-edge scores in skills like communication (76%) and human resources (88%). Learners also score highly in technology, earning cutting-edge proficiency scores in mobile development (84%), and they are competitive in theoretical computer science (68%), web development (54%), software engineering (51%) and cloud computing (73%). Data science represents the greatest opportunity for improvement.

OVER-INDEXING SKILLS: Indian learners are more likely to be developing AI-related skills than learners in most countries, over-indexing on artificial neural networks (1.15x), applied machine learning (1.2x), and machine learning algorithms (1.2x). In the field of business, learners particularly uniquely favor courses in data visualization software (1.59x), blockchain (1.58x), and supply chain systems (1.55x).

Global Rankings and Skill Proficiency Levels

BUSINESS | Rank 49		TECHNOLOGY | Rank 49		DATA SCIENCE | Rank 67	
Accounting	15%	Cloud Computing	73%	Data Analysis	37%
Communication	76%	Computer Networking	40%	Data Management	38%
Entrepreneurship	40%	Computer Programming	30%	Data Visualization	46%
Finance	64%	Databases	18%	Machine Learning	42%
Human Resources	88%	Mobile Development	84%	Mathematics	51%
Leadership & Management	28%	Operating Systems	15%	Probability & Statistics	19%
Marketing	47%	Security Engineering	31%	Statistical Programming	33%
Sales	46%	Software Engineering	51%		
Strategy & Operations	26%	Theoretical Computer Science	68%		
		Web Development	54%		

Top Over-Indexing Skills

BUSINESS	TECHNOLOGY	DATA SCIENCE
Data Visualization Software (1.59x)	Software Architecture (1.31x)	Applied Machine Learning (1.2x)
Blockchain (1.58x)	C Programming Language Family (1.27x)	Machine Learning Algorithms (1.2x)
Supply Chain Systems (1.55x)	Distributed Computing Architecture (1.16x)	Regression (1.17x)
Investment Management (1.48x)	Algorithms (1.14x)	Deep Learning (1.16x)
People Analysis (1.28x)	Data Structures (1.13x)	Artificial Neural Networks (1.15x)

COUNTRY SPOTLIGHT

Malaysia

600K Coursera Learners

32 Median Age

67 Global Rank

Malaysians are enrolling in Professional Certificates at a soaring YOY growth rate—the fifth highest in the world. However, there is an opportunity to improve skill proficiencies across domains, especially in data science.

46% Women Learners

39% Learning on Mobile

97% Internet Access

↑113% Professional Certificate Enrollment Growth

STRENGTHS AND OPPORTUNITIES: Malaysian learners achieve competitive scores for business skills like marketing (63%), communication (59%), and entrepreneurship (55%). Data science is the nation's strongest domain with learners achieving cutting-edge ratings in computer networking (76%), operating systems (82%), and databases (86%), although there is an opportunity to further improve software engineering (24%), in particular. While the country ranks #68 overall in data science, learners achieve competitive scores in data management (63%) and data analysis (60%).

OVER-INDEXING SKILLS: Learners in Malaysia are more likely to invest in business skills like fintech (1.24x), advertising (1.18x), and investment management (1.17x), in comparison to learners in other countries. In technology, learners are investing in user experience (1.17x), data structures (1.11x), and computer graphic techniques (1.08x).

Global Rankings and Skill Proficiency Levels

BUSINESS | Rank 58		TECHNOLOGY | Rank 55		DATA SCIENCE | Rank 68	
Accounting	27%	Cloud Computing	31%	Data Analysis	60%
Communication	59%	Computer Networking	76%	Data Management	63%
Entrepreneurship	55%	Computer Programming	34%	Data Visualization	29%
Finance	45%	Databases	86%	Machine Learning	41%
Human Resources	43%	Mobile Development	35%	Mathematics	26%
Leadership & Management	27%	Operating Systems	82%	Probability & Statistics	8%
Marketing	63%	Security Engineering	57%	Statistical Programming	39%
Sales	38%	Software Engineering	24%		
Strategy & Operations	50%	Theoretical Computer Science	62%		
		Web Development	32%		

Top Over-Indexing Skills

BUSINESS	TECHNOLOGY	DATA SCIENCE
Fintech (1.24x)	User Experience (1.17x)	Epidemiology (1.26x)
Advertising (1.18x)	Data Structures (1.11x)	SQL (1.19x)
Investment Management (1.17x)	Software Testing (1.09x)	Data Visualization Software (1.19x)
Critical Thinking (1.14x)	Computer Graphic Techniques (1.08x)	Big Data (1.12x)
Spreadsheet Software (1.14x)	Computer Programming Tools (1.06x)	Data Analysis Software (1.12x)

COUNTRY SPOTLIGHT

The Philippines

1.8M Coursera Learners

31 Median Age

99 Global Rank

The Philippines leads the world in YOY Professional Certificate enrollment growth rate and is notable as an APAC country that has achieved fifty-fifty gender parity in access to Coursera. However, there is an opportunity for regional leaders in the country to further develop business skill proficiency by harnessing learner interest in skills like social media and advertising.

51% Women Learners

50% Learning on Mobile

50% Internet Access

↑253% Professional Certificate Enrollment Growth

STRENGTHS AND OPPORTUNITIES: While there are opportunities to further invest in business, technology, and data science skills, learners are achieving high proficiency scores in some areas. Learners in the Philippines demonstrate a cutting-edge proficiency in the business skill accounting (87%), as well as in the technology skill security engineering (91%). Data science represents an opportunity for investment across the board.

OVER-INDEXING SKILLS: In comparison to learners in other countries, Filipino learners are more likely to invest in marketing-related business skills like social media (1.85x), advertising (1.49x), and brand management (1.35x). Learners are also more likely to be learning technology skills like graphic design (2.74x), computer graphic techniques (1.53x), and user experience (1.65x). Notably, Filipino learners are also demonstrating a disproportionate interest in the AI-related skill big data (1.35x).

Global Rankings and Skill Proficiency Levels

BUSINESS | Rank 85		TECHNOLOGY | Rank 96		DATA SCIENCE | Rank 100	
Accounting	87%	Cloud Computing	10%	Data Analysis	7%
Communication	17%	Computer Networking	32%	Data Management	2%
Entrepreneurship	21%	Computer Programming	7%	Data Visualization	1%
Finance	21%	Databases	14%	Machine Learning	8%
Human Resources	41%	Mobile Development	5%	Mathematics	7%
Leadership & Management	1%	Operating Systems	42%	Probability & Statistics	1%
Marketing	9%	Security Engineering	91%	Statistical Programming	1%
Sales	35%	Software Engineering	14%		
Strategy & Operations	5%	Theoretical Computer Science	13%		
		Web Development	5%		

Top Over-Indexing Skills

BUSINESS	TECHNOLOGY	DATA SCIENCE
Social Media (1.85x)	Graphic Design (2.74x)	Epidemiology (2.04x)
Advertising (1.49x)	User Experience (1.65x)	SQL (1.77x)
General Accounting (1.38x)	Computer Graphic Techniques (1.53x)	Big Data (1.35x)
Brand Management (1.35x)	Software Testing (1.51x)	General Statistics (1.31x)
Influencing (1.34x)	Network Architecture (1.37x)	Data Analysis Software (1.27x)

COUNTRY SPOTLIGHT

Singapore

900K Coursera Learners

33 Median Age

16 Global Rank

Globally, Singapore has the highest percentage of working-age learners on Coursera. The nation earns competitive scores for business, technology, and data science skills, making for one of the most well-rounded countries in the world. Leaders can harness learner interest in over-indexing AI-related skills and further prepare learners for digital roles by investing in Professional Certificates.

45% Women Learners

37% Learning on Mobile

92% Internet Access

↑16% Professional Certificate Enrollment Growth

STRENGTHS AND OPPORTUNITIES: Singaporean learners achieve cutting-edge scores in business skills like finance (94%), human resources (87%), sales (90%), marketing (93%), and entrepreneurship (88%). Singaporean learners are competitive across the board in technology skills but deliver cutting-edge results in theoretical computer science (88%), computer programming (81%), web development (99%), and databases (87%). Similarly in data science, learners achieve cutting-edge scores in data visualization (91%), data analysis (85%), mathematics (91%), and data management (84%), while the remainder achieve competitive scores.

OVER-INDEXING SKILLS: In comparison to learners in other countries, learners in Singapore are more likely to invest in business skills like fintech (2.05x), blockchain (1.8x), and investment management (1.38x) and AI-related data science skills like computer vision (1.07x), applied machine learning (1.07x), and deep learning (1.05x).

Global Rankings and Skill Proficiency Levels

BUSINESS | Rank 22		TECHNOLOGY | Rank 24		DATA SCIENCE | Rank 22	
Accounting	63%	Cloud Computing	9%	Data Analysis	85%
Communication	4%	Computer Networking	74%	Data Management	84%
Entrepreneurship	88%	Computer Programming	81%	Data Visualization	91%
Finance	94%	Databases	87%	Machine Learning	69%
Human Resources	87%	Mobile Development	63%	Mathematics	91%
Leadership & Management	73%	Operating Systems	73%	Probability & Statistics	66%
Marketing	93%	Security Engineering	62%	Statistical Programming	62%
Sales	90%	Software Engineering	55%		
Strategy & Operations	65%	Theoretical Computer Science	88%		
		Web Development	99%		

Top Over-Indexing Skills

BUSINESS	TECHNOLOGY	DATA SCIENCE
Fintech (2.05x)	Distributed Computing Architecture (1.29x)	Bayesian Statistics (1.23x)
Blockchain (1.8x)	Graph Theory (1.24x)	Experiment (1.2x)
Investment Management (1.38x)	Linear Algebra (1.2x)	Probability Distribution (1.13x)
Innovation (1.31x)	Calculus (1.18x)	Graph Theory (1.11x)
Risk Management (1.26x)	Other Programming Languages (1.08x)	Artificial Neural Networks (1.08x)

COUNTRY SPOTLIGHT

Thailand

700K
Coursera Learners

31
Median Age

83
Global Rank

Thailand is seeing surging demand for Professional Certificates among learners with the seventh-highest YOY growth rate in the world and is notable as an APAC country that has achieved fifty-fifty gender parity in access to Coursera. There is an opportunity for regional leaders in the country to further invest in data science and technology skills and to harness both learner interest in over-indexing skills and Professional Certificates aligned to these domains to do so.

51%
Women Learners

45%
Learning on Mobile

85%
Internet Access

↑124%
Professional Certificate Enrollment Growth

STRENGTHS AND OPPORTUNITIES: Thai learners demonstrate the strongest proficiency in business skills, achieving a cutting-edge score in marketing (97%), but this domain could benefit from further investment in skills like leadership & management (8%). In technology skills, Thai learners score as competitive in databases (52%), computer programming (58%), and computer networking (59%). Data science skills constitute the greatest area for investment, with competitive scores in machine learning (58%), and lower scores in mathematics (15%), data visualization (15%), and probability & statistics (7%).

OVER-INDEXING SKILLS: In comparison to other countries, Thai learners are more likely to invest in business skills like writing (1.37x), leadership development (1.48x), people development (1.44x) and emotional intelligence (1.3x). Learners are also prioritizing technology skills that focus on mathematics, including distributed computing architecture (1.23x), mathematical theory and analysis (1.2x), and calculus (1.2x).

Global Rankings and Skill Proficiency Levels

BUSINESS | Rank 67		TECHNOLOGY | Rank 76		DATA SCIENCE | Rank 79	
Accounting	18%	Cloud Computing	36%	Data Analysis	47%
Communication	16%	Computer Networking	59%	Data Management	31%
Entrepreneurship	50%	Computer Programming	58%	Data Visualization	15%
Finance	40%	Databases	52%	Machine Learning	58%
Human Resources	36%	Mobile Development	N/A	Mathematics	15%
Leadership & Management	8%	Operating Systems	9%	Probability & Statistics	7%
Marketing	97%	Security Engineering	16%	Statistical Programming	34%
Sales	71%	Software Engineering	30%		
Strategy & Operations	34%	Theoretical Computer Science	26%		
		Web Development	31%		

Top Over-Indexing Skills

BUSINESS	TECHNOLOGY	DATA SCIENCE
Leadership Development (1.48x)	Distributed Computing Architecture (1.23x)	Epidemiology (1.26x)
People Development (1.44x)	Mathematical Theory & Analysis (1.2x)	Experiment (1.21x)
Writing (1.37x)	Calculus (1.2x)	Bioinformatics (1.19x)
Emotional Intelligence (1.3x)	Linear Algebra (1.18x)	Bayesian Statistics (1.17x)
Human Learning (1.26x)	User Experience (1.15x)	Computer Vision (1.13x)

REGIONAL SKILL TRENDS

EUROPE

20.3M
Coursera Learners

34
Median Age

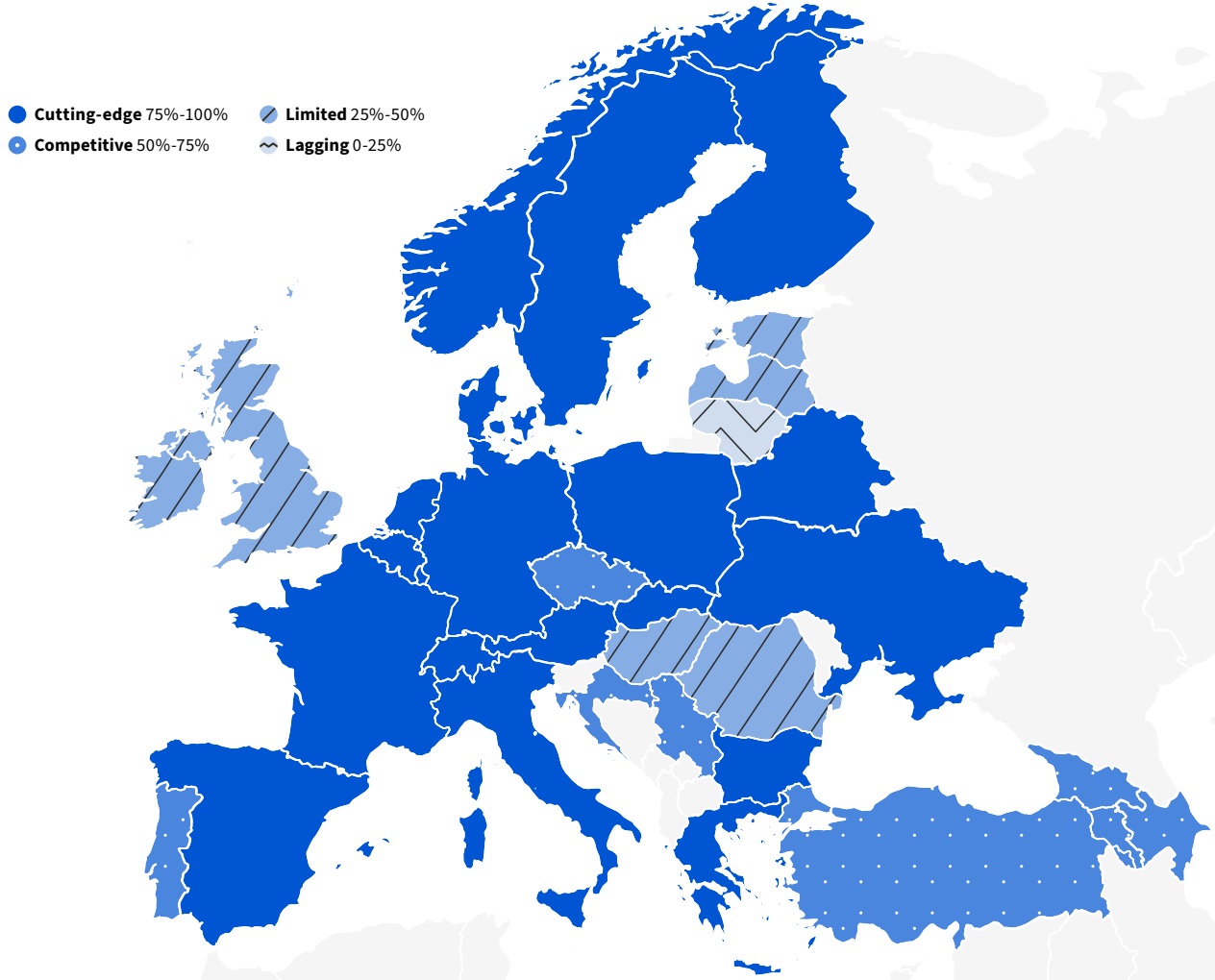
European economic growth is forecast at 0.5% in 2023, owing to Russia's ongoing war of aggression against Ukraine, monetary policy tightening, and general global slowdown. It is projected to rebound to 1.4% in 2024.[19] Learners in Europe show strong overall skill performance, occupying 19 out of the top 25 global rankings for overall skill proficiency. Regional leaders could further invest in developing learners in data science to support AI-related skills like applied machine learning.

47%
Women Learners

39%
Learning on Mobile

87%
Internet Access

↑26%
Professional Certificate Enrollment Growth



Europe

STRENGTHS AND OPPORTUNITIES:
Europe ranks #1 globally for business skills with learners in more than half of countries earning competitive or cutting-edge proficiency scores, including Luxembourg (98%), Switzerland (96%), and Denmark (95%). Europe ranks #2 globally for technology and data science. For technology, high-scoring learners are found in countries including Spain (100%), Switzerland (99%), and Ukraine (94%). For data science, high-scoring learners are found in countries including Spain (97%), Luxembourg (95%), and Germany (92%).

OVER-INDEXING SKILLS: Compared to other regions, European learners are more likely to invest in data science skills, including artificial neural networks (1.24x) and deep learning (1.18x), supporting the emerging AI market. Learners also show a strong interest in business skills, including innovation (1.28x), human learning (1.27x), and negotiation (1.2x).

Regional Skill Proficiencies

GLOBAL RANK	COUNTRY NAME	BUSINESS 66%*	TECHNOLOGY 67%*	DATA SCIENCE 68%*
1	Switzerland	96%	99%	77%
2	Spain	48%	100%	97%
3	Germany	93%	84%	92%
4	Luxembourg	98%	58%	95%
7	Slovakia	80%	90%	76%
8	The Netherlands	87%	83%	84%
9	France	65%	88%	89%
10	Belgium	83%	75%	91%
11	Denmark	95%	65%	85%
12	Italy	89%	86%	64%
13	Sweden	77%	82%	83%
14	Austria	86%	71%	82%
15	Ukraine	54%	94%	67%
17	Finland	71%	80%	81%
18	Bulgaria	84%	76%	71%
21	Belarus	47%	85%	87%
22	Norway	74%	79%	70%

GLOBAL RANK	COUNTRY NAME	BUSINESS 66%*	TECHNOLOGY 67%*	DATA SCIENCE 68%*
23	Greece	92%	64%	69%
24	Poland	55%	91%	66%
27	Czech Republic	66%	74%	74%
33	Serbia	62%	66%	73%
35	Armenia	41%	78%	72%
36	Croatia	82%	45%	65%
39	Turkey	76%	57%	56%
44	Azerbaijan	91%	32%	45%
49	Georgia	30%	59%	60%
50	Portugal	32%	67%	50%
51	Hungary	33%	47%	63%
54	Romania	35%	56%	53%
64	United Kingdom	42%	31%	51%
68	Ireland	36%	37%	46%
71	Latvia	72%	35%	11%
74	Estonia	49%	23%	36%
81	Lithuania	21%	30%	40%

*Average regional scores

COUNTRY SPOTLIGHT

France

1.5M Coursera Learners

34 Median Age

9 Global Rank

France is one of the top ten ranked countries for learner skill proficiency in the world. Leaders can further invest in developing data science skills by harnessing learner interest in skills like applied machine learning and artificial neural networks. Micro-credentials are another area for investment, especially given that 88% of French students believe that Professional Certificates will help them secure the job they desire.[20]

43% Women Learners

36% Learning on Mobile

86% Internet Access

↑27% Professional Certificate Enrollment Growth

STRENGTHS AND OPPORTUNITIES: Learners in France score highest in data science skills (89%), with cutting-edge scores across the board, particularly in probability & statistics (93%), mathematics (93%) and machine learning (88%). French learners also demonstrate a high proficiency for business skills, achieving cutting-edge scores in finance (92%), leadership & management (88%), and communication (80%). France ranks #13 globally in technology skills, with learners earning cutting-edge scores in cloud computing (94%), web development (87%), theoretical computer science (76%), computer programming (79%), and mobile development (81%).

OVER-INDEXING SKILLS: In comparison to learners in other countries, French learners are more likely to invest in business skills like negotiation (1.76x), investment management (1.72x), and innovation (1.73x). Learners are also more likely to be developing AI skills, such as deep learning (1.43x), computer vision (1.3x), artificial neural networks (1.51x), and machine learning algorithms (1.24x).

Global Rankings and Skill Proficiency Levels

BUSINESS | Rank 36		TECHNOLOGY | Rank 13		DATA SCIENCE | Rank 12	
Accounting	11%	Cloud Computing	94%	Data Analysis	66%
Communication	80%	Computer Networking	36%	Data Management	80%
Entrepreneurship	80%	Computer Programming	79%	Data Visualization	80%
Finance	92%	Databases	56%	Machine Learning	88%
Human Resources	32%	Mobile Development	81%	Mathematics	93%
Leadership & Management	88%	Operating Systems	69%	Probability & Statistics	93%
Marketing	52%	Security Engineering	60%	Statistical Programming	75%
Sales	40%	Software Engineering	72%		
Strategy & Operations	69%	Theoretical Computer Science	76%		
		Web Development	87%		

Top Over-Indexing Skills

BUSINESS	TECHNOLOGY	DATA SCIENCE
Negotiation (1.76x)	Linear Algebra (1.43x)	Artificial Neural Networks (1.51x)
Innovation (1.73x)	Distributed Computing Architecture (1.38x)	Deep Learning (1.43x)
Investment Management (1.72x)	Other Programming Languages (1.31x)	Computer Vision (1.3x)
Supply Chain Systems (1.46x)	Calculus (1.22x)	Applied Machine Learning (1.24x)
Fintech (1.45x)	Mathematical Theory & Analysis (1.2x)	Machine Learning Algorithms (1.24x)

COUNTRY SPOTLIGHT

Germany

1.6M
Coursera Learners

34
Median Age

3
Global Rank

German learners rank #3 globally for overall skill proficiency with learners particularly excelling in data science and business skills. National leaders can invest further in technology skills, like security engineering and computer networking. Investing in job-relevant learning could help overcome these gaps, especially considering that 81% of German students agree that obtaining Professional Certificates would help them secure a job.[21]

41%
Women Learners

40%
Learning on Mobile

91%
Internet Access

↑23%
Professional Certificate Enrollment Growth

STRENGTHS AND OPPORTUNITIES: German learners demonstrate a high skill proficiency in business skills with cutting-edge results in all areas, except accounting (48%). German learners rank #9 globally for data science skills, with cutting-edge scores in all skill areas. While learners score the lowest overall in technology skills, even here they still earn cutting-edge scores in almost all skills, except for security engineering (40%).

OVER-INDEXING SKILLS: In comparison to learners in other countries, German learners are more likely to invest in AI-related skills, such as artificial neural networks (1.38x), deep learning (1.31x), and applied machine learning (1.23x). Learners are also more likely to invest in business skills, like supply chain systems (1.77x) and leadership development (1.34x).

Global Rankings and Skill Proficiency Levels

BUSINESS | Rank 8		TECHNOLOGY | Rank 17		DATA SCIENCE | Rank 9	
Accounting	48%	Cloud Computing	85%	Data Analysis	84%
Communication	92%	Computer Networking	55%	Data Management	85%
Entrepreneurship	82%	Computer Programming	78%	Data Visualization	95%
Finance	84%	Databases	77%	Machine Learning	98%
Human Resources	93%	Mobile Development	74%	Mathematics	85%
Leadership & Management	82%	Operating Systems	81%	Probability & Statistics	90%
Marketing	95%	Security Engineering	40%	Statistical Programming	76%
Sales	94%	Software Engineering	94%		
Strategy & Operations	78%	Theoretical Computer Science	81%		
		Web Development	79%		

Top Over-Indexing Skills

BUSINESS	TECHNOLOGY	DATA SCIENCE
Supply Chain Systems (1.77x)	Linear Algebra (1.39x)	Artificial Neural Networks (1.38x)
Leadership Development (1.34x)	Other Programming Languages (1.26x)	Deep Learning (1.31x)
Innovation (1.31x)	Calculus (1.16x)	Bayesian Statistics (1.28x)
Fintech (1.28x)	Mathematical Theory & Analysis (1.11x)	Linear Algebra (1.27x)
Problem Solving (1.23x)	Python Programming (1.08x)	Bioinformatics (1.25x)

COUNTRY SPOTLIGHT

Spain

1.9M Coursera Learners

37 Median Age

2 Global Rank

Ranking #2 in the global skill rankings and featuring the third-highest growth rate for Professional Certificates enrollments in Europe, Spanish learners are particularly strong in technology and data science. There are opportunities for regional leaders in the country to invest further in business skills and to harness learner interest in over-indexing skills related to leadership and data analysis, along with Professional Certificate programs to do so.

50% Women Learners

41% Learning on Mobile

94% Internet Access

↑105% Professional Certificate Enrollment Growth

STRENGTHS AND OPPORTUNITIES: Learners in Spain have the highest technology score globally, scoring cutting-edge across the board, except in mobile development (58%) and cloud computing (64%). Learners rank #1 in Europe and #4 globally for data science, scoring cutting-edge scores across the board, except for in mathematics (55%) and probability & statistics (65%). While there are some business skills that leaders could further invest in developing, Spanish learners are demonstrating cutting-edge scores in communication (98%) and accounting (77%).

OVER-INDEXING SKILLS: Learners in Spain are more likely than those in other countries to invest in business skills. For instance, data analysis software is a popular skill in both the business (1.77x) and data science (1.83x) domains. Leadership skills like negotiation (1.56x), culture (1.5x), emotional intelligence (1.41x), and resilience (1.26x) are also a priority for learners.

Global Rankings and Skill Proficiency Levels

BUSINESS | Rank 53		TECHNOLOGY | Rank 1		DATA SCIENCE | Rank 4	
Accounting	77%	Cloud Computing	64%	Data Analysis	96%
Communication	98%	Computer Networking	99%	Data Management	96%
Entrepreneurship	65%	Computer Programming	96%	Data Visualization	97%
Finance	30%	Databases	95%	Machine Learning	79%
Human Resources	13%	Mobile Development	58%	Mathematics	55%
Leadership & Management	75%	Operating Systems	100%	Probability & Statistics	65%
Marketing	19%	Security Engineering	89%	Statistical Programming	94%
Sales	5%	Software Engineering	76%		
Strategy & Operations	57%	Theoretical Computer Science	100%		
		Web Development	91%		

Top Over-Indexing Skills

BUSINESS	TECHNOLOGY	DATA SCIENCE
Data Analysis Software (1.77x)	Distributed Computing Architecture (1.36x)	Data Analysis Software (1.83x)
Negotiation (1.56x)	Interactive Design (1.27x)	Bioinformatics (1.43x)
Culture (1.5x)	Mathematical Theory & Analysis (1.24x)	Experiment (1.2x)
Emotional Intelligence (1.41x)	Python Programming (1.12x)	Mathematical Theory & Analysis (1.15x)
Resilience (1.26x)	User Experience (1.09x)	Computer Vision (1.1x)

COUNTRY SPOTLIGHT

Turkey

1.1M Coursera Learners

32 Median Age

39 Global Rank

Leaders in Turkey can further invest in data science and technology, harnessing interest in over-indexing AI-related skills, further preparing learners for digital roles by investing in Professional Certificates, especially considering that nine out of ten Turkish students trust that a Professional Certificate will help secure a job.[22]

43% Women Learners

42% Learning on Mobile

81% Internet Access

↑35% Professional Certificate Enrollment Growth

STRENGTHS AND OPPORTUNITIES: Business is the strongest domain for Turkish learners, with cutting-edge scores in strategy & operations (100%), finance (91%), human resources (86%), and leadership & management (86%). Technology and data science share competitive overall proficiency scores, with web development (90%) being a particular strong technology skill.

OVER-INDEXING SKILLS: In comparison to other countries, Turkish learners are more likely to invest in leadership skills like human learning (1.96x), culture (1.43x), problem solving (1.42x), and people development (1.29x). They are also more likely to invest in AI-related skills, including artificial neural networks (1.46x), computer vision (1.38x) and deep learning (1.38x).

Global Rankings and Skill Proficiency Levels

BUSINESS | Rank 25		TECHNOLOGY | Rank 44		DATA SCIENCE | Rank 45	
Accounting	29%	Cloud Computing	56%	Data Analysis	44%
Communication	42%	Computer Networking	23%	Data Management	48%
Entrepreneurship	62%	Computer Programming	51%	Data Visualization	56%
Finance	91%	Databases	49%	Machine Learning	63%
Human Resources	86%	Mobile Development	N/A	Mathematics	69%
Leadership & Management	86%	Operating Systems	71%	Probability & Statistics	58%
Marketing	28%	Security Engineering	67%	Statistical Programming	49%
Sales	11%	Software Engineering	27%		
Strategy & Operations	100%	Theoretical Computer Science	63%		
		Web Development	90%		

Top Over-Indexing Skills

BUSINESS	TECHNOLOGY	DATA SCIENCE
Human Learning (1.96x)	Computer Graphic Techniques (1.37x)	Artificial Neural Networks (1.46x)
Supply Chain Systems (1.55x)	Linear Algebra (1.29x)	Bioinformatics (1.42x)
Culture (1.43x)	Mathematical Theory & Analysis (1.26x)	Computer Vision (1.38x)
Problem Solving (1.42x)	Other Programming Languages (1.26x)	Deep Learning (1.38x)
Writing (1.35x)	Calculus (1.2x)	Linear Algebra (1.24x)

COUNTRY SPOTLIGHT

United Kingdom

3M
Coursera Learners

35
Median Age

64
Global Rank

United Kingdom (U.K.) leaders can further invest in business and technology skills by harnessing interest in over-indexing skills related to entrepreneurship and further preparing learners for digital roles by investing in Professional Certificates, which nearly 90% of U.K. students say will help them stand out to employers.[23]

48%
Women Learners

39%
Learning on Mobile

95%
Internet Access

↑24%
Professional Certificate Enrollment Growth

STRENGTHS AND OPPORTUNITIES: Learners in the U.K. score fairly well in business skills, with human resources (57%), finance (72%), and marketing (51%) scoring as competitive. Learners in the country also scored as competitive for technology skills such as theoretical computer science (58%), web development (61%), and databases (57%), but U.K. leaders could further invest in software engineering (23%). The U.K.'s data science scores are stronger, with mathematics (65%), machine learning (57%), data analysis (55%), and data visualization (54%) scoring as competitive.

OVER-INDEXING SKILLS: Compared to learners in other countries, those in the U.K. are more likely to invest in entrepreneurship skills, such as resilience (1.33x), adaptability (1.3x), and risk management (1.26x), and AI-related skills, like artificial neural networks (1.04x) and machine learning algorithms (1.02x).

Global Rankings and Skill Proficiency Levels

BUSINESS | Rank 59		TECHNOLOGY | Rank 70		DATA SCIENCE | Rank 50	
Accounting	25%	Cloud Computing	47%	Data Analysis	55%
Communication	28%	Computer Networking	27%	Data Management	49%
Entrepreneurship	49%	Computer Programming	41%	Data Visualization	54%
Finance	72%	Databases	57%	Machine Learning	57%
Human Resources	57%	Mobile Development	26%	Mathematics	65%
Leadership & Management	34%	Operating Systems	31%	Probability & Statistics	50%
Marketing	51%	Security Engineering	33%	Statistical Programming	45%
Sales	43%	Software Engineering	23%		
Strategy & Operations	24%	Theoretical Computer Science	58%		
		Web Development	61%		

Top Over-Indexing Skills

BUSINESS	TECHNOLOGY	DATA SCIENCE
Investment Management (1.36x)	Linear Algebra (1.18x)	Bioinformatics (1.29x)
Resilience (1.33x)	Calculus (1.16x)	Bayesian Statistics (1.28x)
Adaptability (1.3x)	Mathematical Theory & Analysis (1.14x)	Experiment (1.28x)
Risk Management (1.26x)	User Experience (1.07x)	Probability Distribution (1.16x)
Fintech (1.24x)	Data Structures (1.06x)	Epidemiology (1.15x)

REGIONAL SKILL TRENDS

LATIN AMERICA AND THE CARIBBEAN

20.9M
Coursera Learners

33
Median Age

Latin America and the Caribbean (LATAM) experienced a downturn with 1.4% economic growth in 2023, but it is expected to increase to 2.4% in the next two years.[24] This drives the need for skilled workers. LATAM learners excel in technology and data science with the highest regional average, but there is a need for more investment in business skills. Notably, the region has the second-highest average percentage of women learners.

49%
Women Learners

49%
Learning on Mobile

77%
Internet Access

↑45%
Professional Certificate Enrollment Growth

Latin America and the Caribbean

STRENGTHS AND OPPORTUNITIES: LATAM learners lead in technology (75%) and data science (69%), with the highest regional averages among countries for these domains. For technology skills, Mexico (97%), Colombia (95%), Argentina (93%), Chile (89%), Brazil (87%), and Peru (81%) all have cutting-edge scores. The region also ranks #1 globally for data science, with learners in Brazil (99%), Argentina (96%), Mexico (90%), Peru (86%), and Bolivia (80%) all earning cutting-edge grades.

OVER-INDEXING SKILLS: In comparison to learners in other countries, learners in LATAM are more likely to invest in data science skills like data analysis software (2.4x), technology skills like programming principles (2.12x), computer programming tools (1.39x), and software architecture (1.37x), and business skills like negotiation (1.86x) and culture (1.57x).

Regional Skill Proficiencies

GLOBAL RANK	COUNTRY NAME	BUSINESS | 20%*	TECHNOLOGY | 75%*	DATA SCIENCE | 69%*
19	Colombia	38%	95%	68%
25	Mexico	6%	97%	90%
28	Brazil	3%	87%	99%
30	Argentina	8%	93%	96%
38	Peru	13%	81%	86%
42	Costa Rica	88%	60%	37%
43	Chile	9%	89%	62%
45	Ecuador	20%	72%	59%
47	Uruguay	19%	73%	57%
62	Bolivia	4%	50%	80%
63	Dominican Republic	28%	55%	44%
85	Venezuela	2%	44%	54%

*Average regional scores

COUNTRY SPOTLIGHT

Brazil

4.8M Coursera Learners

34 Median Age

28 Global Rank

Brazil ranks #3 for overall skill proficiency in LATAM, with the second-highest data science score (99%) in the world, an exceptionally high technology score (87%), and the third-highest growth rate in Professional Certificate enrollments in the world. Leaders can further invest in business skills by harnessing learner interest in leadership skills and further prepare learners for digital roles by investing in Professional Certificates.

46% Women Learners

48% Learning on Mobile

81% Internet Access

↑171% Professional Certificate Enrollment Growth

STRENGTHS AND OPPORTUNITIES: Learners in Brazil score exceptionally highly in data science and technology skills, with the #1 data visualization score in the world, and similarly high scores in data science skills like data management (99%), data analysis (98%) and statistical programming (98%). In technology skills, learners lead the world in databases while also earning high scores in skills like computer programming (92%) and mobile development (88%). Business skills, where the highest score is in leadership & management (42%), mark the largest area for improvement.

OVER-INDEXING SKILLS: Compared to learners in other countries, learners in Brazil are more likely to invest in business skills related to leadership like people analysis (2.19x), strategy (2.2x), and negotiation (2.05x). Brazilian learners are more likely to invest in technology skills like programming principles (2.93x) and computer programming tools (1.88x) and data science skills like big data (1.74x) and Python programming (1.34x).

Global Rankings and Skill Proficiency Levels

BUSINESS | Rank 98		TECHNOLOGY | Rank 14		DATA SCIENCE | Rank 2	
Accounting	3%	Cloud Computing	86%	Data Analysis	98%
Communication	5%	Computer Networking	85%	Data Management	99%
Entrepreneurship	19%	Computer Programming	92%	Data Visualization	100%
Finance	24%	Databases	100%	Machine Learning	62%
Human Resources	11%	Mobile Development	88%	Mathematics	14%
Leadership & Management	42%	Operating Systems	22%	Probability & Statistics	9%
Marketing	4%	Security Engineering	15%	Statistical Programming	98%
Sales	4%	Software Engineering	16%		
Strategy & Operations	20%	Theoretical Computer Science	21%		
		Web Development	24%		

Top Over-Indexing Skills

BUSINESS	TECHNOLOGY	DATA SCIENCE
Strategy (2.2x)	Programming Principles (2.93x)	Mathematical Theory & Analysis (1.83x)
People Analysis (2.19x)	Computer Programming Tools (1.88x)	Epidemiology (1.8x)
Creativity (2.12x)	Software Architecture (1.61x)	Big Data (1.74x)
Negotiation (2.05x)	Interactive Design (1.56x)	Python Programming (1.34x)
Decision Making (1.96x)	User Experience (1.38x)	Calculus (1.17x)

COUNTRY SPOTLIGHT

Chile

1.5M Coursera Learners

34 Median Age

43 Global Rank

Chile has the highest percentage of its working-age population enrolled on Coursera in LATAM, and the fourth highest in the world. Learners in the country have strong technology and data science scores however there are opportunities to harness learner interest in over-indexing business skills and to prepare learners for digital roles by investing in Professional Certificates. Notably, Chile achieves fifty-fifty parity with registered women learners.

50% Women Learners

49% Learning on Mobile

88% Internet Access

↑13% Professional Certificate Enrollment Growth

STRENGTHS AND OPPORTUNITIES: Learners in Chile perform highest in digital skills with cutting-edge technology and data science scores. Learners have cutting-edge scores in technology skills like computer programming (95%) and cloud computing (97%), and data science skills like statistical programming (93%), data analysis (90%), data management (88%), and data visualization (87%). The business domain represents the biggest area of improvement across all skills except accounting (97%).

OVER-INDEXING SKILLS: Compared to those in other countries, Chilean learners are more likely to invest in business leadership skills, such as human learning (1.94x), resilience (1.87x), and emotional intelligence (1.66x), as well as in data science skills like data analysis software (3.39x).

Global Rankings and Skill Proficiency Levels

BUSINESS | Rank 92		TECHNOLOGY | Rank 12		DATA SCIENCE | Rank 39	
Accounting	97%	Cloud Computing	97%	Data Analysis	90%
Communication	7%	Computer Networking	60%	Data Management	88%
Entrepreneurship	18%	Computer Programming	95%	Data Visualization	87%
Finance	6%	Databases	67%	Machine Learning	32%
Human Resources	7%	Mobile Development	N/A	Mathematics	47%
Leadership & Management	14%	Operating Systems	92%	Probability & Statistics	17%
Marketing	16%	Security Engineering	55%	Statistical Programming	93%
Sales	8%	Software Engineering	60%		
Strategy & Operations	25%	Theoretical Computer Science	51%		
		Web Development	76%		

Top Over-Indexing Skills

BUSINESS	TECHNOLOGY	DATA SCIENCE
Data Analysis Software (2.75x)	Python Programming (1.78x)	Data Analysis Software (3.39x)
Human Learning (1.94x)	Interactive Design (1.76x)	Python Programming (2.03x)
Resilience (1.87x)	Programming Principles (1.63x)	Epidemiology (1.52x)
Emotional Intelligence (1.66x)	Distributed Computing Architecture (1.09x)	Experiment (1.46x)
Strategy (1.66x)	Mathematical Theory & Analysis (1.09x)	Mathematical Theory & Analysis (1.25x)

COUNTRY SPOTLIGHT

Colombia

2.7M Coursera Learners

32 Median Age

19 Global Rank

Colombia is the highest-ranking country in LATAM and achieves a fifty-fifty parity for registered women learners. The strongest skill domain for Chilean learners is technology and the biggest area for improvement is business. Leaders can harness learner interest in over-indexing leadership skills and Professional Certificates to help bridge this gap.

50% Women Learners

49% Learning on Mobile

70% Internet Access

↑50% Professional Certificate Enrollment Growth

STRENGTHS AND OPPORTUNITIES: Colombian learners rank #2 in LATAM and #6 globally for technology skills, earning cutting-edge scores in skills like operating systems (99%), computer networking (98%), and computer programming (94%). While data science scores are overall lower, learners still achieve cutting-edge scores in mathematics (89%), data analysis (93%), and statistical programming (96%). Though Colombian learners have the highest global score in accounting, there is room for further investment in other business skills across the board.

OVER-INDEXING SKILLS: In comparison to other countries, Colombian learners are more likely to invest in data science skills like data analysis software (2.81x), technology skills like programming principles (1.83x), and business skills clustered around leadership like culture (1.67x), human learning (1.62x), and emotional intelligence (1.46x).

Global Rankings and Skill Proficiency Levels

BUSINESS | Rank 63		TECHNOLOGY | Rank 6		DATA SCIENCE | Rank 33	
Accounting	100%	Cloud Computing	70%	Data Analysis	93%
Communication	60%	Computer Networking	98%	Data Management	81%
Entrepreneurship	22%	Computer Programming	94%	Data Visualization	33%
Finance	8%	Databases	93%	Machine Learning	7%
Human Resources	6%	Mobile Development	23%	Mathematics	89%
Leadership & Management	23%	Operating Systems	99%	Probability & Statistics	56%
Marketing	32%	Security Engineering	44%	Statistical Programming	96%
Sales	14%	Software Engineering	90%		
Strategy & Operations	68%	Theoretical Computer Science	69%		
		Web Development	45%		

Top Over-Indexing Skills

BUSINESS	TECHNOLOGY	DATA SCIENCE
Data Analysis Software (2.81x)	Programming Principles (1.83x)	Data Analysis Software (2.69x)
Culture (1.67x)	Interactive Design (1.39x)	Experiment (1.5x)
Human Learning (1.62x)	Mathematical Theory & Analysis (1.38x)	Mathematical Theory & Analysis (1.48x)
Fintech (1.5x)	Python Programming (1.33x)	Python Programming (1.43x)
Emotional Intelligence (1.46x)	Computer Programming Tools (1.33x)	Epidemiology (1.38x)

COUNTRY SPOTLIGHT

Mexico

5.7M Coursera Learners

33 Median Age

25 Global Rank

Mexico ranks #2 in overall skill proficiency in LATAM and is among the top 25 countries worldwide. The country achieves gender parity in registered women learners. It also has seen significant enrollment growth in Professional Certificates, which 95% of Mexican employers believe strengthens a candidate's job application.[25] Regional leaders have an opportunity to invest further in business skills that are in high-demand.

51% Women Learners

50% Learning on Mobile

72% Internet Access

↑134% Professional Certificate Enrollment Growth

STRENGTHS AND OPPORTUNITIES: Mexican learners rank #4 in the world for technology skills, with cutting-edge scores in theoretical computer science (96%), computer networking (96%), databases (97%), and operating systems (97%). Data science is another area of strength with cutting-edge scores in all skills except mathematics (36%) and machine learning (16%). Business skills mark the largest area for improvement, with communication (93%) and accounting (73%) being the exceptions.

OVER-INDEXING SKILLS: Compared to learners in other countries, Mexican learners are more likely to invest in business skills like accounting (2.27x) and data analysis software (2.34x), and design-related technology skills like interactive design (1.89x) and computer graphic techniques (1.26x). In data science, learners are significantly more likely to invest in data analysis software (3.35x), which is also a foundational business skill.

Global Rankings and Skill Proficiency Levels

BUSINESS | Rank 95		TECHNOLOGY | Rank 4		DATA SCIENCE | Rank 11	
Accounting	73%	Cloud Computing	57%	Data Analysis	95%
Communication	93%	Computer Networking	96%	Data Management	97%
Entrepreneurship	24%	Computer Programming	93%	Data Visualization	96%
Finance	3%	Databases	97%	Machine Learning	16%
Human Resources	1%	Mobile Development	79%	Mathematics	36%
Leadership & Management	18%	Operating Systems	97%	Probability & Statistics	94%
Marketing	5%	Security Engineering	38%	Statistical Programming	95%
Sales	2%	Software Engineering	29%		
Strategy & Operations	23%	Theoretical Computer Science	96%		
		Web Development	66%		

Top Over-Indexing Skills

BUSINESS	TECHNOLOGY	DATA SCIENCE
Data Analysis Software (2.34x)	Interactive Design (1.89x)	Data Analysis Software (3.35x)
Negotiation (2.11x)	Programming Principles (1.54x)	Experiment (1.6x)
Emotional Intelligence (1.92x)	Mathematical Theory & Analysis (1.43x)	Epidemiology (1.46x)
Culture (1.44x)	Calculus (1.39x)	Mathematical Theory & Analysis (1.44x)
Operations Management (1.38x)	Network Architecture (1.36x)	Calculus (1.4x)

COUNTRY SPOTLIGHT

Peru

1.3M Coursera Learners

33 Median Age

38 Global Rank

With cutting-edge technology and data science skill scores, Peru is in the top third of countries featured in this report. There is opportunity for regional leaders to further invest in business skills by harnessing interest in over-indexing leadership skills and investing in relevant Professional Certificates.

45% Women Learners

39% Learning on Mobile

71% Internet Access

↓34% Professional Certificate Enrollment Growth

STRENGTHS AND OPPORTUNITIES: Learners score highest in data science, ranking #1 globally in machine learning and achieving cutting-edge scores in data management (92%), statistical programming (81%), and data analysis (89%). Peruvian learners are also performing well in technology skills, earning cutting-edge scores in cloud computing (99%), databases (92%), operating systems (83%), and web development (83%). With the exception of accounting (67%), business skills mark the biggest opportunity for investment.

OVER-INDEXING SKILLS: Learners in Peru are more likely than learners in other countries to invest in data science skills like data analysis software (3.59x) and business skills related to leadership, like negotiation (1.97x), innovation (1.5x), and emotional intelligence (1.47x).

Global Rankings and Skill Proficiency Levels

BUSINESS | Rank 88		TECHNOLOGY | Rank 20		DATA SCIENCE | Rank 15	
Accounting	67%	Cloud Computing	99%	Data Analysis	89%
Communication	8%	Computer Networking	21%	Data Management	92%
Entrepreneurship	41%	Computer Programming	48%	Data Visualization	71%
Finance	18%	Databases	92%	Machine Learning	100%
Human Resources	12%	Mobile Development	19%	Mathematics	49%
Leadership & Management	15%	Operating Systems	83%	Probability & Statistics	48%
Marketing	18%	Security Engineering	20%	Statistical Programming	81%
Sales	27%	Software Engineering	40%		
Strategy & Operations	21%	Theoretical Computer Science	38%		
		Web Development	83%		

Top Over-Indexing Skills

BUSINESS	TECHNOLOGY	DATA SCIENCE
Data Analysis Software (2.85x)	Interactive Design (1.95x)	Data Analysis Software (3.59x)
Negotiation (1.97x)	Distributed Computing Architecture (1.64x)	Epidemiology (1.72x)
Human Learning (1.64x)	Programming Principles (1.45x)	Experiment (1.55x)
Innovation (1.5x)	Mathematical Theory & Analysis (1.37x)	Mathematical Theory & Analysis (1.47x)
Resilience (1.48x)	Computer Graphic Techniques (1.37x)	Python Programming (1.36x)

REGIONAL SKILL TRENDS

THE MIDDLE EAST AND NORTH AFRICA

7.2M
Coursera Learners

30
Median Age

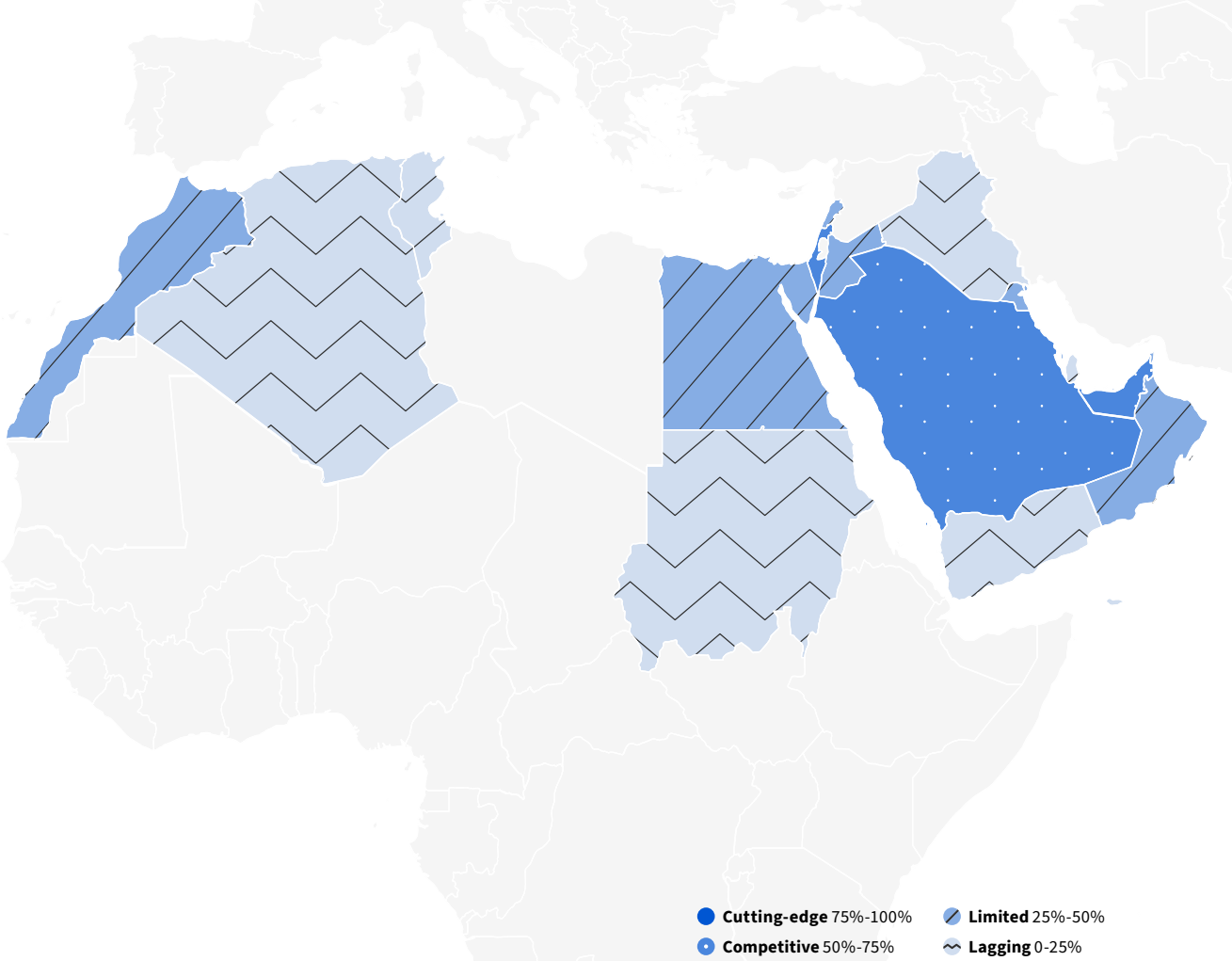
Economists forecast that growth in the Middle East and North Africa (MENA) will slow to 3% in 2023.[26] The region is strongest in business skills, but leaders could further invest in developing technology and data science skills.

37%
Women Learners

59%
Learning on Mobile

80%
Internet Access

↑32%
Professional Certificate Enrollment Growth



The Middle East and North Africa

STRENGTHS AND OPPORTUNITIES: Learners in MENA are strong in business skills, with learners in countries like the United Arab Emirates (99%), Oman (97%), Bahrain (90%), Saudi Arabia (81%), and Qatar (78%) achieving cutting-edge scores. Technology represents a gap throughout the region, with learners in Saudi Arabia (68%) achieving the highest skill score. Data science marks an area of improvement across the region.

OVER-INDEXING SKILLS: Compared to learners in other regions, learners in MENA are more likely to invest in marketing skills like social media (1.44x) and advertising (1.43x), along with leadership skills like people analysis (1.66x), human learning (1.6x), and influencing (1.42x). Learners are also more likely to invest in AI-related data science skills like deep learning (1.21x), artificial neural networks (1.2x), and computer vision (1.17x), and technology skills like computer graphic techniques (1.38x), graphic design (1.31x) and interactive design (1.15x).

Regional Skill Proficiencies

GLOBAL RANK	COUNTRY NAME	BUSINESS | 52%*	TECHNOLOGY | 28%*	DATA SCIENCE | 25%*
32	United Arab Emirates	99%	43%	24%
41	Saudi Arabia	81%	68%	43%
46	Israel	17%	61%	75%
53	Bahrain	90%	28%	25%
57	Oman	97%	11%	15%
61	Egypt	44%	49%	41%
65	Lebanon	61%	22%	42%
66	Morocco	67%	20%	31%
69	Kuwait	73%	26%	16%
70	Jordan	70%	21%	21%
76	Qatar	78%	18%	12%
87	Tunisia	11%	33%	30%
88	Yemen	29%	38%	7%
91	Algeria	7%	14%	18%
94	Palestinian Territories	10%	8%	13%
95	Iraq	23%	7%	5%
96	Sudan	31%	2%	6%

*Average regional scores

COUNTRY SPOTLIGHT

Egypt

2.2M
Coursera Learners

28
Median Age

61
Global Rank

Egyptian learners are typically younger than the global average. Technology is the greatest area of strength, while leaders can further invest in data science skills, harnessing learner interest in AI-related skills and Professional Certificates to do so. Nearly all Egyptian students (98%) say that earning a Professional Certificate would help them stand out to employers and get a job after graduation.[27]

36%
Women Learners

68%
Learning on Mobile

72%
Internet Access

↑23%
Professional Certificate Enrollment Growth

STRENGTHS AND OPPORTUNITIES: Egypt ranks #3 in technology in MENA, with learners achieving cutting-edge scores in theoretical computer science (91%), operating systems (77%), and mobile development (77%). Data science represents the largest area of improvement, though learners achieve a cutting-edge rating for mathematics (95%). Learners achieve cutting-edge scores for business skills like accounting (90%) and communication (81%).

OVER-INDEXING SKILLS: In comparison to learners in other countries, Egyptian learners are more likely to invest in human skills, like people analysis (2.73x) and influencing (2.06x), and AI-related skills like artificial neural networks (1.34x), deep learning (1.25x), and applied machine learning (1.2x).

Global Rankings and Skill Proficiency Levels

BUSINESS | Rank 57		TECHNOLOGY | Rank 52		DATA SCIENCE | Rank 60	
Accounting	90%	Cloud Computing	24%	Data Analysis	38%
Communication	81%	Computer Networking	30%	Data Management	24%
Entrepreneurship	72%	Computer Programming	54%	Data Visualization	18%
Finance	17%	Databases	36%	Machine Learning	34%
Human Resources	38%	Mobile Development	77%	Mathematics	95%
Leadership & Management	74%	Operating Systems	77%	Probability & Statistics	28%
Marketing	30%	Security Engineering	25%	Statistical Programming	17%
Sales	22%	Software Engineering	42%		
Strategy & Operations	40%	Theoretical Computer Science	91%		
		Web Development	55%		

Top Over-Indexing Skills

BUSINESS	TECHNOLOGY	DATA SCIENCE
People Analysis (2.73x)	C Programming Language Family (1.29x)	Artificial Neural Networks (1.34x)
Influencing (2.06x)	Graphic Design (1.17x)	Deep Learning (1.25x)
Human Learning (1.94x)	Algorithms (1.17x)	Applied Machine Learning (1.2x)
Advertising (1.9x)	Linear Algebra (1.14x)	Machine Learning Algorithms (1.2x)
Social Media (1.87x)	HTML & CSS (1.13x)	Computer Vision (1.18x)

COUNTRY SPOTLIGHT

Saudi Arabia

900K
Coursera Learners

34
Median Age

41
Global Rank

Saudi Arabian learners rank #2 in MENA for overall skill rankings and demonstrate the second-highest YOY growth rate in Professional Certificates, which almost all Saudi students (97%) agree would help them get a job after graduation.[28] Business is the biggest area of strength, while data science marks the biggest opportunity for investment.

32%
Women Learners

57%
Learning on Mobile

100%
Internet Access

↑69%
Professional Certificate Enrollment Growth

STRENGTHS AND OPPORTUNITIES: Saudi Arabian learners achieve cutting-edge business scores in skills like communication (96%), entrepreneurship (91%) and leadership & management (91%) and lead the region in technology scores, with cutting-edge scores in security engineering (100%), operating systems (90%), and computer networking (86%). In data science, Saudi Arabian learners achieve competitive scores in data management (67%) and mathematics (68%).

OVER-INDEXING SKILLS: In comparison to learners in other countries, Saudi Arabian learners are more likely to invest in business skills like supply chain systems (1.48x), leadership development (1.7x), and operations management (1.97x), and design skills like graphic design (1.3x), interactive design (1.47x), and computer graphic techniques (1.39x).

Global Rankings and Skill Proficiency Levels

BUSINESS | Rank 20		TECHNOLOGY | Rank 33		DATA SCIENCE | Rank 58	
Accounting	44%	Cloud Computing	51%	Data Analysis	35%
Communication	96%	Computer Networking	86%	Data Management	67%
Entrepreneurship	91%	Computer Programming	39%	Data Visualization	40%
Finance	51%	Databases	48%	Machine Learning	37%
Human Resources	56%	Mobile Development	21%	Mathematics	68%
Leadership & Management	91%	Operating Systems	90%	Probability & Statistics	29%
Marketing	44%	Security Engineering	100%	Statistical Programming	35%
Sales	33%	Software Engineering	66%		
Strategy & Operations	98%	Theoretical Computer Science	19%		
		Web Development	38%		

Top Over-Indexing Skills

BUSINESS	TECHNOLOGY	DATA SCIENCE
Operations Management (1.97x)	Interactive Design (1.47x)	Geovisualization (1.41x)
Leadership Development (1.7x)	Network Architecture (1.43x)	Data Visualization Software (1.21x)
Audit (1.66x)	Computer Graphic Techniques (1.39x)	Data Analysis Software (1.14x)
Supply Chain Systems (1.48x)	Graphic Design (1.3x)	Big Data (1.1x)
Budget Management (1.36x)	Linear Algebra (1.17x)	Epidemiology (1.08x)

COUNTRY SPOTLIGHT

United Arab Emirates

800K Coursera Learners

35 Median Age

32 Global Rank

The United Arab Emirates (UAE) ranks #1 for overall skills in MENA and has the second highest business score in the world. Learners in the UAE are increasingly investing in Professional Certificates to prepare for digital jobs, with almost all (97%) UAE students agreeing that Professional Certificates would help them obtain employment after graduation.[29] Data science marks the largest area of opportunity.

42% Women Learners

45% Learning on Mobile

100% Internet Access

↑22% Professional Certificate Enrollment Growth

STRENGTHS AND OPPORTUNITIES: Learners in the UAE rank #1 in MENA and #2 globally in business skills, ranking #1 globally for communication and #2 globally for both leadership & management and human resources skills. All other business skills rank as cutting-edge, except accounting (35%) and finance (75%). Learners achieve cutting-edge scores in some technology skills like security engineering (90%), software engineering (88%), and computer networking (97%). National leaders can invest further in data science skills, where learners are scoring the highest in data visualization (64%).

OVER-INDEXING SKILLS: Compared to those in other countries, learners in the UAE are more likely to invest in leadership skills like people development (1.45x), negotiation (1.39x), and leadership development (1.36x), and design skills like computer graphic techniques (1.96x), graphic design (1.81x), and interactive design (1.62x).

Global Rankings and Skill Proficiency Levels

BUSINESS | Rank 2		TECHNOLOGY | Rank 58		DATA SCIENCE | Rank 77	
Accounting	35%	Cloud Computing	41%	Data Analysis	42%
Communication	100%	Computer Networking	97%	Data Management	26%
Entrepreneurship	97%	Computer Programming	16%	Data Visualization	64%
Finance	75%	Databases	38%	Machine Learning	13%
Human Resources	99%	Mobile Development	14%	Mathematics	54%
Leadership & Management	99%	Operating Systems	46%	Probability & Statistics	31%
Marketing	90%	Security Engineering	90%	Statistical Programming	41%
Sales	81%	Software Engineering	88%		
Strategy & Operations	97%	Theoretical Computer Science	35%		
		Web Development	14%		

Top Over-Indexing Skills

BUSINESS	TECHNOLOGY	DATA SCIENCE
Audit (1.59x)	Computer Graphic Techniques (1.96x)	Epidemiology (1.56x)
People Development (1.45x)	Graphic Design (1.81x)	Geovisualization (1.38x)
Operations Management (1.44x)	Interactive Design (1.62x)	Data Analysis Software (1.3x)
Negotiation (1.39x)	Network Architecture (1.29x)	Data Visualization Software (1.28x)
Leadership Development (1.36x)	Distributed Computing Architecture (1.08x)	Bioinformatics (1.27x)

REGIONAL SKILL TRENDS

NORTH AMERICA

25.3M
Coursera Learners

35
Median Age

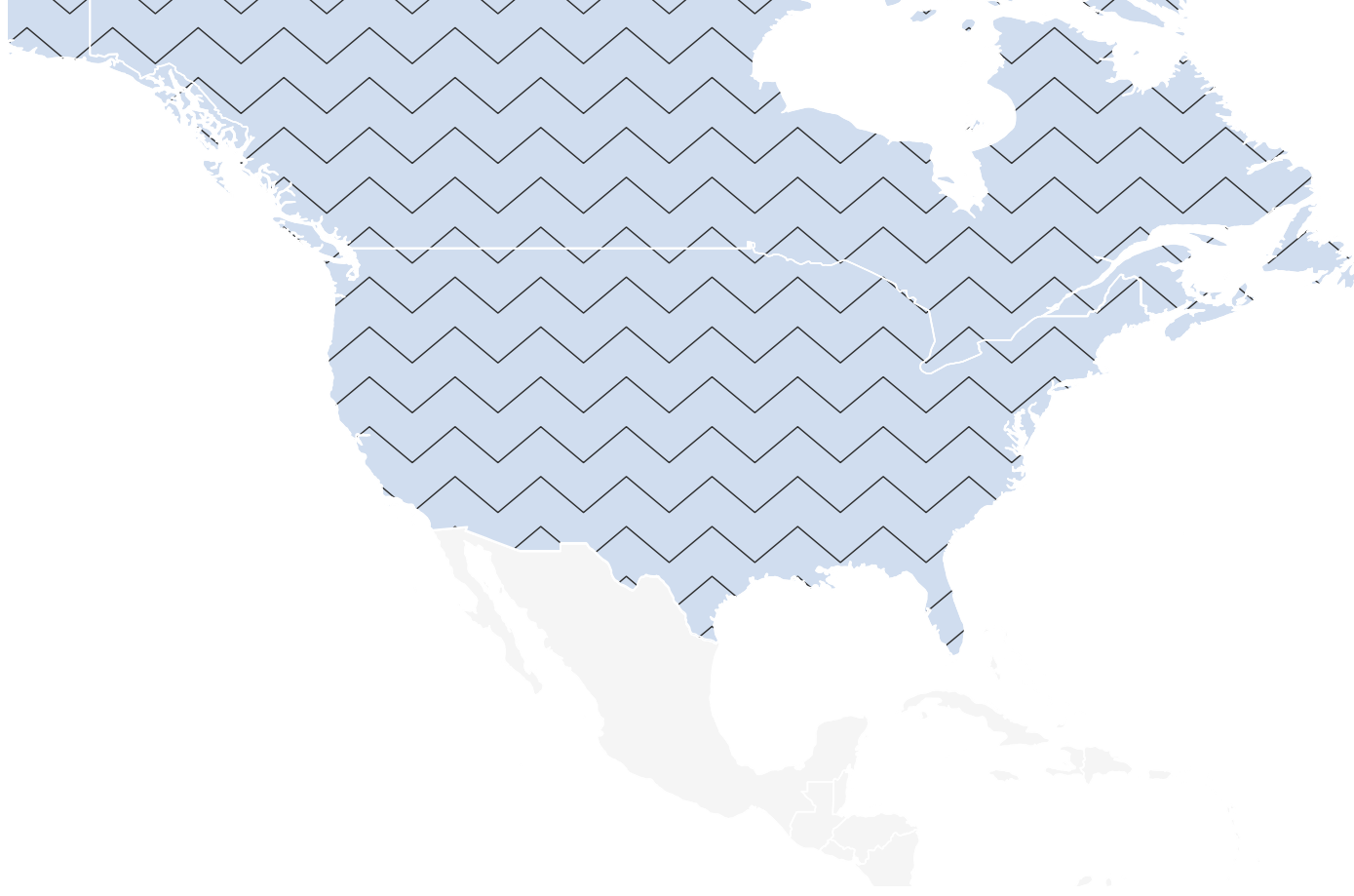
The economic outlook for North America (NA) is one of declining growth from 2.75% YOY GDP growth in 2022 to 1.55% in 2023,[30] driving a need for a competitive workforce. There is opportunity for NA leaders to invest in business, technology, and data science skills. Notably, the region holds the highest regional enrollment in Professional Certificates and the highest percentage of women learners.

51%
Women Learners

41%
Learning on Mobile

92%
Internet Access

↑53%
Professional Certificate Enrollment Growth



North America

STRENGTHS AND OPPORTUNITIES: Domain skill proficiency scores vary between Canada and the United States (U.S.). U.S. learners lead in business (53% vs. 15%), while Canadian learners lead in both technology (29% vs. 16%) and data science (48% vs. 32%).

OVER-INDEXING SKILLS: In comparison to learners in other countries, learners in NA are more likely to invest in business skills, such as project management (1.33x), change management (1.3x), collaboration (1.27x), and business communication (1.23x), positioning them well for navigating macro-economic and technological changes. NA learners are also more likely to invest in technology skills like graph theory (1.46x), network architecture (1.5x), and user experience (1.49x), and data science skills like SQL (1.62x), data visualization software (1.35x), and data analysis (1.17x).

Regional Skill Proficiencies

GLOBAL RANK	COUNTRY NAME	BUSINESS | 34%*	TECHNOLOGY | 23%*	DATA SCIENCE | 40%*
78	United States	53%	16%	32%
82	Canada	15%	29%	48%

*Average regional scores

COUNTRY SPOTLIGHT

United States

22M
Coursera Learners

35
Median Age

78
Global Rank

The U.S. has the largest number of learners in the world, though skill scores vary significantly among states. U.S. learners express the world's highest overall demand for Professional Certificates, which 86% of U.S. employers believe strengthens a candidate's job application.[31] Technology and data science mark the largest opportunities for investment.

51%
Women Learners

41%
Learning on Mobile

91%
Internet Access

↑52%
Professional Certificate Enrollment Growth

See the United State-by-State Skill Trends on p. 56 for a more in-depth analysis

STRENGTHS AND OPPORTUNITIES: Learner performance levels vary significantly between states, resulting in lower overall scores for the nation. U.S. learners perform best in business skills, earning a cutting-edge score in accounting (99%) and competitive scores in sales (70%) and marketing (74%). Data science is the second strongest domain, with a competitive score in data analysis (51%). Despite competitive scores in databases (51%) and computer networking (68%), technology skills are the greatest opportunity for investment.

OVER-INDEXING SKILLS: Learners in the U.S. are more likely than learners in other countries to invest in leadership skills, with eight out of the top ten over-indexing business skills pertaining to skills like change management (1.33x), collaboration (1.29x), and business communication (1.26x). Learners are also more likely to invest in data science skills like SQL (1.66x) and data visualization software (1.36x), and technology skills like network architecture (1.58x) and user experience (1.53x).

Global Rankings and Skill Proficiency Levels

BUSINESS | Rank 48		TECHNOLOGY | Rank 85		DATA SCIENCE | Rank 69	
Accounting	99%	Cloud Computing	28%	Data Analysis	51%
Communication	20%	Computer Networking	68%	Data Management	44%
Entrepreneurship	34%	Computer Programming	37%	Data Visualization	45%
Finance	25%	Databases	51%	Machine Learning	49%
Human Resources	21%	Mobile Development	49%	Mathematics	20%
Leadership & Management	30%	Operating Systems	32%	Probability & Statistics	20%
Marketing	74%	Security Engineering	34%	Statistical Programming	40%
Sales	70%	Software Engineering	8%		
Strategy & Operations	44%	Theoretical Computer Science	44%		
		Web Development	17%		

Top Over-Indexing Skills

BUSINESS	TECHNOLOGY	DATA SCIENCE
General Accounting (1.62x)	Network Architecture (1.58x)	SQL (1.66x)
Project Management (1.37x)	Graph Theory (1.55x)	Graph Theory (1.55x)
Change Management (1.33x	User Experience (1.53x)	Data Visualization Software (1.36x)
Collaboration (1.29x)	Software Testing (1.39x)	Data Analysis Software (1.2x)
Business Communication (1.26x)	Graphic Design (1.1x)	Big Data (1.18x)

REGIONAL SKILL TRENDS

SUB-SAHARAN AFRICA

4.9M
Coursera Learners

34
Median Age

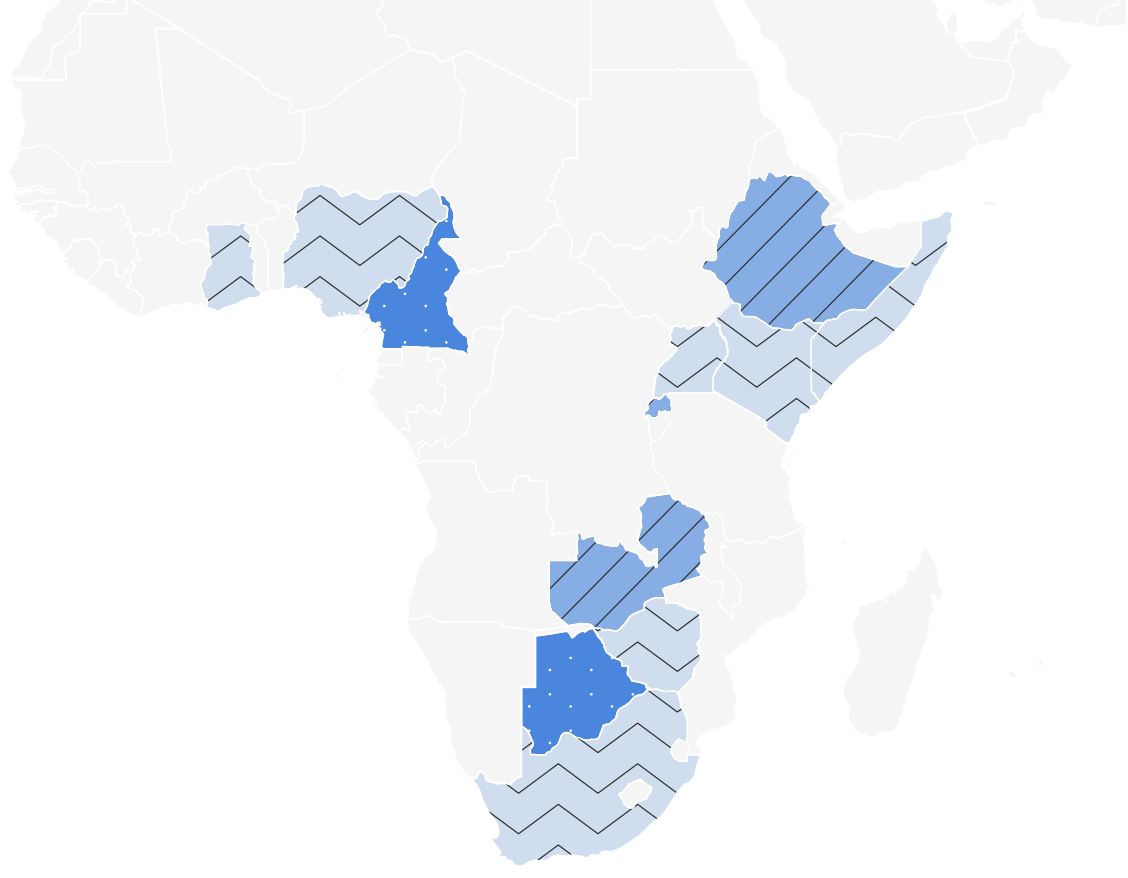
Economic growth in Sub-Saharan Africa (SSA) is predicted to decrease to 3.1% in 2023 but is projected to rebound to 3.7% in 2024 and 3.9% in 2025.[32] SSA has the highest regional average YOY growth rate in Professional Certificates enrollments, indicating rising hubs of digital talent. The Learners in the region are generally strong in business skills, though regional leaders could further prioritize investments in technology and data science skills.

35%
Women Learners

69%
Learning on Mobile

36%
Internet Access

↑80%
Professional Certificate Enrollment Growth



Sub-Saharan Africa

STRENGTHS AND OPPORTUNITIES: Learners in SSA are especially strong in the business domain, ranking #2 globally, with learners in Botswana leading the way (100%), followed by Rwanda (94%). Technology and data science skills present the largest opportunities for improvement throughout the region. Learners in Cameroon lead in technology (69%), while learners in Zambia lead in data science (39%).

OVER-INDEXING SKILLS: Learners in SSA are more likely than learners in other regions to invest in business skills like auditing (2.1x), followed by entrepreneurial skills like innovation (1.22x), risk management (1.14x), and investment management (1.12x). Learners are also most likely to invest in technology skills like web development (1.4x) and user experience (1.31x) and data science skills like geovisualization (2x) and data visualization software (1.35x).

Regional Skill Proficiencies

GLOBAL RANK	COUNTRY NAME	BUSINESS | 54%*	TECHNOLOGY | 22%*	DATA SCIENCE | 19%*
29	Botswana	100%	40%	27%
48	Cameroon	59%	69%	38%
52	Rwanda	94%	13%	35%
58	Zambia	64%	41%	39%
72	Ethiopia	56%	39%	26%
75	Côte d'Ivoire	60%	27%	20%
77	Zimbabwe	58%	19%	23%
86	South Africa	50%	12%	14%
90	Uganda	46%	9%	10%
93	Somalia	40%	4%	9%
97	Ghana	26%	6%	3%
98	Kenya	24%	3%	4%
100	Nigeria	25%	1%	2%

*Average regional scores

COUNTRY SPOTLIGHT

Nigeria

1.7M Coursera Learners

33 Median Age

100 Global Rank

Learners in Nigeria exhibit the fourth-highest YOY growth rate for Professional Certificates enrollments in the world and the third-highest number of overall enrollments, highlighting strong momentum among learners to prepare for in-demand digital roles. Business skills are the greatest strength among learners, while technology and data science mark the greatest opportunities for development.

33% Women Learners

79% Learning on Mobile

36% Internet Access

↑140% Professional Certificate Enrollment Growth

STRENGTHS AND OPPORTUNITIES: Business skills are strongest among Nigerian learners who achieve a competitive score in entrepreneurship (51%). However, there is an opportunity to further invest in strategy & operations (13%), finance (22%) and leadership & management (25%). There's also an opportunity for further investment in improving technology and data science scores across the board.

OVER-INDEXING SKILLS: Compared to learners in other countries, Nigerian learners are more likely to invest in business skills like audit (1.5x), brand management (1.34x), and advertising (1.22x), and in leadership skills such as conflict management (1.31x) and influencing (1.27x). Learners are also more likely to invest in design skills like user experience (1.83x), HTML and CSS (1.62x), and graphic design (1.44x).

Global Rankings and Skill Proficiency Levels

BUSINESS | Rank 76		TECHNOLOGY | Rank 100		DATA SCIENCE | Rank 99	
Accounting	47%	Cloud Computing	3%	Data Analysis	12%
Communication	49%	Computer Networking	8%	Data Management	7%
Entrepreneurship	51%	Computer Programming	5%	Data Visualization	5%
Finance	22%	Databases	23%	Machine Learning	1%
Human Resources	37%	Mobile Development	7%	Mathematics	1%
Leadership & Management	25%	Operating Systems	1%	Probability & Statistics	2%
Marketing	41%	Security Engineering	37%	Statistical Programming	3%
Sales	39%	Software Engineering	5%		
Strategy & Operations	13%	Theoretical Computer Science	1%		
		Web Development	18%		

Top Over-Indexing Skills

BUSINESS	TECHNOLOGY	DATA SCIENCE
Audit (1.5x)	User Experience (1.83x)	Epidemiology (1.82x)
Brand Management (1.34x)	HTML & CSS (1.62x)	Geovisualization (1.74x)
Conflict Management (1.31x)	Graphic Design (1.44x)	Data Visualization Software (1.7x)
Influencing (1.27x)	Software Testing (1.35x)	SQL (1.67x)
Advertising (1.22x)	Interactive Design (1.17x)	Data Analysis Software (1.54x)

COUNTRY SPOTLIGHT

South Africa

900K
Coursera Learners

36
Median Age

86
Global Rank

Business skills are the greatest strength among learners, while technology and data science mark the greatest opportunities for development. South African leaders can address this opportunity by harnessing learner interest in over-indexing entrepreneurial skills and investing further in Professional Certificates aligned to these skill domains.

46%
Women Learners

58%
Learning on Mobile

70%
Internet Access

↑33%
Professional Certificate Enrollment Growth

STRENGTHS AND OPPORTUNITIES: Learners in South Africa are achieving competitive scores in business skills across the board, except in finance (31%), human resources (45%), and communication (19%). Data science skills present an opportunity for improvement, with the highest learner score being in data management (42%). While technology is another opportunity for improvement, here learners achieve a cutting-edge score in computer networking (84%) and a competitive score in security engineering (56%).

OVER-INDEXING SKILLS: Learners in South Africa are more likely than those in other countries to invest in business skills like audit (2.06x), investment management (1.55x), innovation (1.45x), and risk management (1.41x), and technology skills like network architecture (1.19x), computer programming tools (1.14x), and interactive design (1.08x).

Global Rankings and Skill Proficiency Levels

BUSINESS | Rank 51		TECHNOLOGY | Rank 89		DATA SCIENCE | Rank 87	
Accounting	66%	Cloud Computing	35%	Data Analysis	25%
Communication	19%	Computer Networking	84%	Data Management	42%
Entrepreneurship	53%	Computer Programming	25%	Data Visualization	36%
Finance	31%	Databases	30%	Machine Learning	21%
Human Resources	45%	Mobile Development	16%	Mathematics	21%
Leadership & Management	51%	Operating Systems	19%	Probability & Statistics	18%
Marketing	59%	Security Engineering	56%	Statistical Programming	27%
Sales	74%	Software Engineering	36%		
Strategy & Operations	60%	Theoretical Computer Science	15%		
		Web Development	13%		

Top Over-Indexing Skills

BUSINESS	TECHNOLOGY	DATA SCIENCE
Audit (2.06x)	Network Architecture (1.19x)	Experiment (1.51x)
Investment Management (1.55x)	Computer Programming Tools (1.14x)	Epidemiology (1.2x)
Innovation (1.45x)	Software Architecture (1.08x)	Big Data (1.18x)
Risk Management (1.41x)	Interactive Design (1.08x)	Probability Distribution (1.15x)
Brand Management (1.38x)	Graphic Design (1.07x)	Geovisualization (1.12x)

State-by-State Skill Trends

Bharathan Mudailar, India
Coursera Learner

STATE-BY-STATE SKILL TRENDS

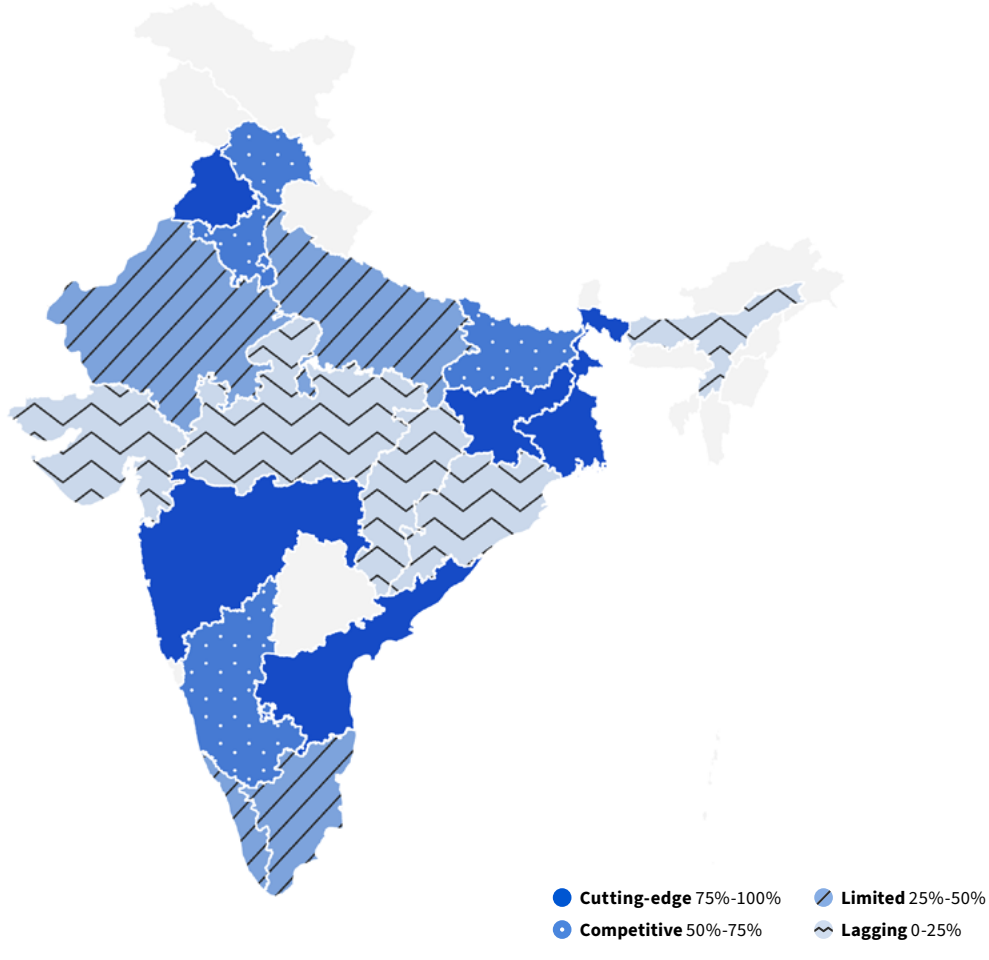
INDIA

19M
Coursera Learners

29
Median Age

The proliferation of internet access and, thus, the availability of online learning has opened up access to higher-level education in India, and this means skilled workers can now be found across the country, not just in established technology hubs.

No single region in India has a clear advantage when it comes to overall skill proficiencies. Learners in the West generally achieved stronger proficiency scores than those in the North, East, and South, though there are areas of skills strengths and opportunities for development throughout the country. Technology skills are spread evenly across the country, while learners in West Bengal and Chandigarh achieve higher proficiency scores in data science. Learners in the Union Territory of Puducherry and the State of Punjab have higher proficiency scores for business skills than learners in other states.



Overall Skill Proficiency Ranking

RANK	STATE NAME
1	West Bengal
2	Chandigarh
3	State of Punjab
4	Andhra Pradesh
5	Maharashtra
6	State of Jharkhand
7	Bihar
8	Haryana
9	Karnataka
10	State of Himachal Pradesh
11	National Capital Territory of Delhi

RANK	STATE NAME
12	Tamil Nadu
13	Rajasthan
14	Uttar Pradesh
15	Kerala
16	Union Territory of Puducherry
17	Odisha
18	State of Assam
19	State of Chhattisgarh
20	Gujarat
21	Madhya Pradesh

> We should ensure that whatever is being taught in colleges today is always industry worthy and industry relevant.

Tmt J.Innocent Divyam
Managing Director at Tamil Nadu Skill Development Corporation

Strengths and Opportunities

Business

Leading scores in five of the eight business skills covered in this report are split between two states: Union Territory of Puducherry with entrepreneurship (100%), strategy & operations (100%), and business marketing (100%), and the State of Punjab with leadership & management (100%) and accounting (100%). The highest scores in other business skills are spread across Andhra Pradesh with finance (100%), Chandigarh with sales (100%), and Bihar with human resources (100%).

West Bengal ranks #1 in the country for business skills, with learners achieving cutting-edge scores in all skills except accounting (50%) and strategy and operations (62%).

Union Territory of Puducherry ranks #2 in the country for business skills, with five categories scoring a cutting-edge ranking, including communication (90%) and leadership & management (76%).

Technology

Technology skills are spread evenly across the country: State of Assam with databases (100%), Kerala with security engineering (100%), Union Territory of Puducherry with computer networking (100%), and Rajasthan with web development (100%), with no one region having a clear advantage.

Overall, however, State of Punjab ranks #1 in India for technology skills, with top scores in operating systems (100%) and theoretical computer science (100%) and cutting-edge scores in security engineering (95%) and computer programming (90%).

West Bengal ranks #2 in the country for technology skills, with learners earning cutting-edge scores in computer programming (100%), theoretical computer science (90%), and operating systems (89%).

Union Territory of Puducherry ranks #21 in India for technology, but at the same time, ranks #1 in the country for computer networking (100%) skills and achieves cutting-edge scores in security engineering (81%) and computer programming (81%).

Data Science

West Bengal ranks #1 overall in India for data science skills, with all skills rating as cutting-edge. Chandigarh ranks #2 in the region for data science, with all skills rating as cutting-edge, except for data visualization (10%).

Punjab ranks #3 in the country with cutting-edge scores in all skills, except data analysis (33%) and data visualization (29%). The State of Jharkhand ranks #4 in the region with four cutting-edge scores.

Learners in Chandigarh achieve some of the highest data science scores, with leading scores in data management (100%), machine learning (100%), and mathematics (100%), while learners in West Bengal lead in data analysis (100%) and probability & statistics (100%). Learners in Andhra Pradesh lead in data visualization (100%), and learners in the Union Territory of Puducherry lead in statistical programming (100%).

See the India State-by-State Skills Data in the Appendix (p. 68) for a detailed breakdown of skill proficiencies.

STATE-BY-STATE SKILL TRENDS

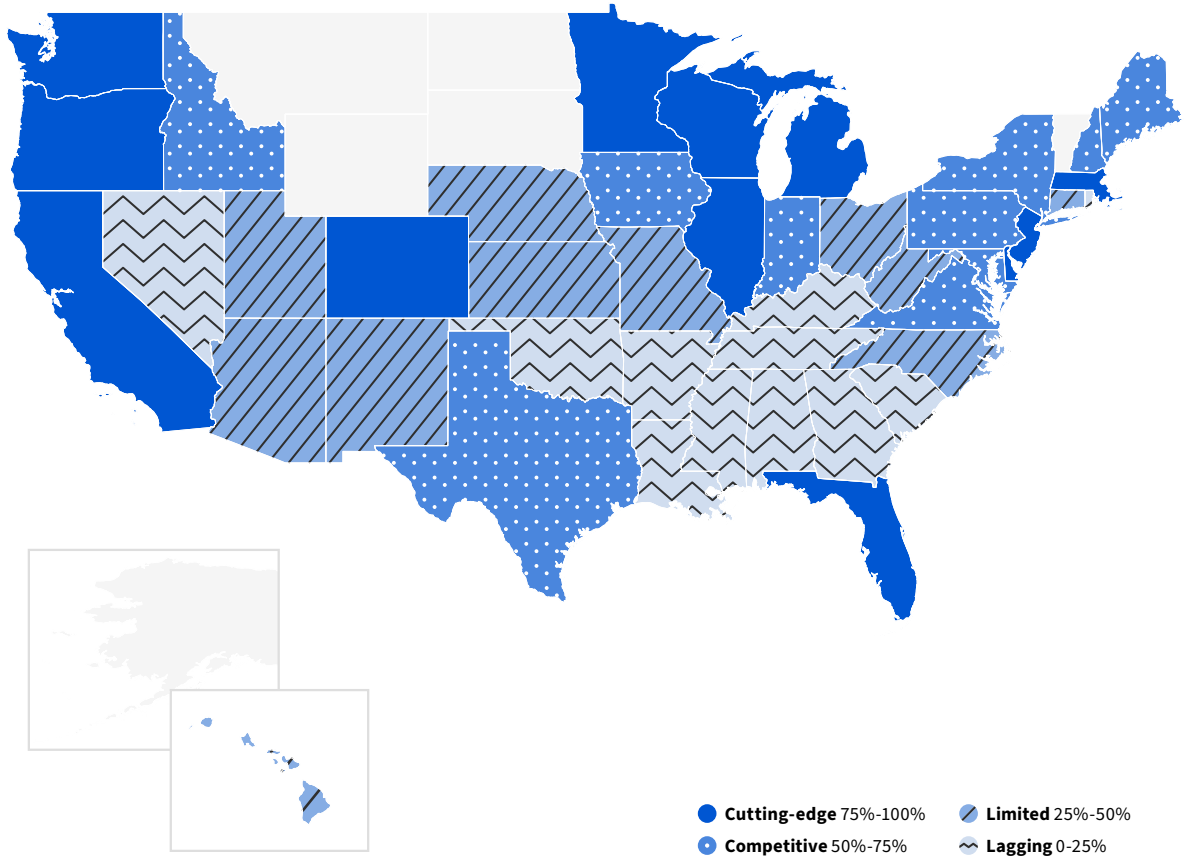
UNITED STATES

22M
Coursera Learners

35
Median Age

High-performing learners are spread across the country, but there are strong indicators of business and data science skills being more predominant in rising technology and business hubs across the Midwest.

Learners on the West Coast also score highly across the board, while learners in Florida lead the South and the country in technology skills. In the Northeast, New Jersey and Massachusetts appear among the top ten performing states. At a regional level, the performance of learners in the Southeast generally falls behind those in the Northeast, Pacific Northwest, and Midwest regions.



Overall Skill Proficiency Ranking

RANK	STATE NAME
1	Illinois
2	Michigan
3	Colorado
4	New Jersey
5	California
6	Massachusetts
7	Minnesota
8	Florida
9	Wisconsin
10	Oregon
11	Washington
12	Delaware
13	New Hampshire
14	Pennsylvania
15	Maine

RANK	STATE NAME
16	New York
17	Indiana
18	District of Columbia
19	Virginia
20	Idaho
21	Maryland
22	Iowa
23	Texas
24	Hawaii
25	West Virginia
26	Missouri
27	Ohio
28	Arizona
29	New Mexico
30	Connecticut

RANK	STATE NAME
31	North Carolina
32	Kansas
33	Nebraska
34	Utah
35	Rhode Island
36	Kentucky
37	Nevada
38	Tennessee
39	Arkansas
40	South Carolina
41	Georgia
42	Mississippi
43	Oklahoma
44	Alabama
45	Louisiana

Strengths and Opportunities

Business

The Midwest states—Illinois, Wisconsin, Indiana, and Michigan—lead skill rankings for business in the United States. Illinois takes the lead in all skill rankings for business categories across the country.

Wisconsin ranks #2 for business scores in the country, with all categories ranking as cutting-edge. Indiana ranks #3 nationally for business skills, with all categories ranking as cutting-edge, except finance (71%) and business communication (56%).

The Southern states of Mississippi, Alabama, and Georgia would benefit from further investment in business skills.

Technology

Some of the highest technology skill scores are split between two states: Florida takes top marks in computer networking (100%) and operating systems (100%), and California in computer programming (100%) and theoretical computer science (100%). Learners in Colorado, New Jersey, and Minnesota score high across the board in technology, attaining the second, third, and fourth overall rankings in the domain. The top individual states for the remaining six technology skills are evenly split across the country.

Florida ranks #1 in the U.S. for technology skills, with learners achieving cutting-edge scores in all skills, except mobile development (47%). Colorado ranks #2 in the country for technology skills, with six categories ranking as cutting-edge, like web development (100%), theoretical computer science (98%), and operating systems (95%).

Southern states—including Alabama, Kentucky, and Mississippi—and Southwestern states—including Nevada and New Mexico—would all benefit from investment in technology skills.

Data Science

Learners with the highest data science scores are predominantly found in the Midwest and Northeast, though states from across the country can be found in the top ten data science rankings. Illinois ranks #1 with cutting-edge grades across all skills in this domain. Massachusetts ranks #2, also with cutting-edge grades across all data science skills. Colorado ranks #3 with cutting-edge grades across all categories, except data visualization (69%) and statistical programming (67%).

Southern states, including Kentucky, South Carolina, Georgia, Alabama, Louisiana, and Arkansas, all could benefit from additional investment in data science skills.

See the United States State-by-State Skills Data in the Appendix (p. 71) for a detailed breakdown of skill proficiencies.

Appendix

Ehab Badwi, Berlin
Coursera Learner

Glossary

Artificial Intelligence (AI) Skills: While many skills are relevant to working with artificial intelligence, in this report we focus on the following skills when discussing AI:

Advanced Skills

- *Level 2 Skills:* Data management, machine learning.
- *Level 3 Skills:* Applied machine learning, artificial neural networks, bayesian network, big data, computer vision, deep learning, dimensionality reduction, feature engineering, machine learning algorithms, machine learning software, markov model, TensorFlow, natural language processing, reinforcement learning, and statistical machine learning.

Foundational Skills

- *Level 2 Skills:* Computer programming, data analysis, mathematics, and theoretical computer science.
- *Level 3 Skills:* Applied mathematics, data modeling.

Digital and Human Skills: No matter their domain, most skills can fall into two broad categories, digital and human, and we sometimes refer to these categories in this report.

- *Digital skills* refer to a range of abilities that allow one to understand, use, and create value with and from technology. They include everything from typing to posting on social media to developing software to cybersecurity. Digital skills exist on an ever-evolving spectrum.
- *Human skills* constitute our ability to relate to one another. They include a range of cognitive, social, and emotional skills, such as creativity, critical thinking, information interpretation, decision-making, leadership, and communication.
- *Note:* These two categories are complementary. People use human skills to effectively and ethically make use of digital skills. Likewise, digital skills enhance human skills.

Leadership Skills: While many skills are related to cultivating one's ability to lead, we will focus on the following skills when discussing leadership in this report:

- *Level 2 Skills:* Leadership & management and strategy & operations.
- *Level 3 Skills:* Adaptability, change management, collaboration, conflict management, critical thinking, culture, decision making, emotional intelligence, human learning, leadership development, organizational development, people development, planning, problem solving, professional development, project management, resilience, strategy, and training.

Learner: Anyone who is registered for content on Coursera. A person can be enrolled in multiple learning programs, but we count them as a learner once. The skills benchmarking data in this report is based on learner data. We sometimes refer to learners as "talent" in this report to emphasize the connection between skills development on Coursera and career outcomes.

Over-indexing: This measures Level 3 skills that are more popular with certain groups than on Coursera as a whole. For example, if a specific skill is over-indexed for learners with college degrees by 1.10x, that means 1.10x more learners in that group are pursuing that specific skill than learners as a whole. Over-indexing is not a measure of proficiency.

Professional Certificate: Coursera offers Professional Certificates, a type of micro-credential, from leading companies such as IBM, Intuit, Google, Meta, and Salesforce that teach the specific skills needed for in-demand digital jobs such as data analyst, software developer, digital marketer, and more. They also involve hands-on projects that simulate tasks done on the job. Each Professional Certificate takes an average of four to six months to complete.

Professional Certificate Enrollment Growth: This metric examines the year-over-year (YOY) growth in total enrollments for a country or region. Growth figures for regions take only into consideration enrollment figures of the 100 countries included in this report.

Skills: The transference of knowledge into value and the ability to perform specific tasks. To figure out what skills each Coursera content offering teaches, we use Coursera's Skills Graph, which draws information from open-source taxonomies like Wikipedia and insights from Coursera educators and learners. A single course often covers several different skills.

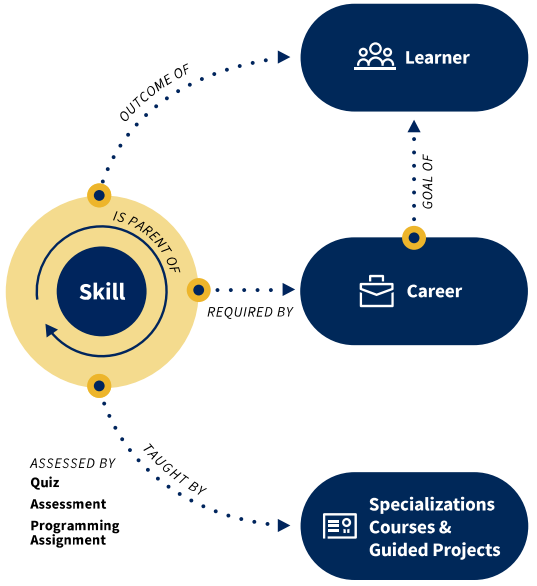
Methodology

Overview

Coursera's Global Skills Report assesses the skill proficiency of learners, measures which skills are trending globally, and identifies fields of study and roles that engage highly with the essential skills for the future of work. This year's Global Skills Report report focuses on the 100 countries with the most learners on the Coursera platform—barring data from social impact and Coursera for Campus initiatives. These 100 countries account for over 90% of learners on the Coursera platform. Building the Global Skills Report involves data from several components:

1. The Coursera Skills Graph
2. Skill proficiency scores and benchmarking by country
3. Correlations with third-party data
4. Over-indexing skills

The Coursera Skills Graph



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

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

- **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.
- **Skill to content:** Maps skills to the Coursera content that teaches them.
- **Skill to assessment:** Maps skills to the graded items that assess them. Graded items on Coursera can be of several types: multiple choice quizzes, peer review assignments like essays and projects, or programming assignments. Skill tagging at the assessment level rolls up to higher levels.
- **Skill to learner:** Connects competencies to learners who have demonstrated them by passing relevant graded items. We measure this using a variant of the Glicko algorithm, described further below.

The full set of competencies for which we measure learner proficiency in the Global Skills Report, grouped by domain, are listed below.

Set of skill levels in the Global Skills Report

	BUSINESS	TECHNOLOGY	DATA SCIENCE
	Skills in this domain include a range of soft skills for every context, along with those that are required for the management and operation of an organization.	Skills in this domain focus on the creation, maintenance, and scaling of computer systems and software.	Skills in this domain focus on capturing and utilizing the data generated within a business for decision-making and/or powering underlying products and services.
1.	**Accounting** is about proper record keeping and communication of financial information for corporations in accordance with government regulations. Sample skills: Auditing, Financial Accounting	**Computer Networking** is the process of creating a digital telecommunications network where connected devices exchange data with each other. Sample skills: Cloud Computing, Internet of Things	**Data Management** comprises everything related to managing and accessing data for reporting, analysis, and model building. Sample skills: Cloud APIs, Hadoop
2.	**Communication** is the practice of discussion between two or more individuals in written or oral forms. Sample skills: People Skills, Writing	**Databases** are an organized collection of data, generally stored and accessed electronically from a computer system. Sample skills: Relational Database, Key Value Database	**Data Visualization** involves the creation and study of visual representations of data to communicate information clearly and efficiently. Sample skills: Tableau, Plotting Data
3.	**Finance** is focused on the efficient allocation of capital towards investment opportunities under conditions of risk or uncertainty. Sample skills: Financial Ratios, Blockchain	**Operating Systems** consists of building system software that provides common services for other types of computer programs. Sample skills: Mobile App Development, C Programming Language	**Machine Learning** creates algorithms and statistical models that computer systems can use to perform a specific task without explicit instructions. Sample skills: Multi-Task Learning, Deep Learning
4.	**Management** is about how to set a company's strategy and coordinate the effort of employees. Sample skills: People Management, Business Analytics	**Security Engineering** is a specialized field that focuses on the security aspects in the design of systems that need to be able to deal robustly with possible sources of disruption. Sample skills: Cybersecurity, Cryptography	**Math** is the study of numbers and their relationships, applying these principles to models of real phenomena. Sample skills: Calculus, Linear Algebra

	BUSINESS (cont.)	**TECHNOLOGY** (cont.)	**DATA SCIENCE** (cont.)
5.	**Marketing** is the process of creating relationships with potential and actual customers, allowing businesses to identify how they should present themselves and who they should cater to. Sample skills: Digital Marketing, Product Placement	**Software Engineering** involves applying rigorous principles to the design, development, maintenance, testing, and evaluation of computer software. Sample skills: Software Architecture, Software Development	**Statistical Programming** is the set of programming languages and tools used to create statistical models and algorithms. Sample skills: R, Python
6.	**Sales** is focused on taking a company's products and services to market and transacting with actual customers. Sample skills: Cross-Selling, Lead Generation	**Computer Programming** is the process that professionals use to write code that instructs how a computer, application, or software program performs. Sample skills: JavaScript, Java	**Statistics** deals with all aspects of data collection, organization, analysis, interpretation, and presentation. Sample skills: Regression, AB Testing
7.	**Entrepreneurship** is the process of designing, launching, and running a new business. Sample skills: Adaptability, Innovation	**Theoretical Computer Science** focuses on mathematical aspects of computer science and the theory behind algorithms, data structures, computational complexity, and related topics. Sample skills: Algorithms, Cryptography	**Data Analysis** is the process of inspecting, cleansing, transforming, and modeling data with the goal of discovering useful information, informing conclusions, and supporting decision-making. Sample skills: Exploratory Data Analysis, Spatial Data Analysis
8.	**Strategy & Operations** consists of the planning and strategic work organizations undertake to grow and prosper. Sample skills: Operations Management, Strategy	**Cloud Computing** involves delivering computing resources, namely hardware, software, or software development platforms via the internet. Sample skills: Software as a Service, Kubernetes	
9.	**Human Resources** refers to the corporate function of overseeing the various aspects of employment, such as onboarding/ offboarding, labor law compliance, employee benefits, and talent acquisition. Sample skills: Benefits, Employee Relations	**Web Development** is the work involved in developing websites. It can range from developing a simple static page to complex web applications such as e-commerce sites. Sample skills: Angular, HTML and CSS	
10.		**Mobile Development** is the process of developing software applications for mobile devices such as mobile phones or tablets. Sample skills: Android Development, iOS Development	

Relationships between skills and content

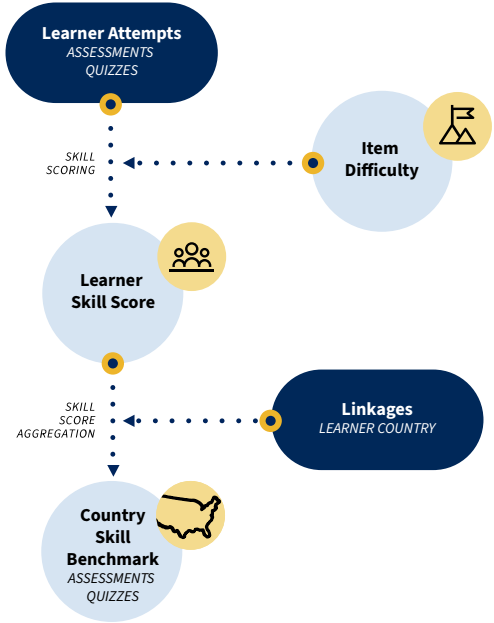
The skills in the Coursera Skills Taxonomy are mapped to the content that teaches them using a machine-learning model trained on a data set of university instructor and learner-labeled skill-to-content mappings. Features of the model include occurrence counts (e.g., in the lecture transcripts, assignments, and course descriptions) and learner feedback.

With over 9,000 content offerings across business, technology, and data science from leading university and industry partners around the world, our catalog spans the wide variety of skills that are relevant to the competencies in this report.

For each skill-content pair, this machine learning system outputs a score that captures how likely it is that the skill is taught in the content. To define the set of skill-to-content tags that power this report, we tune a cutoff threshold based on expert feedback from our content strategy team.

Coursera skills benchmarking

To benchmark skill proficiency at the country level, we first measure the skill proficiency of each learner in each skill. Then, we aggregate those proficiencies to compute statistics like the country skill proficiency in a particular skill.



Individual skill scores

With the set of assessments for each competency defined, we consider grades for all learners taking relevant assessments and train machine learning models to simultaneously estimate individual learners' skill proficiencies (i.e., how proficient each learner is in each competency) and individual assessment difficulties (i.e., how challenging each assessment is). Each skill has its own model to estimate these parameters.

This methodology allows us to measure learner skill proficiencies by adjusting for item difficulty. This is essential because the Coursera platform contains a wide variety of content ranging from the introductory college level to the advanced graduate level. Adjusting for item difficulty ensures we neither penalize learners for taking difficult courses nor over-reward learners for strong performance in easy courses.

Because learners attempt various numbers of graded items at various levels of difficulty, we also assess the precision with which we are measuring skill proficiency for each learner through the calculation of standard errors. The full details of our methodology for individual skill scoring are detailed in a public technical paper.[33]

Country and state skill scores

With skill scores computed at the individual level, and linkages between users, states, and countries, we are able to compute the country and state proficiency levels for each of the skills in this report by taking an average of the individual skill scores for each country and state.

For computing the country aggregate scores in business, technology, and data science, we take the average of the country scores in each of the competencies within those

domains. We only include countries that have at least 250 learners in at least three competencies per domain. Country-competency pairs with fewer than 250 learners will not be reported on, and when rolling up the competency proficiencies to the domain and overall level, we impute the missing competencies with fewer than 250 learners with the average competency proficiency across all eligible countries. Similarly, to get the overall score of a country for use in the correlations with third-party data, we take the average of that country's business, technology, and data science scores.

State-level aggregate scores are computed in the same fashion, and states are only included if they have at least 250 learners in at least three competencies per domain.

We compare countries to each other via a percentile ranking of all skill proficiency estimates. States are only compared to other states within the same country for the percentile ranking.

Performance bands for a group's skill proficiency are computed by segmenting skill proficiencies into quartiles:

- Cutting-edge for 76th percentile or above
- Competitive for 51st to 75th percentile
- Limited for 26th to 50th percentile
- Lagging for 25th percentile or below

Coursera's over 124 million registered learners span the globe and myriad industries, and the Global Skills Report reflects the average skill proficiency of learners in each country on the Coursera platform, accounting for the precision with which we measure each individual's skill proficiency. Note that the Global Skills Report estimate may not reflect the average skill proficiency of all members within an entity because Coursera learners are not necessarily representative of a country.

Correlations with third-party data

Using the average skill proficiency of each country across business, technology, and data science, we are able to link our dataset at the country level with other country-level indicators. This allows us to correlate the rankings with external metrics of interest.

We take the following metrics from the World Bank:

- GDP per capita
- Share of individuals with access to the internet
- Share of income held by the top 10%
- Human Capital Index
- Labor force participation rate

We take the following metrics from the International Labor Organization (ILO):

- Working age population

We take the following metrics from the World Intellectual Property Organization (WIPO):

- Global Innovation Index (GII)

Over-indexing skills

To determine which skills learners are most interested in within a particular country group or job group, we look for skills that over-index in the data by number of enrollments. While trending skills reveal what is generally popular, over-indexing skills reveal what is disproportionately popular within a particular group.

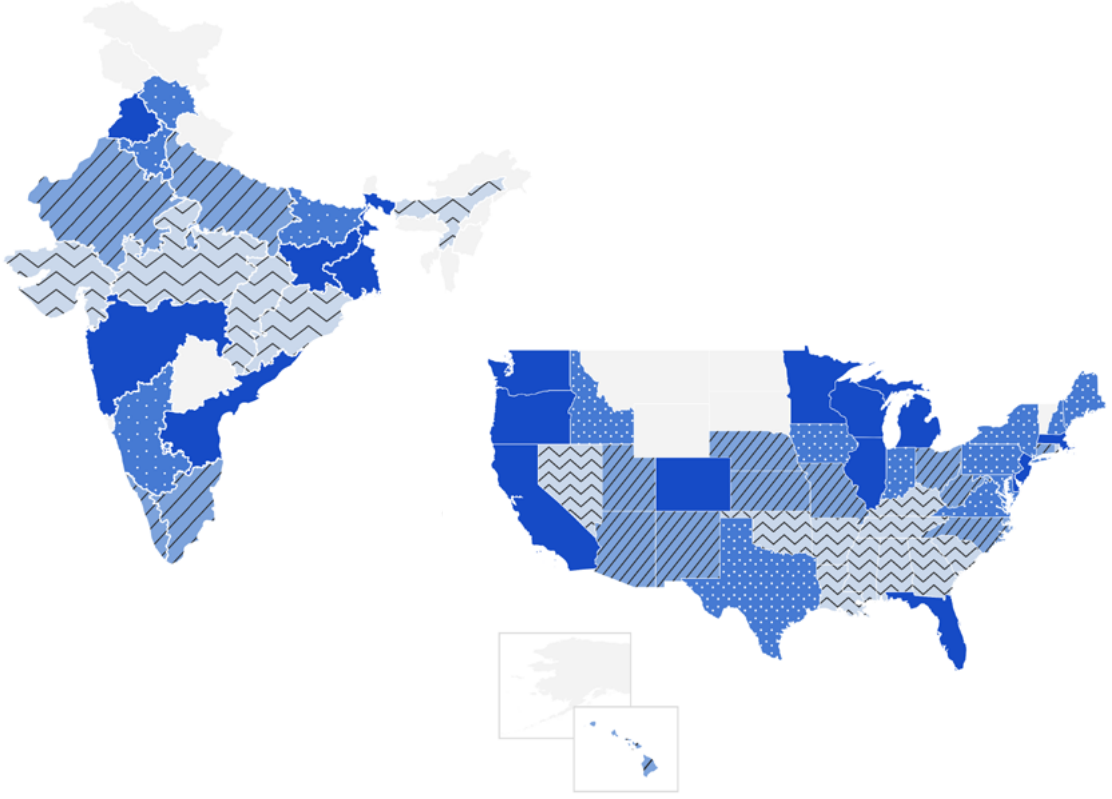
The methodology works as follows:

1. Compute the share of enrollments in courses teaching skill S overall (say 20%)
2. Compute the share of enrollments in courses teaching skill S from learners within group G (say 30%)
3. Compute the "skill-quotient" of skill S for group G as (30% / 20% = 1.5)

The notion of whether a course teaches a skill is derived from the Coursera Skills Graph, described earlier in this appendix.

State-by-State Skill Data

The following pages present state-by-state skill proficiency data for India and the United States. You can find additional state-by-state findings for India on p. 68 and the United States on p. 71.



INDIA | Business

BUSINESS RANK	STATE NAME	ENTREPRE-NEURSHIP	FINANCE	SALES	HUMAN RESOURCES	LEADERSHIP & MANAGEMENT	ACCOUNTING	STRATEGY & OPERATIONS	BUSINESS MARKETING	BUSINESS COMMUNICATION
1	West Bengal	95%	90%	80%	95%	95%	50%	62%	95%	100%
2	Union Territory of Puducherry	100%	5%		5%	76%		100%	100%	90%
3	Maharashtra	76%	76%	85%	90%	86%	44%	81%	81%	95%
4	Chandigarh	86%	67%	100%	57%	90%	89%	90%	90%	57%
5	National Capital Territory of Delhi	67%	81%	75%	62%	71%	72%	76%	71%	71%
6	Haryana	90%	48%	90%	29%	81%	78%	95%	67%	62%
7	State of Punjab	71%	33%	40%	43%	100%	100%	67%	52%	43%
8	State of Himachal Pradesh	29%	95%	55%	71%	62%	33%	48%	43%	38%
9	Bihar	62%	29%	60%	100%	67%	39%	52%	24%	81%
10	State of Jharkhand	48%	57%	50%	86%	48%		19%	76%	67%
11	Tamil Nadu	81%	14%	95%	14%	52%	67%	86%	86%	52%
12	Karnataka	52%	38%	70%	33%	29%	22%	71%	62%	86%
13	Andhra Pradesh	5%	100%	5%	81%	5%	6%	10%	10%	76%
14	Uttar Pradesh	24%	52%	45%	38%	24%	56%	33%	57%	33%
15	Odisha	33%	24%	65%	67%	43%	28%	43%	29%	48%
16	State of Chhattisgarh	57%	10%	35%	76%	57%		57%	33%	5%
17	Kerala	19%	71%	30%	19%	33%	94%	38%	19%	19%
18	Madhya Pradesh	14%	86%	10%	52%	19%	61%	24%	14%	24%
19	State of Assam	43%	19%	20%	24%	14%	83%	14%	48%	29%
20	Rajasthan	38%	62%	25%	48%	38%	11%	5%	38%	10%
21	Gujarat	10%	43%	15%	10%	10%	17%	29%	5%	14%

INDIA | Technology

TECHNOLOGY RANK	STATE NAME	DATABASES	SECURITY ENGINEERING	COMPUTER NETWORKING	COMPUTER PROGRAMMING	WEB DEVELOPMENT	THEORETICAL COMPUTER SCIENCE	CLOUD COMPUTING	SOFTWARE ENGINEERING	OPERATING SYSTEMS	MOBILE DEVELOPMENT
1	State of Punjab	29%	95%	71%	90%	33%	100%	14%	19%	100%	53%
2	West Bengal	52%	76%	76%	100%	67%	90%	81%	71%	89%	13%
3	Andhra Pradesh	48%	48%	90%	57%	76%	62%	67%	90%	56%	100%
4	Chandigarh	43%	90%	57%	86%	57%	95%	10%	24%	94%	80%
5	Maharashtra	95%	86%	86%	29%	81%	19%	90%	95%	78%	67%
6	Rajasthan	10%	10%	19%	33%	100%	43%	100%	57%	28%	20%
7	Tamil Nadu	33%	62%	95%	14%	86%	14%	86%	86%	22%	87%
8	Kerala	67%	100%	67%	5%	62%	10%	33%	14%	61%	93%
9	Bihar	90%	33%	43%	76%	71%	81%	76%	67%	50%	47%
10	Karnataka	62%	52%	81%	43%	95%	38%	57%	100%	39%	27%
11	Haryana	76%	43%	52%	48%	29%	67%	43%	33%	72%	73%
12	Uttar Pradesh	57%	38%	29%	62%	43%	71%	71%	62%	44%	60%
13	State of Jharkhand	71%	5%	14%	95%	48%	76%	52%	76%		
14	Gujarat	38%	67%	62%	10%	14%	33%	95%	29%	83%	40%
15	National Capital Territory of Delhi	81%	57%	48%	38%	38%	57%	48%	38%	67%	7%
16	Odisha	86%	14%	38%	24%	52%	52%	62%	81%	17%	
17	State of Himachal Pradesh	14%	19%	10%	71%	90%	86%	24%	5%		
18	State of Assam	100%	29%	5%	52%	24%	29%	19%	10%		
19	State of Chhattisgarh	24%	71%	24%	67%	10%	48%	29%	48%	6%	
20	Madhya Pradesh	19%	24%	33%	19%	19%	24%	38%	43%	33%	33%
21	Union Territory of Puducherry	5%	81%	100%	81%	5%	5%	5%	52%	11%	

INDIA | Data Science

DATA SCIENCE RANK	STATE NAME	DATA ANALYSIS	DATA MANAGEMENT	MACHINE LEARNING	DATA VISUALIZATION	MATHEMATICS	STATISTICAL PROGRAMMING	PROBABILITY & STATISTICS
1	West Bengal	100%	95%	90%	81%	95%	90%	100%
2	Chandigarh	76%	100%	100%	10%	100%	81%	90%
3	State of Punjab	33%	86%	95%	29%	81%	86%	95%
4	State of Jharkhand	95%	76%	85%	95%	43%	67%	71%
5	Andhra Pradesh	90%	38%	70%	100%	10%	95%	67%
6	State of Himachal Pradesh	48%	43%	75%	5%	90%	71%	86%
7	Bihar	81%	67%	60%	67%	62%	62%	43%
8	Karnataka	71%	62%	40%	90%	76%	76%	10%
9	State of Assam	29%	24%	80%	33%	71%	43%	76%
10	Haryana	38%	57%	45%	71%	86%	52%	57%
11	Uttar Pradesh	57%	52%	50%	38%	48%	48%	38%
12	National Capital Territory of Delhi	52%	48%	25%	43%	67%	57%	52%
13	Rajasthan	67%	33%	65%	52%	19%	19%	62%
14	Maharashtra	14%	71%	20%	62%	38%	24%	33%
15	State of Chhattisgarh	24%	81%	35%	57%	14%	10%	29%
16	Odisha	19%	90%	10%	48%	24%	29%	24%
17	Madhya Pradesh	62%	10%	55%	86%	29%	5%	19%
18	Tamil Nadu	43%	19%	30%	19%	57%	33%	14%
19	Union Territory of Puducherry	86%	5%		76%	5%	100%	5%
20	Gujarat	10%	14%	15%	24%	52%	14%	81%
21	Kerala	5%	29%	5%	14%	33%	38%	48%

UNITED STATES | Business

BUSINESS RANK	STATE NAME	ENTREPRE-NEURSHIP	FINANCE	SALES	HUMAN RESOURCES	LEADERSHIP & MANAGEMENT	ACCOUNTING	STRATEGY & OPERATIONS	MARKETING	COMMUNICATION
1	Illinois	100%	100%	100%	100%	100%	100%	100%	100%	100%
2	Wisconsin	98%	82%	90%	89%	98%	92%	91%	95%	96%
3	Indiana	91%	71%	93%	84%	87%	94%	89%	98%	56%
4	Michigan	93%	91%	69%	53%	91%	97%	84%	73%	73%
5	Maine	53%	93%		18%	76%		27%	59%	78%
6	New Jersey	80%	98%	67%	71%	84%	58%	71%	66%	80%
7	Minnesota	78%	69%	88%	64%	67%	89%	64%	80%	91%
8	West Virginia	33%	40%		13%	24%		87%		24%
9	California	87%	80%	55%	60%	78%	61%	69%	70%	89%
10	District of Columbia	84%	89%	60%	73%	93%	19%	78%	23%	69%
11	Pennsylvania	82%	76%	71%	78%	73%	39%	67%	75%	71%
12	Massachusetts	71%	96%	38%	93%	60%	44%	47%	43%	67%
13	Iowa	47%	33%	98%	98%	49%	86%	42%	86%	13%
14	Missouri	60%	64%	79%	96%	71%	53%	82%	45%	42%
15	Colorado	76%	53%	64%	40%	82%	67%	98%	55%	87%
16	Kentucky	89%	31%	57%	67%	96%	33%	73%	89%	58%
17	New Hampshire	67%	78%	48%	76%	38%		22%	30%	51%
18	Florida	96%	42%	12%	42%	89%	25%	96%	52%	98%
19	Ohio	62%	51%	83%	82%	33%	83%	49%	82%	33%
20	Oregon	58%	73%	50%	56%	56%	50%	53%	64%	82%
21	New York	64%	84%	36%	80%	69%	17%	44%	39%	93%
22	New Mexico	36%	22%	95%	11%	44%		29%	93%	27%
23	Hawaii	38%	60%	40%	24%	40%	75%	93%	77%	84%

UNITED STATES | Business (cont.)

BUSINESS RANK	STATE NAME	ENTREPRE-NEURSHIP	FINANCE	SALES	HUMAN RESOURCES	LEADERSHIP & MANAGEMENT	ACCOUNTING	STRATEGY & OPERATIONS	MARKETING	COMMUNICATION
24	Tennessee	100%	44%	20%	86%	58%	64%	81%	60%	68%
25	Washington	98%	73%	47%	62%	33%	62%	47%	80%	91%
26	Virginia	91%	69%	67%	81%	91%	80%	78%	62%	41%
27	Delaware	93%	40%	62%	21%	27%	47%		18%	34%
28	Arkansas	53%	56%	27%	74%	62%	36%	72%	16%	84%
29	Arizona	80%	51%	29%	33%	87%	42%	64%	51%	48%
30	Kansas	78%	18%	38%	76%	36%	27%	42%	76%	57%
31	Connecticut	33%	49%	87%	31%	47%	22%	22%	40%	25%
32	Nebraska	87%	31%	49%	24%	31%	16%		58%	20%
33	Maryland	84%	24%	58%	43%	49%	53%	28%	33%	14%
34	North Carolina	82%	29%	44%	45%	44%	51%	31%	36%	36%
35	Texas	71%	42%	24%	17%	22%	58%	69%	56%	27%
36	Idaho	47%	22%	13%	26%	29%	20%		38%	32%
37	Nevada	60%	16%	56%	52%	16%	18%	56%	24%	61%
38	Utah	76%	27%	18%	29%	38%	13%	36%	31%	50%
39	Rhode Island	89%	13%	36%	14%	4%	9%		11%	11%
40	South Carolina	67%	20%	16%	19%	51%	31%	14%	13%	16%
41	Oklahoma	96%	11%	4%	7%	2%	11%	11%	20%	18%
42	Georgia	62%	9%	9%	10%	20%	29%	8%	9%	7%
43	Alabama	58%	7%	11%	2%	69%	7%	6%	4%	9%
44	Mississippi	64%	2%	2%		9%	2%		2%	2%
45	Louisiana	36%	4%	7%	5%	7%	4%	3%	7%	5%

UNITED STATES | Technology

TECHNOLOGY RANK	STATE NAME	DATABASES	SECURITY ENGINEERING	COMPUTER NETWORKING	COMPUTER PROGRAMMING	WEB DEVELOPMENT	THEORETICAL COMPUTER SCIENCE	CLOUD COMPUTING	SOFTWARE ENGINEERING	OPERATING SYSTEMS	MOBILE DEVELOPMENT
1	Florida	95%	98%	100%	98%	95%	80%	88%	95%	100%	47%
2	Colorado	86%	51%	51%	68%	100%	98%	93%	77%	95%	67%
3	New Jersey	73%	84%	62%	91%	83%	93%	72%	86%	62%	100%
4	Minnesota	100%	33%	4%	80%	98%	82%	98%	89%	74%	
5	California	82%	5%	11%	100%	93%	100%	67%	91%	55%	73%
6	Massachusetts	84%	28%	13%	93%	71%	89%	81%	75%	36%	93%
7	Michigan	20%	35%	22%	52%	90%	84%	100%	70%	24%	60%
8	Washington	41%	86%	53%	89%	80%	87%	47%	93%	86%	80%
9	Illinois	66%	37%	36%	84%	59%	96%	86%	100%	57%	40%
10	New York	59%	88%	56%	64%	73%	76%	79%	66%	88%	53%
11	Oregon	98%	2%	7%	95%	85%	91%	53%	82%	64%	
12	Texas	89%	79%	82%	66%	56%	62%	70%	55%	98%	27%
13	Pennsylvania	75%	49%	38%	73%	66%	69%	58%	48%	67%	87%
14	Delaware	43%	91%	84%	77%		56%	51%	57%	50%	
15	New Hampshire	93%	60%	33%	82%	78%	78%	26%	98%	83%	
16	Idaho	52%	16%	78%	86%	63%	47%	84%	61%	93%	
17	Hawaii	45%	100%	80%	55%	61%	40%	9%	80%	79%	
18	Virginia	57%	95%	44%	75%	46%	73%	2%	84%	81%	20%
19	Maryland	30%	93%	40%	70%	37%	51%	65%	32%	52%	7%
20	District of Columbia	36%	77%	9%	43%	22%	64%	77%	45%	33%	
21	Wisconsin	70%	9%	24%	59%	68%	53%	63%	34%	48%	
22	Arizona	48%	26%	60%	57%	44%	67%	21%	64%	90%	
23	Maine	91%		20%	45%		58%	14%	18%		

UNITED STATES | Technology (cont.)

TECHNOLOGY RANK	STATE NAME	DATABASES	SECURITY ENGINEERING	COMPUTER NETWORKING	COMPUTER PROGRAMMING	WEB DEVELOPMENT	THEORETICAL COMPUTER SCIENCE	CLOUD COMPUTING	SOFTWARE ENGINEERING	OPERATING SYSTEMS	MOBILE DEVELOPMENT
24	West Virginia			98%	14%		4%				
25	North Carolina	61%	63%	58%	25%	34%	36%	74%	27%	40%	33%
26	Ohio	18%	72%	93%	32%	41%	33%	60%	68%	31%	13%
27	Missouri	16%	70%	87%	39%	49%	31%	37%	41%	60%	
28	Georgia	23%	81%	31%	5%	39%	11%	95%	11%	12%	
29	Utah	77%	7%	49%	48%	17%	44%	42%	59%	76%	
30	Kansas	39%	74%	89%	30%	15%	38%	44%	14%	43%	
31	Nebraska	68%	40%	73%	34%	88%	27%	16%	30%	19%	
32	Connecticut	9%	53%	42%	36%	12%	60%	40%	43%	38%	
33	Indiana	64%	30%	47%	27%	27%	49%	28%	36%	29%	
34	Iowa	50%	23%	27%	41%	54%	42%	5%	73%	69%	
35	Rhode Island	55%	21%	2%	50%	76%	29%	49%	25%	5%	
36	Arkansas	7%	47%	64%	9%	51%	18%	91%	52%	2%	
37	Nevada	14%	58%	91%	20%	32%	22%	23%	39%	45%	
38	Oklahoma	27%	67%	96%	16%	29%	24%	30%	16%	26%	
39	New Mexico	5%	14%	29%	61%	20%	71%	7%	50%	71%	
40	South Carolina	80%	56%	69%	18%	5%	13%	56%	23%	10%	
41	Mississippi	2%	12%	16%			7%		2%		
42	Kentucky	25%	42%	18%	2%	10%	20%	33%	20%	17%	
43	Tennessee	34%	19%	67%	11%	24%	16%	35%	7%	7%	
44	Alabama	11%	44%	76%	23%	2%	9%	19%	9%	14%	
45	Louisiana	32%	65%	71%	7%	7%	2%	12%	5%	21%	

UNITED STATES | Data Science

DATA SCIENCE RANK	STATE NAME	DATA ANALYSIS	DATA MANAGEMENT	MACHINE LEARNING	DATA VISUALIZATION	MATHEMATICS	STATISTICAL PROGRAMMING	PROBABILITY & STATISTICS
1	Illinois	100%	100%	100%	100%	84%	91%	100%
2	Massachusetts	91%	82%	92%	98%	98%	93%	98%
3	Colorado	87%	98%	82%	69%	100%	67%	89%
4	California	60%	76%	95%	78%	93%	96%	84%
5	Michigan	73%	89%	97%	62%	69%	51%	78%
6	New Jersey	64%	84%	79%	76%	87%	89%	96%
7	Delaware	42%	96%		33%	64%	98%	80%
8	Oregon	69%	80%	84%	60%	91%	82%	71%
9	Minnesota	67%	93%	89%	71%	76%	64%	53%
10	Virginia	84%	71%	76%	67%	82%	78%	76%
11	District of Columbia	51%	51%	63%	82%	89%	73%	91%
12	Maryland	49%	53%	66%	87%	58%	87%	82%
13	Maine	98%	42%		27%	78%	18%	87%
14	Idaho	62%	87%		89%	49%	80%	47%
15	New Hampshire	58%	27%	53%	80%	96%	69%	64%
16	Washington	44%	69%	87%	13%	67%	53%	56%
17	Wisconsin	78%	60%	55%	73%	71%	58%	73%
18	Pennsylvania	71%	49%	47%	58%	73%	84%	67%
19	Indiana	89%	67%	71%	93%	44%	38%	58%
20	Iowa	93%	73%	45%	96%	51%	60%	49%
21	Florida	96%	91%	32%	29%	62%	100%	51%
22	New York	33%	56%	58%	51%	53%	76%	69%
23	New Mexico	56%	13%	61%	20%	47%	44%	93%

UNITED STATES | Data Science (cont.)

DATA SCIENCE RANK	STATE NAME	DATA ANALYSIS	DATA MANAGEMENT	MACHINE LEARNING	DATA VISUALIZATION	MATHEMATICS	STATISTICAL PROGRAMMING	PROBABILITY & STATISTICS
24	Connecticut	16%	38%	74%	38%	60%	47%	60%
25	Arizona	31%	47%	68%	22%	56%	31%	31%
26	Utah	82%	62%	42%	84%	29%	49%	38%
27	Rhode Island	7%	7%		9%	80%	33%	33%
28	Texas	80%	78%	34%	44%	42%	56%	24%
29	Nebraska	47%	18%		49%	20%	24%	11%
30	Missouri	29%	29%	50%	31%	33%	36%	44%
31	North Carolina	27%	44%	37%	40%	36%	42%	62%
32	Ohio	36%	33%	39%	42%	40%	40%	42%
33	Kansas	76%	64%	29%	56%	31%	71%	40%
34	West Virginia	18%	58%		2%	18%	11%	4%
35	Hawaii	53%	40%	26%	36%	38%	62%	9%
36	Mississippi	4%	2%		4%	4%	2%	27%
37	Nevada	22%	20%	24%	18%	16%	27%	29%
38	Kentucky	40%	36%	21%	16%	7%	20%	20%
39	Tennessee	38%	22%	18%	11%	13%	9%	36%
40	South Carolina	11%	16%	16%	91%	24%	29%	18%
41	Georgia	13%	31%	13%	64%	22%	22%	13%
42	Alabama	20%	4%	5%	53%	27%	13%	22%
43	Louisiana	2%	11%	8%	24%	11%	16%	16%
44	Arkansas	24%	24%	11%	47%	9%	7%	2%
45	Oklahoma	9%	9%	3%	7%	2%	4%	7%

Global STEM Enrollment Data

The following tables presents learner enrollments in courses that are related to science, technology, engineering, and mathematics (STEM) skills based on Coursera data sourced between and April 1, 2022 and March 31, 2023.

COUNTRY NAME	ENROLLMENT COUNT	ENROLLMENT YOY GROWTH	WOMEN LEARNER SHARE OF ENROLLMENT COUNT
Algeria	72,574	↑8%	30%
Argentina	172,303	↑5%	36%
Armenia	11,733	↑2%	52%
Australia	196,369	↓7%	39%
Austria	37,472	↑11%	39%
Azerbaijan	27,261	↑4%	37%
Bahrain	8,669	↑1%	32%
Bangladesh	157,465	↓15%	15%
Belarus	18,750	↓43%	44%
Belgium	43,977	↑2%	34%
Bolivia	22,219	↓21%	24%
Botswana	10,513	↑25%	36%
Brazil	537,157	↑3%	34%
Bulgaria	14,534	↓23%	41%
Cameroon	22,287	↑29%	20%
Canada	622,087	↑9%	42%
Chile	105,838	↓24%	36%
China	182,848	↓28%	45%
Colombia	332,678	↑8%	34%
Costa Rica	22,275	↓36%	36%

COUNTRY NAME	ENROLLMENT COUNT	ENROLLMENT YOY GROWTH	WOMEN LEARNER SHARE OF ENROLLMENT COUNT
Côte d'Ivoire	14,481	↓1%	20%
Croatia	17,872	↓3%	48%
Cyprus	12,140	↑31%	37%
Czech Republic	30,992	↓4%	37%
Denmark	22,602	↓26%	35%
Dominican Republic	18,548	↓24%	34%
Ecuador	48,137	↓35%	36%
Egypt	538,271	↑23%	25%
Estonia	13,584	↑11%	54%
Ethiopia	53,278	↑29%	16%
Finland	37,132	↑15%	34%
France	268,183	↑3%	35%
Georgia	19,389	↑40%	46%
Germany	452,055	↑10%	33%
Ghana	103,248	↑49%	22%
Greece	57,320	↓25%	39%
Hong Kong	180,067	↓2%	36%
Hungary	38,698	↑20%	39%
India	6,000,967	↑1%	33%
Indonesia	373,411	↑51%	34%

COUNTRY NAME	ENROLLMENT COUNT	ENROLLMENT YOY GROWTH	WOMEN LEARNER SHARE OF ENROLLMENT COUNT
Iraq	36,343	↓5%	23%
Ireland	56,844	↑3%	38%
Israel	69,012	↓11%	29%
Italy	172,048	↓4%	37%
Japan	156,230	↑13%	28%
Jordan	43,566	↑14%	31%
Kazakhstan	85,095	↑11%	40%
Kenya	120,132	↑41%	32%
South Korea	115,252	↓8%	31%
Kuwait	14,110	↑1%	26%
Latvia	17,054	↑35%	63%
Lebanon	47,562	↓7%	38%
Lithuania	16,809	↑5%	45%
Luxembourg	8,078	↑17%	39%
Malaysia	128,194	↑14%	37%
Mexico	548,803	↓6%	37%
Morocco	191,210	↑32%	27%
Myanmar	33,030	↑5%	42%
Nepal	64,092	↓1%	22%
The Netherlands	171,551	↑10%	34%

COUNTRY NAME	ENROLLMENT COUNT	ENROLLMENT YOY GROWTH	WOMEN LEARNER SHARE OF ENROLLMENT COUNT
New Zealand	28,861	↓17%	43%
Nigeria	675,371	↑98%	30%
Norway	28,479	↑7%	34%
Oman	14,703	↓37%	37%
Pakistan	642,562	↑79%	16%
Palestinian Territories	16,360	↑23%	30%
Peru	126,938	↓19%	31%
The Philippines	300,098	↑35%	40%
Poland	132,032	↑13%	38%
Portugal	81,798	↑7%	41%
Qatar	22,209	↑10%	30%
Romania	64,730	↓6%	46%
Rwanda	12,418	↑2%	25%
Saudi Arabia	216,472	↑61%	33%
Serbia	24,702	↑9%	45%
Singapore	256,280	↓12%	35%
Slovakia	10,857	↓5%	36%
Somalia	27,204	↑44%	14%
South Africa	146,464	↑9%	36%
Spain	303,854	↑14%	38%

COUNTRY NAME	ENROLLMENT COUNT	ENROLLMENT YOY GROWTH	WOMEN LEARNER SHARE OF ENROLLMENT COUNT
Sri Lanka	86,653	↓9%	25%
Sudan	19,420	↑38%	21%
Sweden	60,152	↓1%	35%
Switzerland	69,396	↓18%	37%
Taiwan	127,933	↓14%	38%
Thailand	116,927	↓7%	34%
Tunisia	97,120	↑18%	32%
Turkey	253,117	↑6%	34%
Uganda	24,019	↑42%	26%
Ukraine	176,139	↑25%	36%
United Arab Emirates	159,644	↓7%	32%
United Kingdom	514,772	↑11%	38%
United States	4,639,771	↑22%	41%
Uruguay	44,460	↑22%	43%
Uzbekistan	22,465	↑27%	28%
Venezuela	24,492	↓22%	31%
Vietnam	379,284	↑25%	29%
Yemen	19,690	↑62%	14%
Zambia	13,508	↑36%	21%
Zimbabwe	15,063	↑59%	30%

Endnotes

1. Early Look at Labor Market Impact Potential of Large Language Models (UPenn and OpenAI, March 2023)
2. The Future of Jobs Report 2023 (World Economic Forum, 2023)
3. Advancing Higher Education with Industry Micro-Credentials (Coursera, 2023)
4. Human Capital Project (World Bank, 2020)
5. Global Innovation Index 2022 (World Intellectual Property Organization, 2022)
6. Coursera's 2023 Learner Outcomes Report highlights the real-world impact of online learning (Coursera, 2023)
7. MTN launches MTN Skills Academy. (Engineering News, 2022)
8. Defining the skills citizens will need in the future world of work (McKinsey & Company, 2022)
9. 2023 Work Annual Trend Index (Microsoft, 2023)
10. Ibid, 1
11. Generative AI: Impact on Workforce and Industry (Censuswide and Coursera, 2023)
12. More than 10,000 people to benefit from new partnership with Coursera (News Room Guyana, 2022); UK government and global businesses in new £20 million partnership to educate girls in developing countries (GOV.UK, 2022)
13. Ibid, 2
14. Skills First: Unlocking Employment for All (WEF, 2023)
15. Coursera's 2023 Learner Outcomes Report highlights the real-world impact of online learning (Coursera, 2023)
16. Asian Development Outlook April 2023 (Asian Development Bank, 2023)
17. Ibid, 2
18. Ibid, 2
19. EA and EU Economic Snapshot (OECD, 2021)
20. Ibid, 2
21. Ibid, 2
22. Ibid, 2
23. Ibid, 2
24. The World Bank in Latin America and the Caribbean (The World Bank, 2023)
25. Ibid, 2
26. Middle East and North Africa Economic Update (World Bank, 2023)
27. Ibid, 2
28. Ibid, 2
29. Ibid, 2
30. Regional Economic Outlook: Western Hemisphere (International Monetary Fund, 2023)
31. Ibid, 2
32. The World Bank in Africa (The World Bank, 2023)
33. For more technical details on our algorithm, see Reddick, Rachel. "Using a Glicko-based Algorithm to Measure In-Course Learning." Educational Data Mining Conference Proceedings, July 2019.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