



Top 10 In-demand AI Skills For 2024 & Beyond

Workforce Skills Division

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Top In-Demand Skills and Strategies for Future Workforce Success

Artificial intelligence (AI) and automation are catalysts of rapid transformation, reshaping workplaces and the skills required for success. A [Deloitte and Fortune CEO survey](#) found that 96% of companies are already implementing or likely to implement generative AI to accelerate innovation and efficiency.

Yet, this rapid progress also underscores a growing skills gap that organizations must address to fully capitalize on AI's potential. A Salesforce survey revealed that [60% of public sector IT professionals](#) view the shortage of AI skills as their top challenge in AI implementation. For human resources (HR) and learning and development (L&D) leaders, identifying the right skills to develop and foster a learning culture remains a persistent challenge.

This report outlines the top 10 in-demand AI skills across the UK, US, and Australia, along with the essential human skills required to thrive in the age of AI. It includes key analyses to help you prepare for the future of the workforce.



The Impact of AI on the Modern Workplace

[By 2030](#), AI is projected to contribute more to the global GDP than the current combined economic output of China and India. This surge in growth will generate numerous new jobs and fundamentally change the nature of existing roles.

To navigate this transformation, leaders need to understand the impact of AI on their workforces and proactively take steps to prepare and adapt.

Job Automation and Time Savings

AI and automation are revolutionizing the workplace by streamlining repetitive and manual tasks, freeing up valuable time for more strategic work. [Pearson's Skills Outlook](#) shows that generative AI offers a significant opportunity for employers and employees to reallocate millions of work hours to higher-value tasks. In the US alone, workers could reclaim nearly 78 million hours per week by automating routine tasks such as research presentation, record-keeping, and data collection. Organizations should prioritize AI adoption to enhance productivity and efficiency across their teams.

Creation of New Job Roles

While AI is predicted to handle tasks equivalent to 12.26 million full-time employees, according to [ServiceNow's research](#), it will also create a demand for new roles. An estimated 2.04 million tech jobs will be needed to implement and maintain emerging AI technologies. Taking the US workforce as an example, it will require an additional 1 million employees by 2028. Despite AI's disruptive impact, it will result in net-positive job growth. Leaders must invest in talent acquisition and development to capitalize on these new opportunities.

Skills-Based Approach

AI is reshaping the skills landscape, changing how work is done across industries. For instance, [over one million developers have utilized GitHub Copilot to generate code](#), fundamentally altering coding practices and skills required by developers in the future. Aside from technical skills, [Pearson's Skills Outlook](#) indicates that human skills like problem-solving, leadership, and teamwork remain crucial for the next 5–10 years, highlighting the importance of implementing a balanced skills-based approach in the AI era. In fact, [organizations such as Walmart and IBM](#), have signed on to varying skills-based employment projects, pledging to implement skills-based practices.

Enhanced Skills Development

AI is revolutionizing how we learn, train, and develop skills, offering personalized and adaptive learning experiences. AI-powered platforms provide tailored upskilling opportunities, identifying skill gaps and recommending relevant courses or resources to improve competencies. Organizations should leverage AI-driven learning solutions to enhance their workforce's capabilities and foster a more inclusive environment.

Why Should Organizations Invest in AI Skills Development

As previously discussed, AI is dramatically transforming the economic landscape, daily work routines, and learning methodologies.

Organizations that proactively adapt to these changes by investing in and developing AI skills within their workforce will be better positioned to leverage the technology effectively and gain a significant competitive advantage.

- 1. Driving Competitive Advantage:** Organizations with a skilled AI workforce can better leverage technology to optimize operations, improve customer experiences, and create innovative products and services, giving them a significant edge over competitors. For example, [Amazon's Machine Learning University](#) has reskilled thousands of employees to build expertise in machine learning, enhancing their ability to drive the company's innovation and market leadership.
- 2. Boosting Innovation and Efficiency:** Equipping employees with AI skills accelerates innovation and automates repetitive tasks, significantly enhancing efficiency across various job functions. [While a majority of employers \(83%\)](#) anticipate that their IT departments will benefit most from AI, they also see substantial advantages for other areas, including finance (79%), research and development (78%), business operations (76%), and legal and regulatory compliance. This broad impact demonstrates AI's potential to revolutionize workflows across the entire organization.
- 3. Enhanced Problem-Solving and Decision-Making:** AI skills empower employees to analyze vast amounts of data quickly, providing valuable insights that inform better decision-making and solving complex business challenges more effectively. For example, [nearly half of the respondents](#) in an O'Reilly Media survey report used data analysis, machine learning, or AI tools to address data quality issues.
- 4. Enhance Employee Growth and Retention:** [Over 60% of employees](#) want generative AI training, highlighting a growing interest in AI skills. Investing in AI training not only supports employee development but also benefits employers. Continuous learning opportunities are crucial for [employee engagement](#) and can lead to [higher retention](#) and [productivity](#).

In-Demand AI Skills

Methodology

This report identifies the most in-demand AI skills for everyday employees in the UK, US, and Australia. We began with desk research to understand practical and widely applicable AI skills, drawing insights from industry reports, academic publications, and expert opinions. This approach ensured our focus was on broadly adopted, mature skills rather than niche technical ones.

The identified AI skills were then searched within the Pearson skills taxonomy to identify related occupations. The top skills for each occupation were then analyzed to determine the number of mentions in job ads, with the analysis covering data from as far back as 2019. The results were subsequently filtered to focus specifically on the identified AI skills.

**You can find the initial list of AI skills & definitions at the end of the report.*

Our Findings: Global trends in AI skills

Data analysis is a highly sought-after skill, ranking at or near the top in all three countries. This reflects the critical role of data-driven decision-making in AI-related jobs globally.

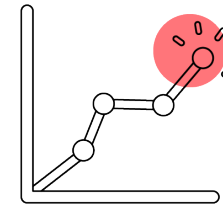
Reporting tools are also in high demand across all regions, taking the top spot in Australia and the UK, and the second spot in the US. This suggests a strong global need for professionals who can create, interpret, and manage AI-generated reports.

Cloud computing and **data visualization** are consistently featured in the top five across all three countries, underscoring their importance in the AI job market worldwide.

Key takeaway:

While generative AI, prompt engineering, and ethical AI are gaining traction, they did not make it into the top 10 skills across regions. Data has been the heart of successful digital transformation, as evidenced by the employment of data scientists is projected to [grow by 31%](#) between 2019 and 2029, much faster than the average for all occupations. This underscores the ongoing need for data skills in effective AI implementation and highlights their enduring importance in the workforce.

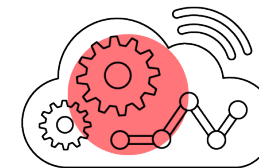
Conversely, skills like generative AI and prompt engineering are relatively new and still evolving. Thus, they may not yet be as prominent in demand lists compared to more established skills.



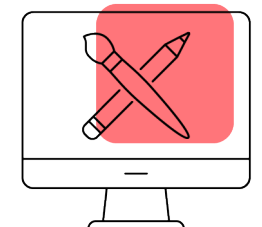
**Data
Analysis**



**Reporting
Tools**



**Cloud
Computing**



**Data
Visualization**

Top 10 In-demand AI Skills in the US

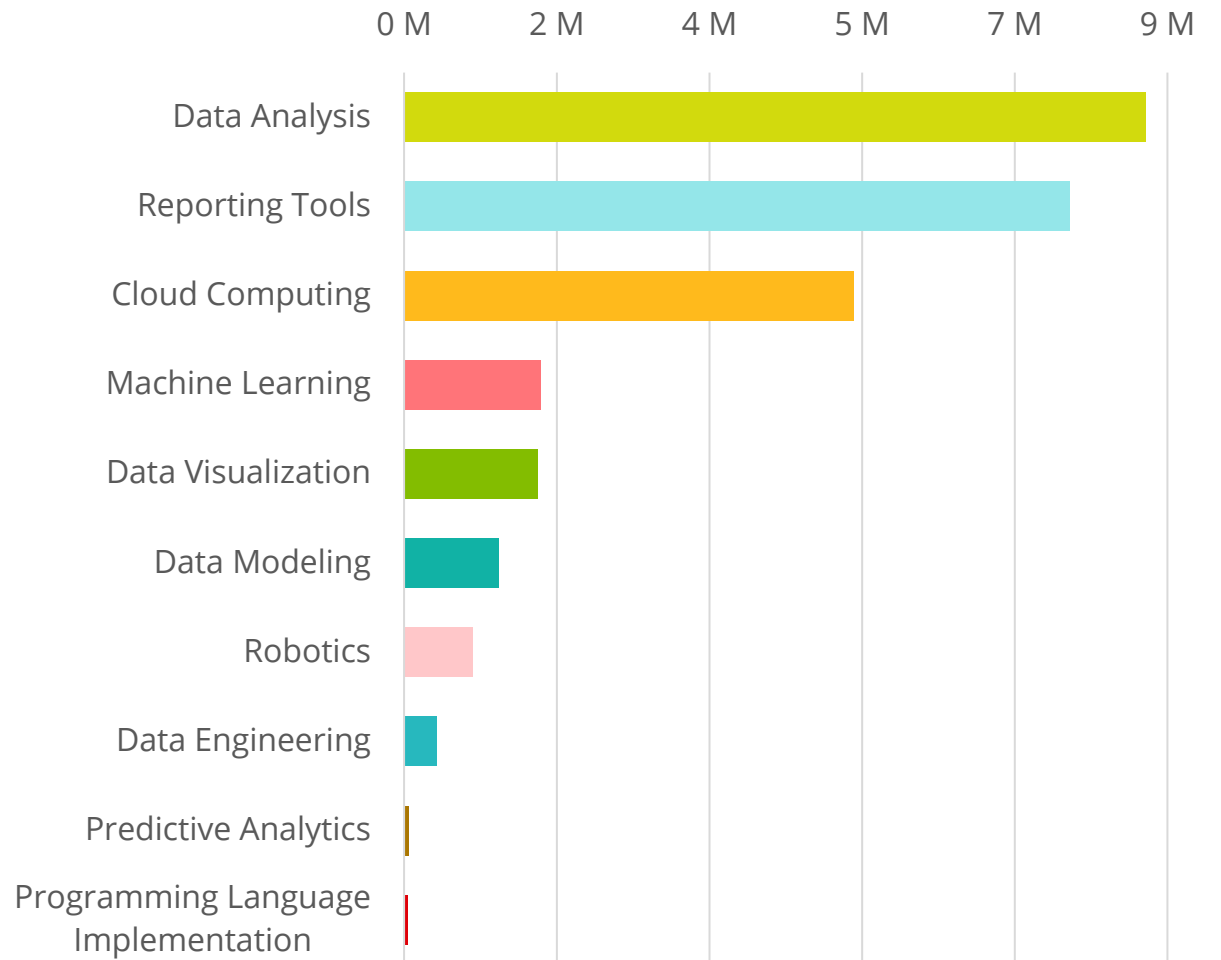
The top AI skills in the US reveal a clear emphasis on data-centric expertise. Skills such as **data analysis, data visualization, data modeling, and data engineering** dominate the list, highlighting the critical role of managing and interpreting data in AI applications.

This focus on data is complemented by the importance of **reporting tools and cloud computing**, which are essential for effectively utilizing and sharing data insights.

Additionally, **machine learning and robotics** signify the advanced technical skills required for developing AI models and robotic systems.

This pattern suggests that organizations are prioritizing a robust data infrastructure and technical capability, combined with effective reporting and cloud-based solutions, to fully leverage AI technologies and drive innovation.

Top 10 in-demand AI skills in US



Top 10 In-demand AI Skills in UK

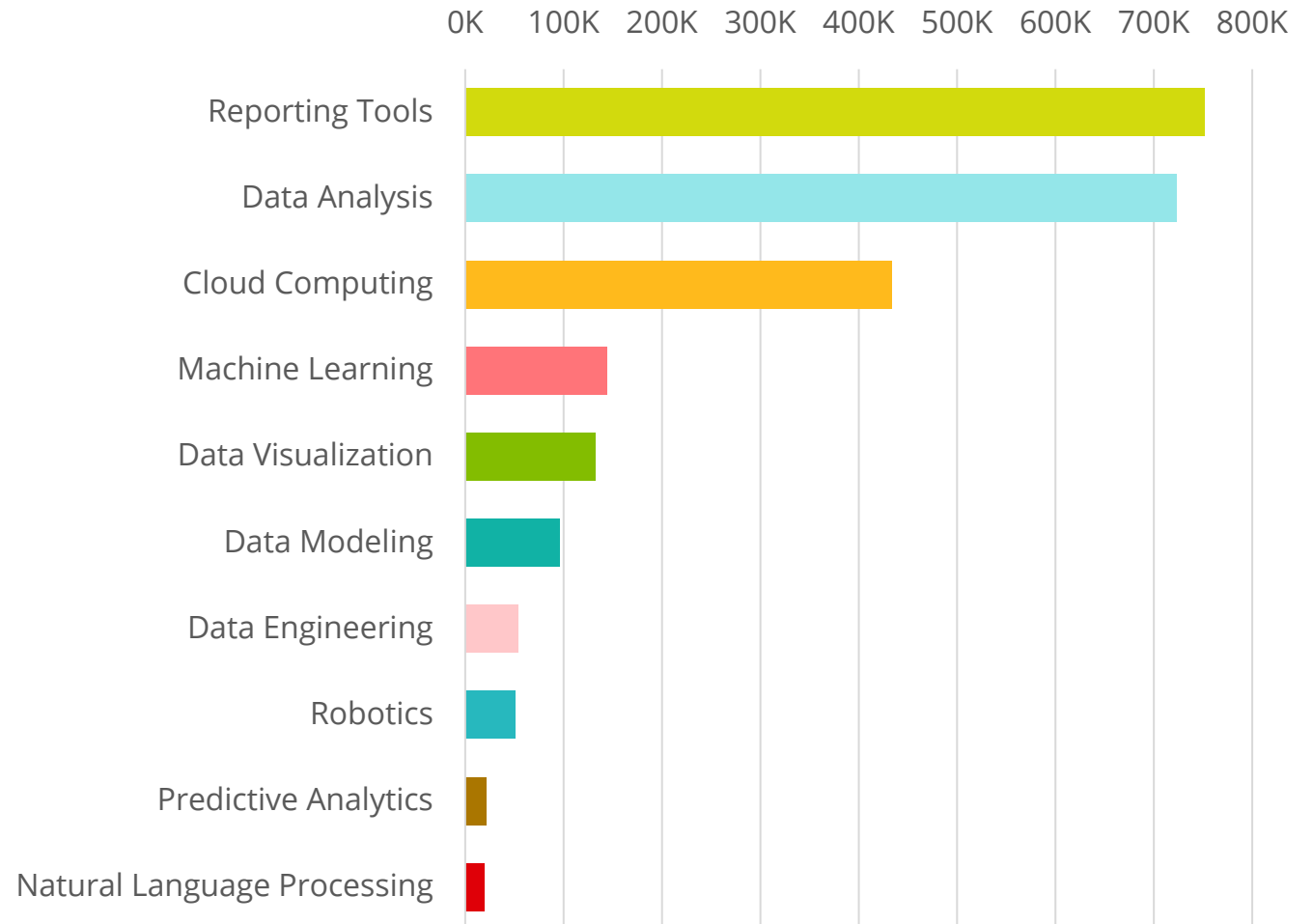
The top AI skills in the UK reveal a strong emphasis on data-related capabilities. **Data analysis** and **reporting tools** lead the list, highlighting the critical role of interpreting and utilizing data effectively. This focus is complemented by **data visualization** and **data modeling**, which enhance data interpretation and presentation.

Cloud computing is also prominent, reflecting its essential role in supporting scalable AI solutions and managing data infrastructure. The demand for **machine learning**, though lower compared to data skills, indicates a continued need for advanced AI technologies to drive innovation.

Similar to the US, data engineering, robotics, and predictive analytics show lower demand but still contribute to specialized AI applications.

Overall, the data suggests that UK organizations prioritize robust data management and cloud infrastructure, with a focus on effective AI integration and user adoption.

Top 10 in-demand AI skills in UK



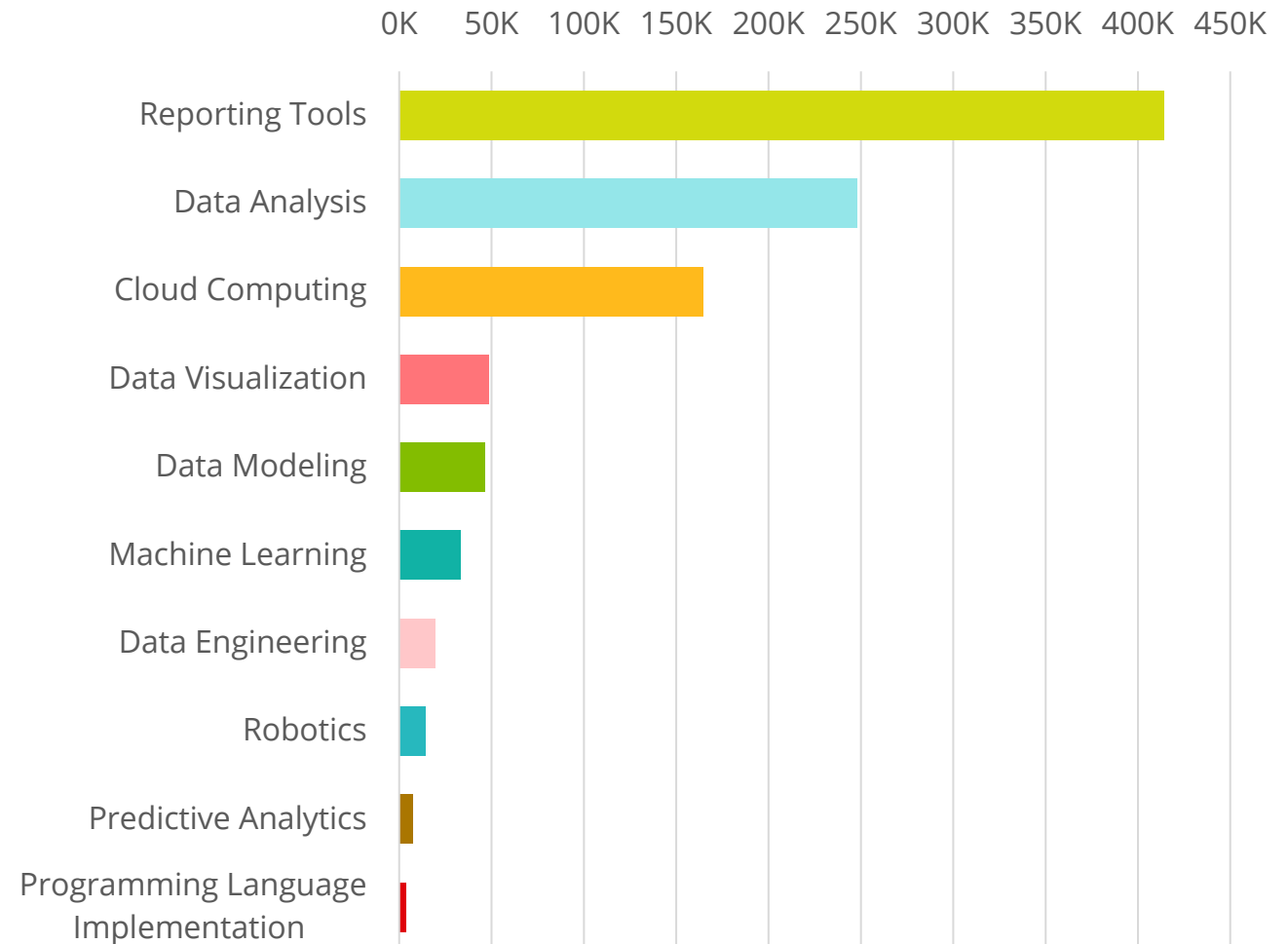
Top 10 In-demand AI Skills in Australia

The data reveals a strong emphasis on data-centric skills similar to the US and UK. **Data analysis and reporting tools** are especially significant, indicating that organizations prioritize capabilities essential for extracting and communicating actionable insights from complex datasets.

Cloud computing, which supports scalable AI solutions and infrastructure, also ranks high, reflecting its importance in managing AI deployments. Skills like **data modeling and data engineering**, although less prominent, are crucial for structuring and maintaining data pipelines, essential for effective AI operations.

This trend suggests that organizations prioritize foundational data management and infrastructure skills to effectively leverage AI technologies. The lower emphasis on advanced skills like computer vision and natural language processing (NLP) may be due to their specialized or emerging nature.

Top 10 in-demand AI skills Australia



The Essential Soft Skills for Thriving Alongside AI

“As organizations come to grasp the full extent of what AI can do, they’re also coming to terms with all that it can’t do — those tasks that require the uniquely human skills that all businesses need...” [LinkedIn Global Head of Content Strategy Dan Brodnitz](#), shared on a blog.

[According to Professor John McCarthy](#), AI is “the science and engineering of making intelligent machines, especially intelligent computer programs. It is related to the similar task of using computers to understand human intelligence, but AI does not have to confine itself to methods that are biologically observable.”

Despite AI investment set to reach [\\$232 billion by 2025](#), experts advise that the benefits of machine learning and robotic process automation technology depend heavily on the quality of a company’s human skills and capabilities. This also includes people’s attitudes towards technology.

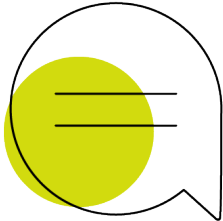
While AI excels in computational tasks, it falls short in areas such as human judgment, intuition, and nuanced decision-making. Additionally, AI struggles with understanding context, social, and cultural nuances, and it requires ongoing human oversight for proper functioning and ethical alignment.

This is why soft skills—such as emotional intelligence, creativity, adaptability, and critical thinking—are crucial. These skills are essential for complementing AI, bridging the gap between technology and human needs, and ensuring that AI applications are effective and ethically aligned. [Experts predict that by 2030](#), demand for these social and emotional skills, including leadership and communication, will grow by 24%, underscoring their importance in a future where AI plays a significant role.

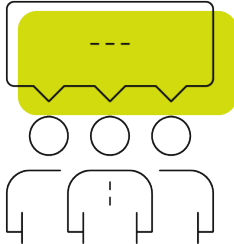
Our Findings: Global trends in Soft Skills

Communication skills are the top soft skills across all three countries, with **teamwork** also ranking highly in the top three. **Interpersonal skills** and **organizational skills** are also prominently ranked in each country.

The high demand for soft skills across the US, UK, and Australia can be attributed to their growing importance in an AI-driven workforce. As AI takes on more technical tasks, human roles increasingly require strong interpersonal and organizational skills. This shift suggests that these soft skills are essential for effectively integrating AI and enhancing overall workforce performance.



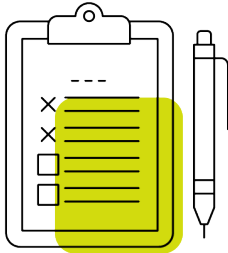
Communications



Teamwork



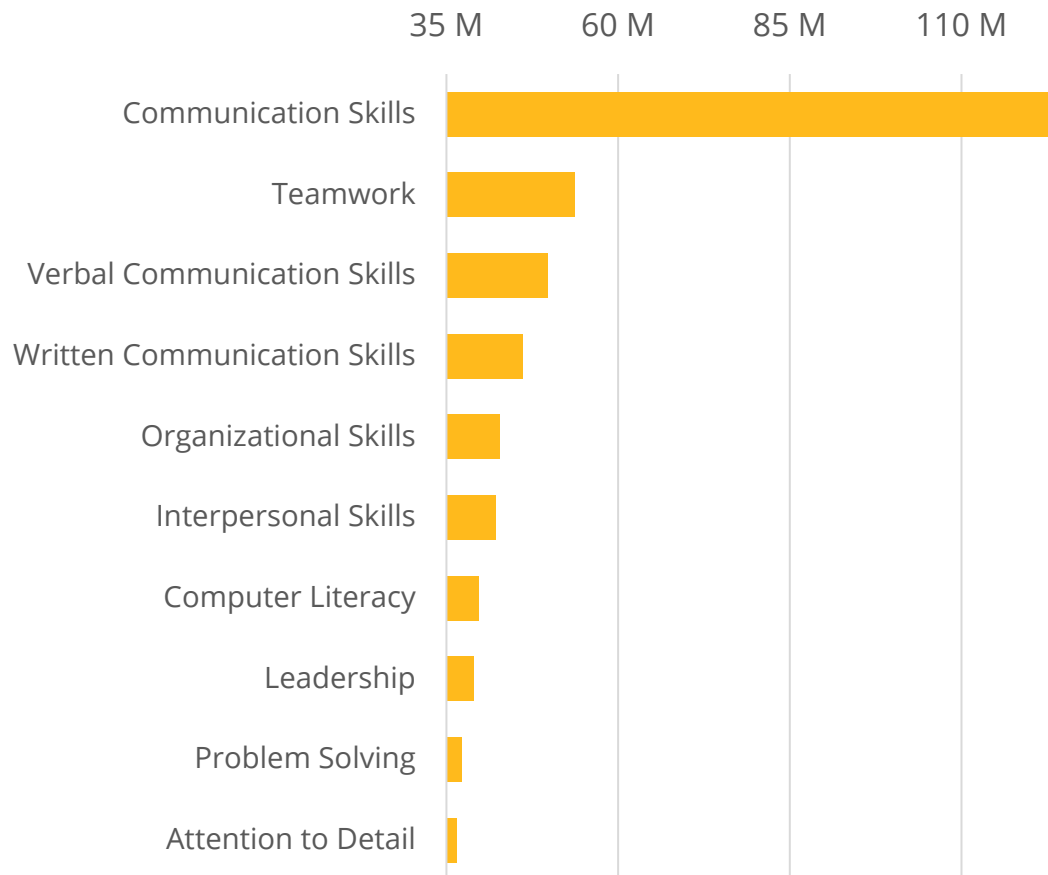
**Interpersonal
skills**



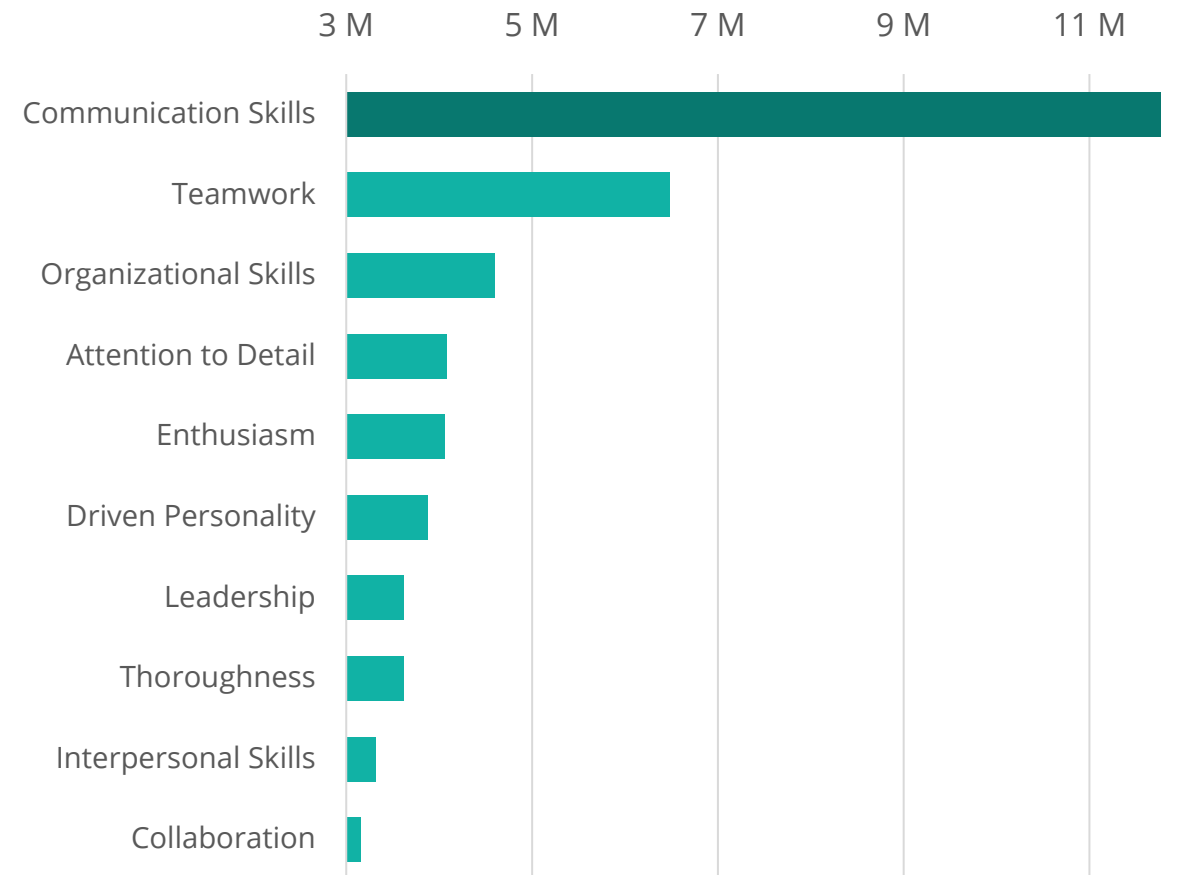
**Organizational
skills**

Top 10 In-demand Soft Skills

Top 10 In-demand Soft Skills In US



Top 10 In-demand Soft Skills in UK



Top 10 In-demand Soft Skills

Top 10 In-demand Soft Skills In Australia





Upskill & Reskill In The Age Of AI



5 Steps to Integrate AI into Your Workforce Strategy

- 1. Assess Capabilities and Identify Gaps:** Leverage insights from our report and other research to understand the most in-demand AI skills. Compare these to your current workforce capabilities to identify skill gaps and determine where AI can add the most value.
- 2. Define AI Goals and Use Cases:** Set clear objectives that align with your business strategy and identify specific use cases where AI can optimize processes or drive innovation.
- 3. Develop AI-Enhanced Training:** Review and adapt training programs to build skills needed for effective AI collaboration.
- 4. Measure and Evaluate ROI:** Collect data on training effectiveness and employee performance. Use these insights to evaluate the ROI of upskilling initiatives and refine your approach to maximize impact. [\[More on how to measure training ROI in our whitepaper.\]](#)
- 5. Recognize and Motivate:** Celebrate upskilling successes with digital badges to [boost morale, enhance productivity, and encourage continuous learning and growth.](#)



Empowering Your Workforce with Digital Credentials

Now that you have valuable data to shape your training strategy, it's essential to leverage digital credentials to provide verified recognition of your employees' skills and achievements.

A digital badge serves as a tangible representation of an employee's competencies and skills. These badges are designed to be easily shareable and verifiable, including key details such as the badge earner's name, the issuing organization, and the criteria met to earn the badge.

Here are some key benefits of incorporating digital credentials by [Credly](#) into your employee training program.

Recognition and Motivation

Digital credentials provide tangible recognition of employees' skills, validating their AI training and boosting morale. This acknowledgment encourages ongoing learning and reflects the organization's commitment to employee growth.

Evidence-Based Skill Verification

Metadata within digital credentials details the criteria required to earn each badge. For example, Google awards separate badges for acquiring knowledge and for demonstrating skills through assessments. This diversity allows tailoring learning to workforce needs. The transparency of metadata reassures employers that skills are not only learned but effectively demonstrated.

Validation of Soft Skills

[Digital credentials can validate essential soft skills](#) like teamwork, problem-solving, adaptability, and emotional intelligence. They provide formal acknowledgement of skills crucial in an AI-driven environment.

Data-Driven Insights

Digital credentials provide valuable data on skills development and training outcomes, helping organizations assess the effectiveness of their training programs and make informed decisions about future investments.

[\[Discover How to Use Digital Badges for Actionable Insights\]](#)



NEXT STEPS

We offer comprehensive AI skills analysis, tailored assessments, learning recommendations, and training content. Our services also include certification and digital badging to validate and recognize your employees' skills. Partner with Pearson to enhance both AI and human skills within your teams and support their transition into new, technology-driven roles.

[Talk to Sales](#)



Data Sources

Data Sources & AI Skills Definition

Pearson Labor Market Data

This report leverages Pearson Labor Market Data. Utilizing Natural Language Processing (NLP), Faethm by Pearson gathers data from millions of job advertisements across the UK, US and Australia monthly. This process helps identify the skills demanded in the market. The collected data is then scrutinized to uncover trends and patterns.

*These definitions are brought by The Pearson Ontology. It brings together occupations, skills, tasks, technologies and maps the relationships between them.

- **Generative AI:** Generative AI refers to the branch of artificial intelligence focused on creating new content, such as text, images, or music, by learning from existing data and patterns.
- **Prompt Engineering:** Prompt Engineering is the process of designing and optimizing AI language models, like OpenAI's GPT-3, to efficiently generate human-like responses by providing a well-structured input that guides the model's behavior and maximizes its performance.
- **Data Analysis:** Data analysis is a process of inspecting, cleansing, transforming, and modelling data with the goal of discovering useful information, informing conclusions, and supporting decision-making.
- **Reporting Tools:** Reporting tools are tools used by a business user to create reports.
- **Data Visualization:** Data visualization (often abbreviated data viz) is an interdisciplinary field that deals with the graphic representation of data.
- **Natural Language Processing (NLP):** Natural language processing (NLP) is a subfield of linguistics, computer science, and artificial intelligence concerned with the interactions between computers and human language, in particular how to program computers to process and analyze large amounts of natural language data.
- **Predictive Analytics:** Predictive analytics encompasses a variety of statistical techniques from data mining, predictive modelling, and machine learning that analyze current and historical facts to make predictions about future or otherwise unknown events.
- **Speech Recognition:** Speech recognition is an interdisciplinary subfield of computer science and computational linguistics that develops methodologies and technologies that enable the recognition and translation of spoken language into text by computers with the main benefit of searchability.
- **Image Analysis:** Image analysis or imagery analysis is the extraction of meaningful information from images; mainly from digital images by means of digital image processing techniques.
- **Programming Language Implementation:** A programming language implementation is a system for executing computer programs, either by interpretation or by compilation.
- **Data Modeling:** Data modeling in software engineering is the process of creating a data model for an information system by applying certain formal techniques.
- **Machine Learning (ML):** Machine learning (ML) is the study of computer algorithms that can improve automatically through experience and by the use of data.
- **Data Engineering:** Data engineering, a subfield of computer science, is the process of capturing, cleansing, transforming, and loading a data warehouse.
- **Algorithm Development:** Algorithm Development refers to the systematic process of designing, creating, testing, and refining algorithms, which are sets of rules or instructions followed by a computer to solve problems or perform tasks.
- **Cloud Computing:** Cloud computing is the on-demand availability of computer system resources, especially data storage (cloud storage) and computing power, without direct active management by the user.
- **Computer Vision:** Computer vision is an interdisciplinary scientific field that deals with how computers can gain high-level understanding from digital images or videos.
- **Robotics:** Robotics is the branch of technology that deals with the design, construction, operation, and application of robots, as well as computer systems for their control, sensory feedback, and information processing.
- **AI Ethics:** AI Ethics is the study and application of moral principles and values to ensure the development, deployment, and use of artificial intelligence technologies benefit society while minimizing harm and ensuring fairness, accountability, and respect for human rights.