

Most In-Demand Artificial Intelligence Skills to Learn In 2022



Artificial Intelligence (AI) is the process of programming a computer that can reason and learn like a human being and make decisions for itself

The buzz around Artificial Intelligence (AI) has been growing steadily for years. Still, it has exploded in recent months as tech giants and startups alike have raced to develop new AI applications and capabilities. In Artificial Intelligence, a machine is given the ability to learn and work on its own, making decisions based on the data it is given. Although AI has many different definitions, in general, it can be summarized as a process of making a computer system "smart"-able to

comprehend difficult tasks and execute complex commands.

One of the primary reasons for AI's tremendously growing popularity is its ability to automate tasks that are time-consuming or exhausting for humans to do. For example, in retail, AI can track inventory levels and predict customer demand, and this information can then be used to streamline the supply chain and improve stock management. In healthcare, AI can process and interpret medical images, which can help diagnose diseases and plan treatments.

Consequently, there is substantial demand for AI skills

across numerous businesses and industries. The global revenue for AI increased by 14.1% from 2020 to \$51.5 billion in 2021, according to forecasts from Gartner. According to Fortune Business Insights, during the forecast period of 2021-2028, the worldwide AI industry is anticipated to progress at a CAGR of 33.6%, reaching \$360 billion by 2028.

Undoubtedly, AI is rapidly evolving and escalating more sophisticated every day. Amid the rapid expansion of AI capabilities, businesses in every industry are looking for ways to incorporate AI into their operations. As businesses strive to stay ahead of the curve, those with the right skills will be in high demand.

Without further ado, let's delve into the most sought-after Artificial Intelligence skills employers seek in their employees and organizations.

Top Artificial Intelligence Skills



The enthusiasm around grasping AI skills is pretty high among students, working professionals, and business leaders. What crucial abilities are needed to build a successful career as an AI Engineer, then? They are stated below:

Programming Skills

No matter what field you're in, computer programming languages are essential as they are the foundation of the computer programs we execute every day. They allow us to communicate with computers and create the programs that make them work. It's difficult, if not impossible, to imagine a world without computer programming languages.

An AI aspirant needs to be familiar with any of the most widely implemented programming languages, including Python, R, Java, and C++, among others. Every programming language has its own specifications that can be employed in Artificial Intelligence as well as Machine Learning.

Python

Because of its simplicity, code dependability, and execution speed, Python is widely utilized in AI and Machine Learning. It requires very little code and will assist you in writing complicated algorithms, and it includes a variety of advanced libraries for sophisticated and scientific computation.

R

For numerical analysis, statistical computation, Machine Learning, neural networks, and other tasks, R is required. R provides you with the ability to gather and arrange data sets, apply Machine Learning and statistical functions, and process data using matrix transformations and linear algebra.

Java

In AI, mappers, reducers, intelligence programming, search algorithms, genetic programming, ML approaches, neural networks, etc., are all implemented using Java.

C++

AI takes advantage of the C++ language to facilitate procedural programming and hardware resource manipulation. It can be used to create browsers, video games, and operating systems. It is pretty helpful in AI, thanks to its adaptability and object-oriented features.

Libraries and Frameworks

When creating AI applications, developers have access to a wide variety of libraries and frameworks. Popular frameworks and libraries include Seaborn, Matplotlib, TensorFlow, NumPy, Keras, Apache Spark, and many others. They are used for operations on numbers, scientific computing, and studying big data sets, among other things. These libraries can also be used for writing code accurately at a rapid pace.

Mathematics and Statistics

We must program machines with understanding and logic in order to make them capable of learning from experience. Here's when mathematics and statistics

come into play. Statistics is the study of how to gather, analyze, and interpret statistics, whereas mathematics is the study of patterns and correlations in numbers. Thanks to mathematics and statistics, we have the tools we need to evaluate and comprehend data.

Mathematical and statistical concepts include linear algebra, statistics, probability, graphs, optimization methods, etc. These abilities can be used to solve issues and develop algorithms based on specifications.

Machine Learning and Deep Learning

Two areas of Computer Science that are expanding at a tremendous pace are Machine Learning and Deep Learning. Both involve training computers to derive knowledge from data without explicit programming. Machine learning can be utilized to improve the accuracy of predictions made by software. At the same time, Deep learning can be utilized to improve the performance of a Machine Learning system by providing more data for the system to learn from.

In general, Machine Learning and Deep Learning are becoming increasingly significant as we move toward a more data-driven society. Thanks to Machine Learning, computers can learn from experience and adapt to new situations. Deep Learning, the subdomain of Machine Learning, uses Neural Networks to learn at a deeper level. Neural Networks are a network of interconnected processing nodes that can learn to identify patterns of input data.

Natural Language Processing and Computer Vision

The study of how computers can interpret and process human language is known as Natural Language Processing (NLP). It encompasses activities such as comprehending word meanings, parsing phrases into their component parts, and comprehending word relationships. NLP can be utilized for a broad range of activities, including machine understanding, text summarization, and automatic translation.

Computer Vision (CV) focuses on the interpretation and comprehension of digital images by computers. It covers activities like recognizing faces, identifying items and objects in photos, and predicting the 3D geometry of objects in images.

NLP is crucial for AI because it allows computers to understand human language, which is essential for tasks

like creating chatbots or voice assistants. CV is vital for AI because it allows computers to interpret and understand images, which is essential for tasks like object recognition or facial recognition.

Data Science and Data Analysis

In our increasingly data-driven world, it's more important than ever to be able to understand and analyze data. Data Science and Data Analysis are critical skills that allow us to make sense of the ever-growing mountain of data that surrounds us.

Data Science is the process of deriving meaning from data, and it involves everything from cleaning and organizing data to performing complex analyses and creating predictive models. Data Scientists are adept at finding patterns and insights in data, which can then be used to develop AI algorithms and make better decisions.

Data Analysis is a vital part of Data Science. It involves taking a large dataset and extracting actionable insights from it. Data Analysts are skilled at identifying trends, spotting anomalies, and determining relationships between variables, which can improve the accuracy of AI applications.

Soft Skills

Are you wondering why soft skills are essential for a technology-related field like Artificial Intelligence? The answer to your doubts is a simple one! Yes, soft skills are a vital part of the technology-driven world as well. The value of soft skills in the era of AI is already beginning to be understood by employers. Employees will need to be able to utilize these skills to collaborate with other employees in order to succeed in the age of Artificial Intelligence.

Several essential soft skills include collaboration, communication, critical thinking, and problem-solving.

Collaboration

Collaboration between employees and other entities is crucial as it can lead to a better understanding of the problem, faster solutions, better decision-making, and improved final products.

Communication

Possessing strong communication skills will help people build trust and rapport with coworkers, prevent and resolve conflict, and make them more effective team

members. These skills also facilitate people to understand better and carry out instructions from their supervisors.

Critical Thinking and Problem-Solving

Critical thinking allows employees to see all sides of an issue and make the best decision for the company. Problem-solving skills are essential because they allow employees to find creative solutions to complex problems. These skills make employees more efficient and effective in their jobs.

The Next Step: How Can You Upskill?

So, if you're considering a career in AI, now is the time to make your move. With businesses investing heavily in this technology and the demand for talent outweighing the supply, there has never been a better time to develop your AI skills.

The term "upskilling" has been around for a while, but it's only recently that it has become widely spoken. In its simplest form, upskilling is the act of learning new skills or improving existing ones. We live in a constantly evolving world where new technologies and trends are constantly emerging. In order to stay ahead of the curve, we need to learn and adapt continuously. So, what are some upskilling options?

There are various ways to learn new skills, but some of the most popular ones include traditional learning, online courses, workshops, seminars, and self-study.

Traditional Learning: Colleges and Universities

Traditional learning is usually classroom-based learning, which has been around for centuries. Suppose you are looking for a traditional classroom program to learn Artificial Intelligence. In that case, several options are available that you can choose from, including the world's best universities, for instance, the Massachusetts Institute of Technology (MIT) and Stanford University. In the end, you will receive a completion certificate from the respective institution or university.

Online Courses: E-Learning Platforms

In recent years, online courses have been booming at an incredible pace. There are now several different platforms that offer online courses, and the courses themselves cover a wide range of topics.

Workshops and Seminars

Workshops and seminars are excellent ways to learn new skills or gain new knowledge, which can either be educational or informative and usually last anywhere from a few hours to a few days. Many people participate in workshops and seminars to improve their business skills or learn about new fields or industries.

The benefits of attending workshops and seminars include gaining new insights, networking with other professionals, and having the opportunity to learn and acquire knowledge from experts in the field. Additionally, workshops and seminars can be an incredible way to build your resume and boost your career.

Self-Study: YouTube & Books

If you're interested in self-study, the best way to get started is simply to start learning! Pick a topic you're interested in and find resources to help you get started; the best resources include YouTube and Books.

YouTube is the world's leading video platform owned by Google, which comprises several helpful videos on AI, such as introduction to AI, how to program AI, and how to apply AI. A few top-notch resources include Springboard, Arxiv Insights, freeCodeCamp.org, and Edureka, among several others.

A few people prefer the act of reading books due to their tactile nature - the feel of paper and the ability to physically highlight and annotate as they read. Here are two books I came across that are engaging and exciting:

1. Artificial Intelligence: Learning Automation Skills with Python
2. Artificial Intelligence: A Modern Approach

Summing Up

The need for AI skills is escalating as businesses become more aware of how this technology may enhance their workflows. Effective AI professionals will be in high demand and could find jobs in a broad range of industries. Additionally, those that master AI will be able to open up new doors for both themselves and their companies.