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What Is AI:

In its simplest form, artificial intelligence is a field, which combines computer science and robust datasets, to enable problem-solving.

It also encompasses sub-fields of machine learning and deep learning, which are frequently mentioned in conjunction with artificial intelligence.

Artificial intelligence leverages computers and machines to mimic the problem-solving and decision-making capabilities of the human mind.

History of Artificial Intelligence(AI)

Artificial Intelligence technology is much older than you would imagine and the term "AI" is not new for researchers.

The term "AI" was first coined at Dartmouth College in 1956 by a scientist called Marvin Minsky.

Getting certified in AI will give you an edge over the other aspirants in this industry.

With advancements such as Facial Recognition, AI in Healthcare, Chat-bots, and more, now is the time to build a path to a successful career in Artificial

Intelligence. Virtual assistants have already made their way into everyday life, helping us save time and energy. Self-driving cars by Tech giants like

Tesla has already shown us the first step to the future. AI can help reduce and predict the risks of climate change, allowing us to make a difference

before it's too late. And all of these advancements are only the beginning, there's so much more to come. 133 million new Artificial Intelligence jobs are

said to be created by Artificial Intelligence by the year 2023.

Ancient Greek mythology included intelligent robots and artificial entities for the first time.

The creation of syllogism and its application of deductive reasoning by Aristotle was a watershed point in humanity's search to comprehend its

intelligence. Despite its long and deep roots, artificial intelligence as we know it today has only been around for less than a century

How does Artificial Intelligence (AI) Work?

Building an AI system is a careful process of reverse-engineering human traits and capabilities in a machine,

and using its computational prowess to surpass what we are capable of.

To understand How Artificial Intelligence works, one needs to deep dive into the various sub-domains of Artificial Intelligence and understand

how those domains could be applied to the various fields of the industry.

Machine Learning: ML teaches a machine how to make inferences and decisions based on experience.

It identifies patterns and analyses past data to infer the meaning of these data points to reach a possible conclusion without having to involve human

experience.

Deep Learning: Deep Learning is an ML technique. It teaches a machine to process inputs through layers to classify, infer and predict the outcome.

Neural Networks: Neural Networks work on similar principles to Human Neural cells. They are a series of algorithms that captures the relationship between

various underlying variables and processes the data as a human brain does.

Natural Language Processing: NLP is the science of reading, understanding, and interpreting a language by a machine. Once a machine understands what the user

intends to communicate, it responds accordingly.

Computer Vision: Computer vision algorithms try to understand an image by breaking down the image and studying different parts of the object.

This helps the machine classify and learn from a set of images, to make a better output decision based on previous observations.

This automation to reach conclusions by evaluating data saves human time for businesses and helps them make better decisions

Cognitive Computing: Cognitive computing algorithms try to mimic a human brain by analyzing text/speech/images/objects in a manner that a human does and

tries to give the desired output.

Strong and Weak Artificial Intelligence

Extensive research in Artificial Intelligence also divides it into two more categories, namely Strong Artificial Intelligence and Weak Artificial

Intelligence. The terms were coined by John Searle to differentiate the performance levels of different kinds of AI machines.

Here are some of the core differences between them.

What is Strong AI?

Strong AI is a theoretical form of machine intelligence that supports the view that machines can develop human consciousness equal to human beings.

Strong AI refers to machines or programs with the mind of their own which can think and accomplish complex tasks on their own without any human

interference. Strong AI has a complex algorithm that helps systems act in different situations and strong AI-powered machines can make independent

decisions without human interaction. Strong AI-powered machines can carry out complex tasks on their own just like human beings do. It simply states that a

computing machine with the appropriate functional organization has a mind that perceives, thinks, and intends like a human mind.

This is AI we see in sci-fi movies like "Her", "The Terminator", "I-Robot", "WALL-E" and more.

What is Weak AI?

Weak AI, also known as narrow AI, is artificial intelligence with limited functionality.

Weak AI refers to the use of advanced algorithms to accomplish specific problem-solving or reasoning tasks that do not encompass the full range of human

cognitive abilities. For example, voice-based personal assistants such as Siri and Alexa could be considered weak AI programs because they operate

within a limited pre-defined set of functions meaning they often have a programmed response. Weak AI is not so enthusiastic about the outcomes of AI;

it is simply the view that intelligent behavior can be modeled and used by machines to solve complex problems and tasks.

But just because a machine can behave intelligently does not prove that it is smart in the way that a human is.

The best example of weak AI is Siri and Alexa, or Google Search.

Career Trends in Artificial Intelligence

Careers in Artificial Intelligence have shown steady growth over the past few years and will continue to grow at an accelerating rate.

57% of Indian companies are looking to hire the right talent to match the market requirements. Aspirants who have successfully transitioned into an

AI roles have seen an average hike in salary of 60-70%. Mumbai stands tall in competition and is followed by Bangalore and Chennai. According to WEF,

133 million jobs will be created in AI by the year 2020. Research states that the demand for jobs has increased but the workforce has not been able to keep

pace with it. AI is being used in various sectors such as healthcare, banking and finance, marketing, and the entertainment industry. Deep Learning Engineer,

Data Scientist, Director of Data Science, and Senior Data Scientist are some of the top jobs that require AI Skills.

With the increase in opportunities available, it's safe to say that now is the right time to upskill in this domain.

Career Opportunities in AI

AI & ML Developer/Engineer

AI & ML Engineer/Developer is responsible for performing statistical analysis, running statistical tests, and implementing statistical designs.

Furthermore, they develop deep learning systems, manage ML programs, implement ML algorithms, etc.

So, they deploy AI & ML-based solutions for the company. For becoming an AI & ML developer,

you will need good programming skills in Python, Scala, and Java. You get to work on frameworks like Azure ML Studio, Apache Hadoop, Amazon ML, etc.

If you proceed on the set AI engineer learning path, success is all yours! The average salary of an AI engineer in India is found to be ranging from

INR 4 Lakhs p.a. to INR 20 Lakhs p.a.

AI Analyst/Specialist

The role of an AI analyst or specialist is similar to that of an AI engineer. The key responsibility is to cater to AI-oriented solutions and schemes

to enhance the services delivered by a certain industry using data analyzing skills to study the trends and patterns of certain datasets.

Whether you talk about the healthcare industry, finance industry, geology sector, cyber security, or any other sector, AI analysts or specialists are seen

to have quite a good impact all over. An AI Analyst/Specialist must have a good programming, system analysis, and computational statistics background.

A bachelor's or equivalent degree can help you land an entry-level position, but a master's or equivalent degree is a must for the core AI analyst positions.

The average salary of an ai analyst can be anywhere between INR 3 Lakhs per year and 10 Lakhs per year, based on the years of experience and company you are working for.

Data Scientist

Owing to the huge demand for data scientists, there is a high chance that you are already familiar with the term. The role of a data scientist involves

identifying valuable data streams and sources, working along with the data engineers for the automation of data collection processes, dealing with big data,

and analyzing massive amounts of data to learn the trends and patterns for developing predictive ML models. A data scientist is also responsible for coming up

with solutions and strategies for decision-makers with the help of intriguing visualization tools and techniques. SQL, Python, Scala, SAS, SSAS, and R

are the most useful tools for a data scientist. They are required to work on frameworks such as Amazon ML, Azure ML Studio, Spark MLlib, and so on.

The average salary of a data scientist in India is INR 5-22 Lakhs per year, depending on their experience and the company they are hired in.

Product Manager

Nowadays, in every leading company, the job of a product manager incorporates a significant role of artificial intelligence.

Resolving challenging issues by strategically collecting data falls under the duty of a product manager. You are supposed to have the skill of identifying

relevant business-impeding problems and further gathering related datasets for data interpretation. Once the data interpretation is made,

the product manager implements effective AI strategies to evaluate the business impacts depicted by the inferences drawn from data interpretation.

Because of the crucial job role, every organization needs an efficient product manager. Thus, we can say that a product manager ensures that a product is

actively running. One must have good hands-on programming languages like Python, R, SQL, and other essential ones. Initially, the average pay of a product

manager is around INR 7-8 Lakhs per annum, which can extend to one Crore in the later years. There is no such thing as a free lunch; similarly,

for getting a job as a product manager, you must have an in-depth knowledge of AI-ML, Computer Science, Statistics, Marketing related core concepts.

Ultimately, experience, skills, company, and location are the major factors that determine your salary as a product manager.

Robotics Scientist

Following the lead of global automation trends and the emergence of robotics in the field of ai, we can tell it is a sign of sprouting demand

for robotics scientists. In this fast-paced world where technology is becoming the pioneer, robots are indeed stealing the job of people handling manual or

repetitive & boring tasks. On the contrary, it is giving employment to professionals having expertise in the field of robotics.

To build and manage these robotic systems, we need a robotics engineer. To pursue a career as a robotics engineer, you must have a master's degree

in robotics, Computer Science or Engineering. A robotics scientist is among one the other interesting and high-paying ai careers take upon.

Since we are already aware of how complicated robots are, tackling them demands knowledge in different disciplines. If the field of robotics intrigues you

and you are good at programming, mechanics, electronics, electrics, sensing, psychology, and cognition to some extent, you are good to go with this

career option.

Future of Artificial Intelligence

As humans, we have always been fascinated by technological changes and fiction, right now, we are living amidst the greatest advancements in our history.

Artificial Intelligence has emerged to be the next big thing in the field of technology. Organizations across the world are coming up with breakthrough

innovations in artificial intelligence and machine learning. Artificial intelligence is not only impacting the future of every industry and every human

being but has also acted as the main driver of emerging technologies like big data, robotics, and IoT. Considering its growth rate, it will continue to act

as a technological innovator for the foreseeable future. Hence, there are immense opportunities for trained and certified professionals to enter a

rewarding career. As these technologies continue to grow, they will have more and more impact on the social setting and quality of life.