What is Machine Learning? Machine Learning For Beginners

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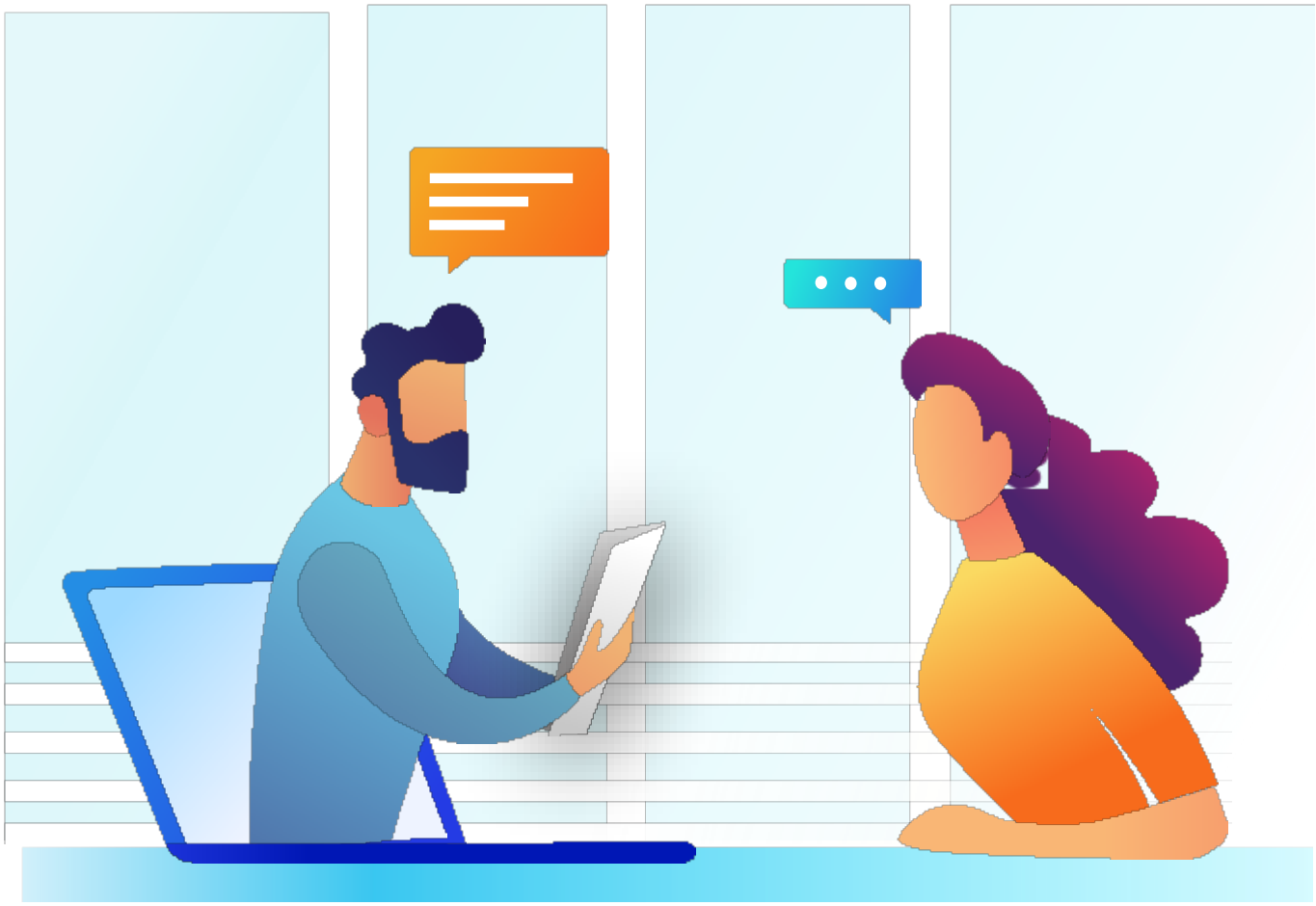
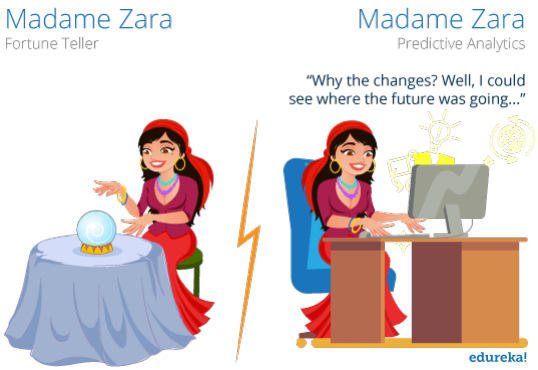


What is Machine Learning? Well, Machine Learning is a concept which allows the machine to learn from examples and experience, and that too without being explicitly programmed. So instead of you writing the code, what you do is you feed data to the generic algorithm, and the algorithm/ machine builds the logic based on the given data.

This blog on What is Machine learning will make your understanding more clear and will set a foundation for ***Machine Learning Certification Training***. This blog will tell you about:



What is Machine Learning?

Have you ever shopped online? So while checking for a product, did you noticed when it recommends for a product similar to what you are looking for? or did you noticed "the person bought this product also bought this" combination of products. How are they doing this recommendation? This is machine learning.

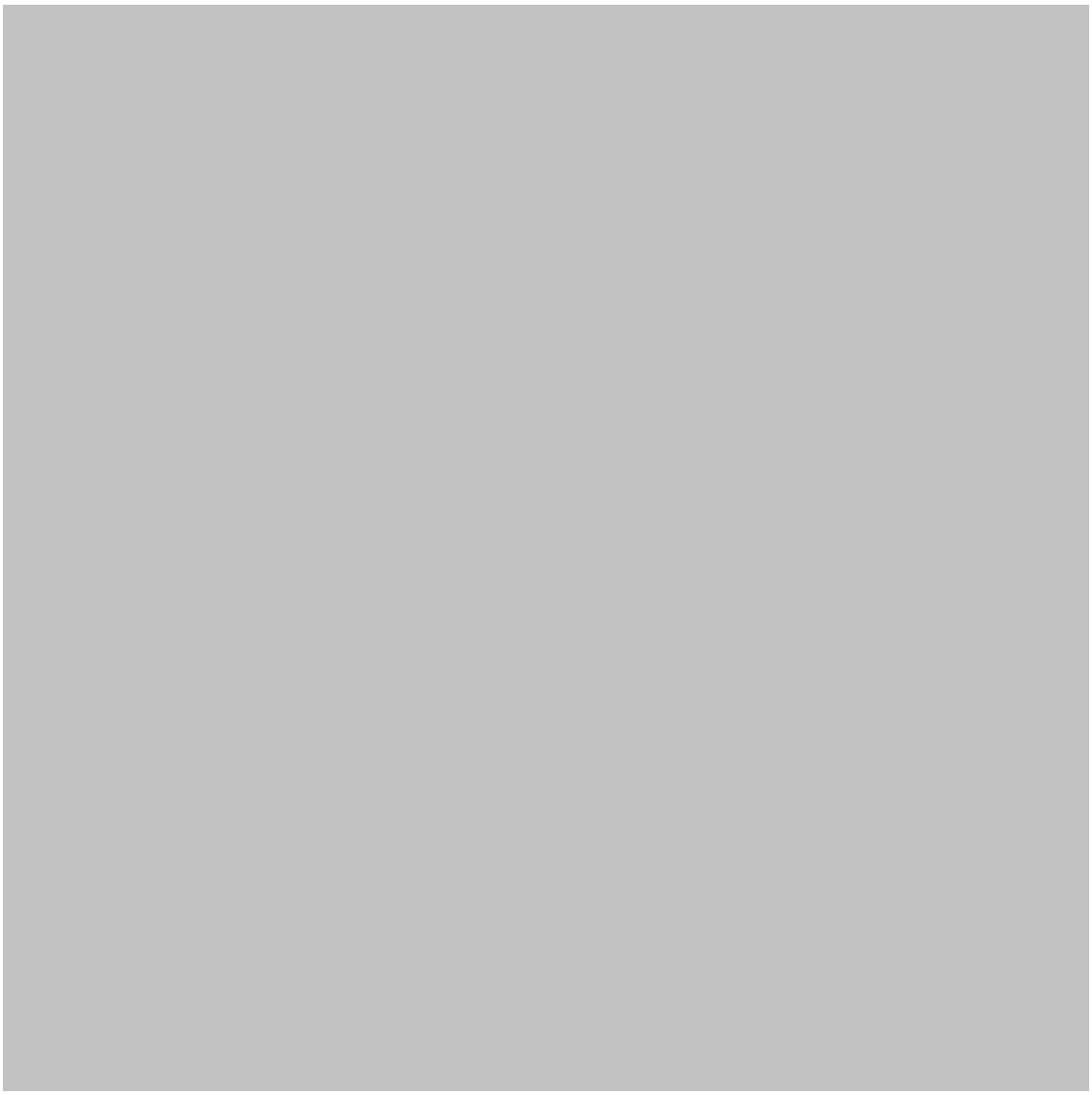
Did you ever get a call from any bank or finance company asking you to take a loan or an

insurance policy? What do you think, do they call everyone? No, they call only a few selected customers who they think will purchase their product. How do they select? This is target marketing and can be applied using Clustering. This is machine learning.

What is Machine Learning? Machine Learning is a subset of artificial intelligence which focuses mainly on machine learning from their experience and making predictions based on its experience.

What does it do? It enables the computers or the machines to make data-driven decisions rather than being explicitly programmed for carrying out a certain task. These programs or algorithms are designed in a way that they learn and improve over time when are exposed to new data.

What is Machine Learning - Evolution of Machines



As you know, we are living in the world of humans and machines. The Humans have been evolving and learning from their past experience since millions of years. On the other hand, the era of machines and robots have just begun. You can consider it in a way that currently we are living in the primitive age of machines, while the future of machine is enormous and is beyond our scope of imagination.

In today's world, these machines or the robots have to be programmed before they start following your instructions. But what if the machine started learning on their own from their experience, work like us, feel like us, do things more accurately than us? These things sound fascinating, Right? Well, just remember this is just the beginning of the new era.

Just in case you want to learn more about What is Machine Learning, watch this video:

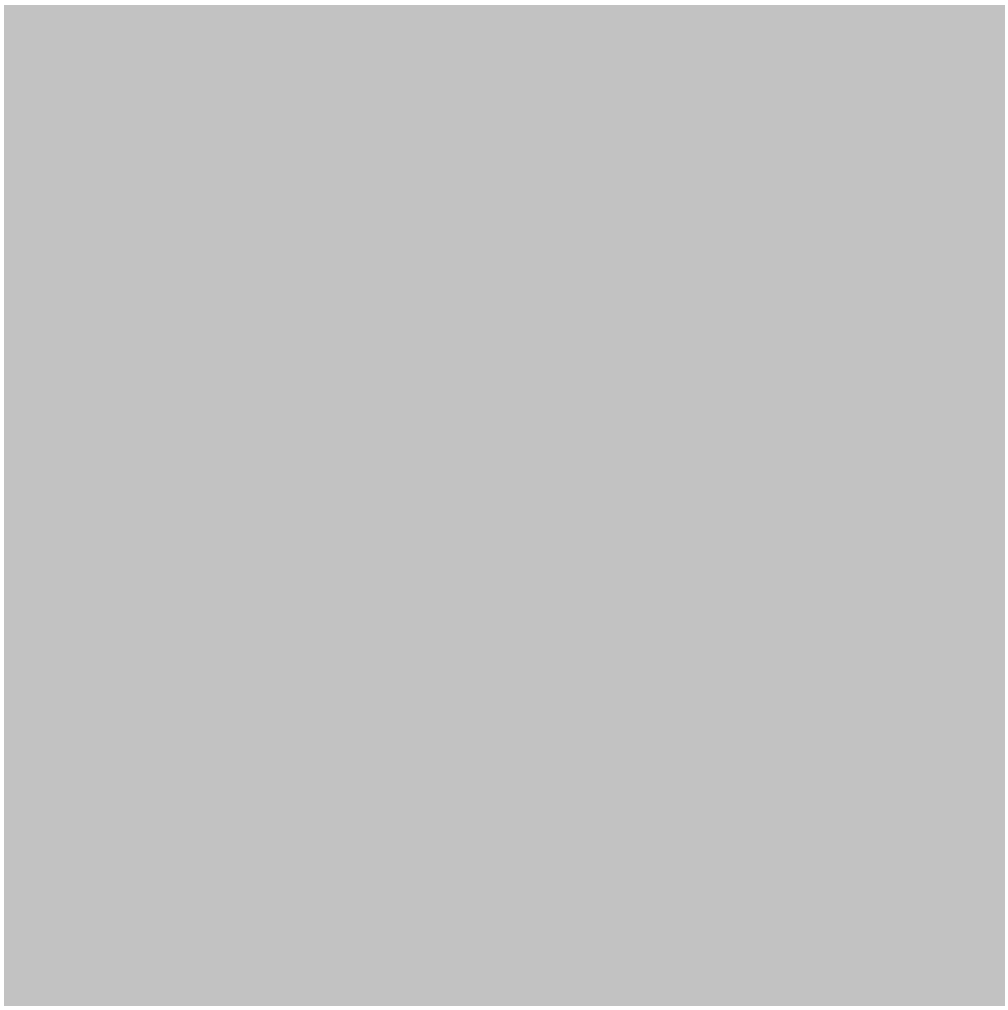
What is Machine Learning? | Machine Learning Basics | Edureka

How does Machine Learning Work?

Machine Learning algorithm is trained using a training data set to create a model. When new input data is introduced to the ML algorithm, it makes a prediction on the basis of the model.

The prediction is evaluated for accuracy and if the accuracy is acceptable, the Machine Learning algorithm is deployed. If the accuracy is not acceptable, the Machine Learning algorithm is trained again and again with an augmented training data set.

This is just a very high-level example as there are many factors and other steps involved.



Types of Machine Learning

Machine learning is sub-categorized to three types:

- Supervised Learning – Train Me!
- Unsupervised Learning – I am self sufficient in learning
- Reinforcement Learning – My life My rules! (Hit & Trial)

What is Supervised Learning?

Supervised Learning is the one, where you can consider the learning is guided by a teacher. We have a dataset which acts as a teacher and its role is to train the model or the machine. Once the model gets trained it can start making a prediction or decision when new data is given to it.

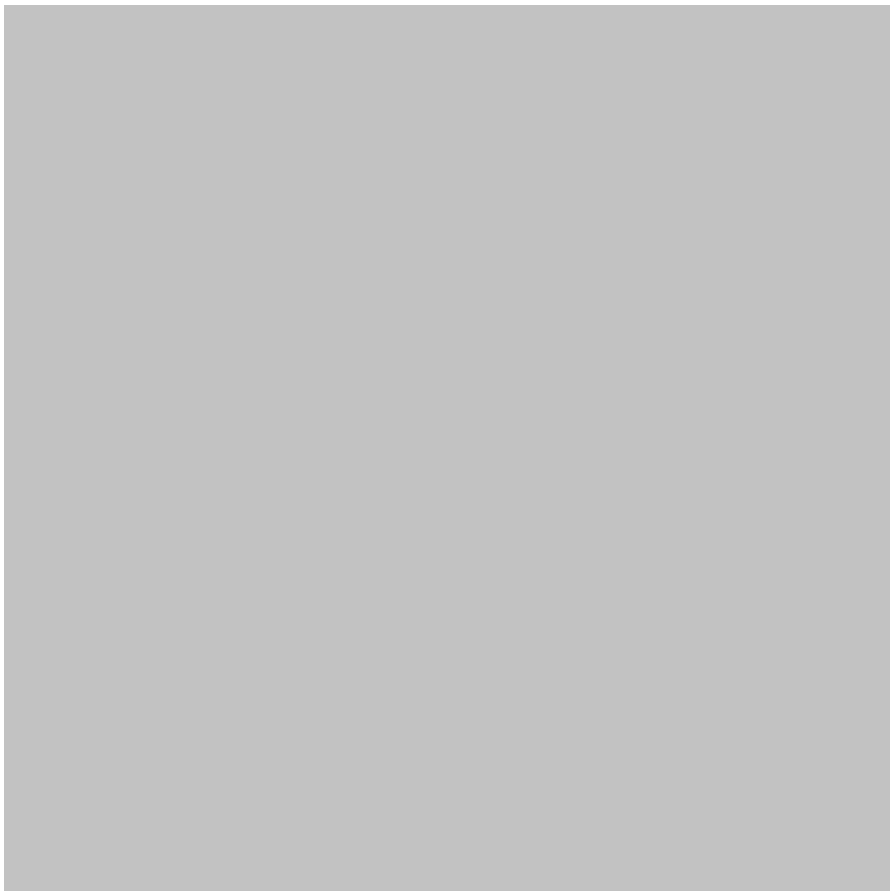
What is Unsupervised Learning?

The model learns through observation and finds structures in the data. Once the model is given a dataset, it automatically finds patterns and relationships in the dataset by creating clusters in it. What it cannot do is add labels to the cluster, like it cannot say this a group of apples or mangoes, but it will separate all the apples from mangoes.

Suppose we presented images of apples, bananas and mangoes to the model, so what it does, based on some patterns and relationships it creates clusters and divides the dataset into those clusters. Now if a new data is fed to the model, it adds it to one of the created clusters.

What is Reinforcement Learning?

It is the ability of an agent to interact with the environment and find out what is the best outcome. It follows the concept of hit and trial method. The agent is rewarded or penalized with a point for a correct or a wrong answer, and on the basis of the positive reward points gained the model trains itself. And again once trained it gets ready to predict the new data presented to it.



Machine Learning Use Case

Scroll the images to view different Machine learning uses which includes face detection, cortana, Netflix Recommendation System and many more.

I hope by now you have a proper understanding of What is Machine Learning. If you wanna learn about machine learning in depth, then stay tuned for my next blog on Machine Learning Tutorial.

> “Your FUTURE is decided by what you do TODAY, not TOMORROW”

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