**Machine learning using python**

**About the course**

Machine learning is in simple words can be defined as teaching a machine to learn through experience and use of data. We use computer algorithms to help machines understand information from input data and behave accordingly.

The process of how this works is that the machine learning algorithms build a training model using sample data. And through multiple iterations the outputs are corrected until we get the necessary outcome. We can say It is a part of artificial intelligence.

We use machine learning everyday knowingly or unknowingly as it has a really wide variety of applications like in computer vision, email filtering, medicine, sales, speech recognition, so on and so forth. This advanced course in machine learning using python will help you to gain the essential knowledge to program and implement machine learning solutions, the most efficient techniques required to create a well optimized machine learning model and Pattern recognition and data mining fundamentals. We will also cover the 4 main types of machine learning algorithms, That is

1. Supervised learning

When the machine learning model is trained using labelled data, that contains both inputs and desired outputs. We call it as a supervised learning model. The functioning is similar to that of a supervisor teaching the machine to predict the output accurately

1. Unsupervised learning

Unsupervised learning is trained using non labelled data and the algorithm tries to find similarities from the given input. That means arranging the data into clusters and arranging it in a way so as to make it look organized.

1. Reinforcement learning

It is a sort of trial-and-error process where the algorithm rewards the machine for solving the give problem efficiently as possible. The efficient solution is determined by the value of the reward. We have to note here that the given input data does not contain any labels or identifiers for the machine to learn from.

1. Semi supervised learning

It is a combination of both supervised and unsupervised learning where the algorithm uses both labelled and unlabeled data to train models. The labelled data has useful information so that the machine can understand the data, unlabeled data does not have this information, which in-turn results in the algorithm learning to label the unlabeled data.

**Why python is used for machine learning?**

Python is rapidly becoming the industry standard for software development. The versatility of python along with the tools it provides for creating machine learning models with ease are one of the many reasons why python is used for implementing machine learning algorithms. There are several packages available in python for machine learning and data analysis applications which are cross platform compatible and are easy to learn.

**What is the expected salary of a machine learning engineer in India?**

An entry-level Machine Learning Engineer with less than 1 year experience can expect to earn an average of 515,932 Rs. An early career Machine Learning Engineer with 1-4 years of experience earns an average of 708,357 Rs. A mid-career Machine Learning Engineer with 5-9 years of experience earns an average of 1,474,332 Rs. An experienced Machine Learning Engineer with 10-19 years of experience earns an average of 1,999,945 Rs.

**What do you learn from this course?**

You will learn the various analysis techniques. Classification and clustering techniques using python. The versatile sets of tools and functionalities in python and more.

**What is the scope of machine learning in India?**

Learning this curse can help you secure a career in multiple industries including Finance, automotive, robotics and quantum computing just to name a few. Statistically there will be 2.3 million new jobs in machine learning by the year 2022.