

Machine Learning

COURSE & CONTENT 4-6 Weeks



EISYSTEMS TECHNOLOGIES

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Why should I learn Machine Learning?

There are several compelling reasons to learn Machine Learning (ML). Here are a few:

- 1. High demand for ML skills: ML is one of the fastest-growing fields, and there is a high demand for ML professionals across many industries. Learning ML can open up a wide range of job opportunities for you.
- 2. Better decision-making: ML helps in making better and informed decisions based on data analysis. This can be useful in a variety of industries, from healthcare to finance to marketing.
- 3. Automation and efficiency: ML can automate many tedious and repetitive tasks, making businesses more efficient and freeing up time for more complex tasks.
- 4. Personal growth and intellectual challenge: Learning ML can be a challenging but rewarding experience. It can help you grow as a professional and as an individual.
- 5. Opportunities to innovate: ML is a rapidly evolving field, and there are many opportunities to innovate and come up with new solutions to problems that have not yet been solved.

Overall, learning ML can be a valuable investment in your career and personal growth, and can lead to a wide range of opportunities and benefits.

What are career prospects if I learn Machine Learning?

Learning Machine Learning can lead to many career opportunities, as ML is a rapidly growing field with high demand for skilled professionals. Here are some of the career prospects if you learn Machine Learning:

- 1. Data Scientist: A data scientist is responsible for collecting, analyzing, and interpreting large amounts of data using ML algorithms to derive insights and develop solutions. Data scientists can work in various industries such as healthcare, finance, e-commerce, etc.
- 2. Machine Learning Engineer: A machine learning engineer is responsible for developing ML systems and integrating them into various applications and platforms. They work closely with data scientists to build and optimize ML algorithms.
- 3. Business Intelligence Developer: A business intelligence developer uses ML algorithms to analyze large data sets and generate reports, visualizations, and dashboards to help businesses make data-driven decisions.
- 4. Robotics Engineer: A robotics engineer designs and develops robots using ML algorithms to perform tasks such as object detection, path planning, and autonomous navigation.
- 5. Al Researcher: An Al researcher develops new ML algorithms and models to improve the performance and accuracy of Al systems.
- 6. Software Developer: Software developers can leverage ML algorithms to develop intelligent applications such as chatbots, recommendation systems, and fraud detection systems.

Overall, there are many career prospects if you learn Machine Learning, and the demand for ML professionals is only expected to grow in the future.



What is Machine Learning market size?

The Machine Learning market size is difficult to determine precisely as it encompasses a wide range of industries and applications. However, according to a report by Grand View Research, the global Machine Learning market size was valued at USD 8.43 billion in 2020 and is expected to grow at a compound annual growth rate (CAGR) of 43.8% from 2021 to 2028.

The increasing adoption of ML in various industries, such as healthcare, finance, and e-commerce, is expected to drive the market growth. Additionally, the rise of big data and the increasing demand for automation and efficiency in business processes are also contributing to the growth of the Machine Learning market. With the development of more advanced algorithms and models, the Machine Learning market is expected to continue to grow in the coming years.

Machine Learning & Indian job market

Machine Learning (ML) is a rapidly growing field in India, and the demand for skilled ML professionals is increasing at a fast pace. Many Indian companies are adopting ML to gain a competitive advantage and improve their business processes.

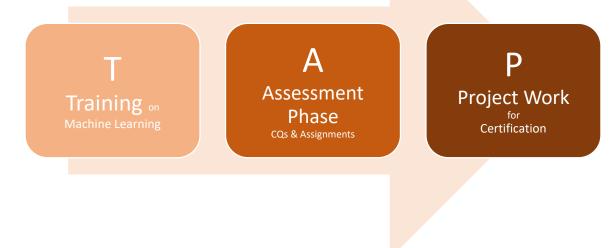
Here are some of the ways in which ML is impacting the Indian job market:

- High demand for ML professionals: There is a high demand for ML professionals in India, and the trend is expected to continue in the coming years. Companies are looking for skilled ML engineers, data scientists, and AI researchers to help them develop and implement ML solutions.
- Increased salaries: Due to the high demand for ML professionals, the salaries for ML jobs are
 also increasing. According to a report by Analytics India Magazine, the average salary for an
 entry-level data scientist in India is around INR 6 lakhs per annum, while a mid-level data
 scientist can earn up to INR 15 lakhs per annum.
- 3. Emerging startups: There are many emerging startups in India that are focused on developing ML solutions for various industries. These startups are creating new job opportunities for ML professionals and are contributing to the growth of the Indian job market.
- 4. Upskilling opportunities: With the increasing demand for ML skills, many Indian professionals are opting to upskill themselves in ML. There are many online courses and programs available in India that offer training in ML, and professionals can take advantage of these to improve their career prospects.

Overall, ML is impacting the Indian job market in a positive way, and the trend is expected to continue in the coming years. With the development of new ML technologies and the increasing adoption of ML by Indian companies, there will be many job opportunities for skilled ML professionals in the future.



Internship Process in a nutshell



Internship Process in a nutshell

Prerequisites of this program

Participants from CSE/IT/MCA/BCA/BSc IT/ECE background are eligible to join this program, even if any person who is planning to sit in placement drive(s) or planning to switch in Data Science domain then this program will be very much helpful. It is to note that we expect attendee to have a prior knowledge of Python programming skills.

Infrastructural Requirements

We expect participant(s) to have

- 1. A laptop with Microsoft Windows configuration with minimum 8GB RAM.
- 2. Laptop Charger/ Adapter for charging purpose.
- 3. Internet Connectivity.
- 4. Smartphone (4G/5G)

Post Training Deliverables

Every participant will get all under mentioned deliverables

- 1. 25 hours training by specialized trainer.
- 2. Offer Letter
- 3. Certificate of Internship with Project Mentioning
- 4. Study Material / Classroom Material
- 5. Guidance for Entrepreneurship in chosen field or employment support.
- 6. Chance to assist our trainer in our workshop(s) at IISc, IITs, NITs etc.

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Course & Content

All of the sessions will be practical oriented, kindly look on the syllabus which we are going to cover during training days.

Session 1

Introduction to Machine Learning What is Machine Learning? Types of Machine Learning How Machine Learning works? Usage of Machine Learning.

Session 2 (Revision)

Introduction to Python Programming Introduction to Python and Anaconda Working on Jupyter IDE Conditional statements in Python Different types of data List, Tuple Dictionary Loops

Session 3

Function & Packages
Function
Packages
Installing different packages of Python

Session 4

Working on Various Python Libraries NumPy Pandas Matplotlib Scikit-learn

Session 5

Working on NumPy Introduction to Numpy Array Creating arrays of different Dimensions Indexing Data processing using Array

Session 6

Data Analysis using Pandas
Introduction to Pandas
Data Type of Pandas
Creating Dataframe using Pandas
Importing Dataset using Pandas
Various operations on data using Pandas tools

Session 7

Data visualization using Matplotlib
Plotting data using Matplotlib library
Using various tools of Matplotlib
Types of Graph
Implementation of different types of Graphs

Session 8

Applying Algorithms on Dataset using Scikit-learn Data splitting Using different algorithms for dataset Prediction Score check

Session 9

Machine Learning algorithms
Regression analysis
Simple linear regression
Multi linear regression
Classification
Binary class classification
Multi class classification
Support Vector Machine
KNN algorithm

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Projects

- 1. Area Price Prediction Project
- 2. Gender Classification Project
- 3. Iris Flower Species Classification Project
- 4. Digit Recognition Project
- 5. Survival Prediction on Titanic Project
- 6. Object Recognition Project
- 7. Insurance Purchase Prediction Project
- 8. Project Deployment

Datasets

IRIS Dataset

BMI Male Female Dataset

MNIST Dataset

DIGIT Dataset

Titanic Dataset

CIFAR Dataset

DISCUSSION ON FINAL PROJECT

Final project & report of the same will be made by participant(s) only.

Tools Covered











Note

Eisystems Technologies reserves complete right to alter/modify above mentioned course by deleting or adding sessions in it at the time of delivery of training and attendee will not be having any issue in it as this modification/alteration can be done without any prior notification to attendee/student.

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