Machine Learning

Certification Training

IntelliPaat

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About the Program

Intellipaat offers an industry-specific Machine Learning course that focuses on all ML modules, such as Python, algorithms, statistics and probability, supervised and unsupervised learning, decision trees, random forest, linear and logistic regression, etc. With these key concepts, you will be well prepared for taking on the role of a Machine Learning Engineer. Also, it is one of the most immersive Machine Learning online courses, which includes hands-on projects and 24-hour learning support to help you gain deep expertise. So, become an ML professional and learn how to create and implement real-world projects, such as movie recommendations, chatbot creation, and more. Register now for this Machine Learning certification program!

About Intellipaat

Intellipaat is one of the leading e-learning training providers with more than 600,000 learners across 53+ countries. We are on a mission to democratize education as we believe that everyone has the right to quality education.

Our courses are delivered by subject matter experts from top MNCs, and our world-class pedagogy enables learners to quickly learn difficult topics in no time. Our 24/7 technical support and career services will help them jump-start their careers in their dream companies.

Key Features

32 HRS INSTRUCTOR-LED TRAINING

32 HRS SELF-PACED TRAINING

64 HRS REAL-TIME PROJECT WORK

LIFETIME ACCESS

24/7 TECHNICAL SUPPORT

INDUSTRY-RECOGNIZED CERTIFICATION

JOB ASSISTANCE THROUGH 80+ CORPORATE TIE-UPS

FLEXIBLE SCHEDULING

Career Support

SESSIONS WITH INDUSTRY MENTORS

Attend sessions from top industry experts and get guidance on how to boost your career growth

MOCK INTERVIEWS

Mock interviews to make you prepare for cracking interviews by top employers

GUARANTEED INTERVIEWS & JOB SUPPORT

Get interviewed by our 400+ hiring partners

RESUME PREPARATION

Get assistance in creating a world-class resume from our career services team

Why take up this course?

Do you know Machine Learning job growth is 350 percent? Also, automation has become the new face of technology. In this era, Machine Learning has evolved to be one of the hottest technologies out there. By leveraging Intellipaat's Machine Learning online training, you will be exposed to numerous job opportunities that will not only be high-paying but also learn-worthy.

Who should take up this course?

- Professionals working in the fields of Data Science, Analytics, BI, search engines, and e-commerce
- Professionals seeking a career change
- Undergraduates and freshers

Program Curriculum

Machine Learning Course Content

1. INTRODUCTION TO MACHINE LEARNING

Need of Machine Learning, introduction to Machine Learning, types of Machine Learning, such as supervised, unsupervised, and reinforcement learning, and why Machine Learning with Python? Applications of Machine Learning

2. SUPERVISED LEARNING & LINEAR REGRESSION

Introduction to supervised learning, types of supervised learning, such as regression and classification, introduction to regression, simple linear regression, multiple linear regression, assumptions in linear regression, and math behind linear regression

***Hands-on Exercise**: Implementing linear regression from scratch with Python, using Python library Scikit-Learn to perform simple linear regression and multiple linear regression, and implementing train–test split and predicting the values on the test set*

3. CLASSIFICATION & LOGISTIC REGRESSION

Introduction to classification, linear regression vs logistic regression, math behind logistic regression, detailed formulas, the log it function and odds, confusion matrix and accuracy, true positive rate, false positive rate, and threshold evaluation with ROCR

***Hands-on Exercise**: Implementing logistic regression from scratch with Python, using Python library Scikit-Learn to perform simple logistic regression and multiple logistic regression, and building a confusion matrix to find out accuracy, true positive rate, and false positive rate*

4. DECISION TREE & RANDOM FOREST

Introduction to tree-based classification, understanding a decision tree, the impurity function, entropy, understanding the concept of information gain for the right split of node, the Gini index, overfitting, pruning, pre-pruning, post-pruning, cost-complexity pruning, introduction to ensemble techniques, understanding bagging, introduction to random forests, and finding the right number of trees in a random forest

***Hands-on Exercise**: Implementing a decision tree from scratch in Python, using Python library Scikit-Learn to build a decision tree and a random forest, and visualizing the tree and changing the hyperparameters in the random forest*

5. NAÏVE BAYES & SUPPORT VECTOR MACHINES (SELF-PACED)

Introduction to probabilistic classifiers, understanding Naïve Bayes, math behind the Bayes theorem, understanding support vector machine (SVM), Kernel functions in SVM, and math behind SVM

***Hands-on Exercise**: Using Python library Scikit-Learn to build a Naïve Bayes classifier and a support vector classifier*

6. UNSUPERVISED LEARNING

Types of unsupervised learning, such as clustering and dimensionality reduction, types of clustering, introduction to k-means clustering, math behind k-means, and dimensionality reduction with PCA

***Hands-on Exercise**: Using Python library Scikit-Learn to implement k-means clustering and implementing PCA (principal component analysis) on top of a dataset*

7. NATURAL LANGUAGE PROCESSING & TEXT MINING (SELF-PACED)

Introduction to Natural Language Processing (NLP), introduction to text mining, importance and applications of text mining, how NLP works with text mining, writing and reading to/from word files, OS modules, Natural Language Toolkit (NLTK) environment, text mining and its cleaning and pre-processing, and text classification

***Hands-on Exercise**: Learning Natural Language Toolkit and NLTK Corpora, reading and writing .txt files from/to a local drive, and reading and writing .docx files from/to a local drive*

8. INTRODUCTION TO DEEP LEARNING

Introduction to Deep Learning with neural networks, biological neural network vs artificial neural network, understanding perceptron learning algorithm, introduction to Deep Learning frameworks, and TensorFlow constants, variables, and place-holders

9. TIME SERIES ANALYSIS (SELF-PACED)

What is time series? Its techniques and applications, time series components, moving average, smoothing techniques, exponential smoothing, univariate time series models,

multivariate time series analysis, the ARIMA model, time series in Python, sentiment analysis in Python (Twitter sentiment analysis), and text analysis

***Hands-on Exercise**: Analyzing time series data, identifying the sequence of measurements that follow a non-random order to recognize the nature of phenomenon, and forecasting the future values in the series*

Project Work

Machine Learning Projects

Analyzing the Trends of COVID-19 with Python

In this project, you will be using Pandas to accumulate data from multiple data files, Plotly to create interactive visualizations, and Facebook's Prophet library to make time series models, and visualizing the prediction by combining these technologies.

Customer Churn Classification

This project will help you get more familiar with Machine Learning algorithms. You will be manipulating data to gain meaningful insights, visualizing data to figure out trends and patterns among different factors, and implementing algorithms such as linear regression, decision trees, and Naïve Bayes.

Creating a Recommendation System for Movies

You will be creating a recommendation system for movies by working with rating prediction, item prediction, user-based methods in k-nearest neighbor, matrix factorization, decomposition of singular value, collaboration filtering, business variables overview, etc. Two approaches you will use here are memory-based and model-based.

Case Study 1 - Decision Tree

Conducting this case study will help you understand the structure of a dataset (PIMA Indians Diabetes database) and create a decision tree model based on it by making use of Scikit-Learn.

Case Study 2 - Insurance Cost Prediction (Linear Regression)

In this case study, you will understand the structure of a medical insurance dataset, implement both simple and multiple linear regressions, and predict values for the insurance cost.

Case Study 3 - Diabetes Classification (Logistic Regression)

Through this case study, you will come to understand the structure of a dataset (PIMA Indians Diabetes dataset), implement multiple logistic regressions and classify, fit your model on the test and train data for prediction, evaluate your model using confusion matrix, and then visualize it.

Case Study 4 - Random Forest

You will be creating a model that would help in classifications of patients in the following ways: ‘is normal,’ ‘is suspected to have a disease,’ or ‘in actuality has the disease’ with the help of the Cardiotocography dataset.

Case Study 5 - Principal Component Analysis (PCA)

As part of the case study, you will read the sample Iris dataset. You will use PCA to figure out the number of principal features and reduce the number of features. You will have to train and test the random forest classifier algorithm to check the model performance. Find the optimal number of dimensions that will give good quality results and predict accurately.

Case Study 6 - K-means Clustering

This case study involves data analysis, column extraction from the dataset, data visualization, using the elbow method to find out the appropriate number of groups or clusters for the data to be segmented, using k-means clustering, segmenting the data into *k* groups, visualizing a scatter plot of clusters, and many more.

Certification

After the completion of the course, you will get a certificate from Intellipaat.

Success Stories

Kevin K Wada

Thank you very much for your top-class service. A special mention should be made for your patience in listening to my queries and giving me a solution, which was exactly what I was looking for. I am giving you a 10 on 10!

Sampson Basoah

The Intellipaat team helped me in selecting the perfect course that suits my profile. The whole course was practically oriented, and the trainers were always ready to answer any question. I found this course to be impactful. Thank you.

Rich Baker

This Machine Learning with Python course was very comprehensive, well-planned, extremely organized, and elaborate. Besides, the assignments and projects that had to be solved after the program really helped in testing my skills and knowledge acquired.

Vishal Pentakota

The best part of this online course was the series of hands-on demonstrations the trainer performed. Not only did he explain each concept theoretically, but he also implemented all those concepts practically. Great job! A must go for beginners.

Shreyashkumar Limbhetwala

I want to talk about the rich LMS that Intellipaat's Machine Learning training offered. The extensive set of PPTs, PDFs, and other related course material were of the highest quality, and due to this, my learning with Intellipaat was excellent. I could clear the certification in the first attempt.

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