Machine Learning

DATA AND
ARTIFICIAL INTELLIGENCE

Program Introduction

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About Simplilearn

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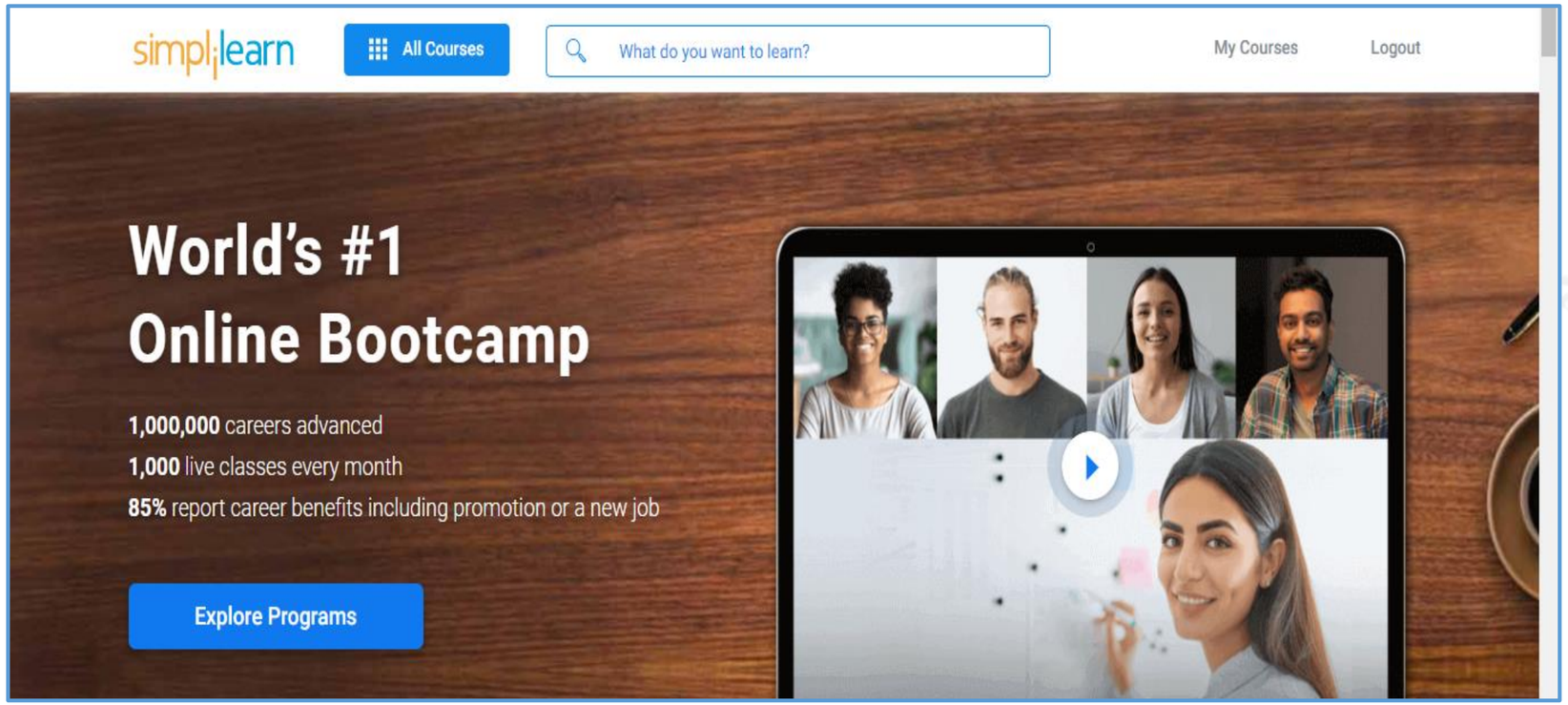
Simplilearn

Simplilearn has focused on its digital economy skills for over a decade. It is now the world's most popular online bootcamp.



Simplilearn

Simplilearn provides:

- Live virtual classes (LVCs)

- Self-paced learning content

- Interactive labs

- Real-time, scenario-based projects

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Introduction to Machine Learning

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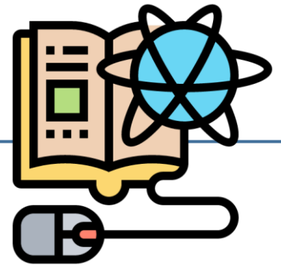
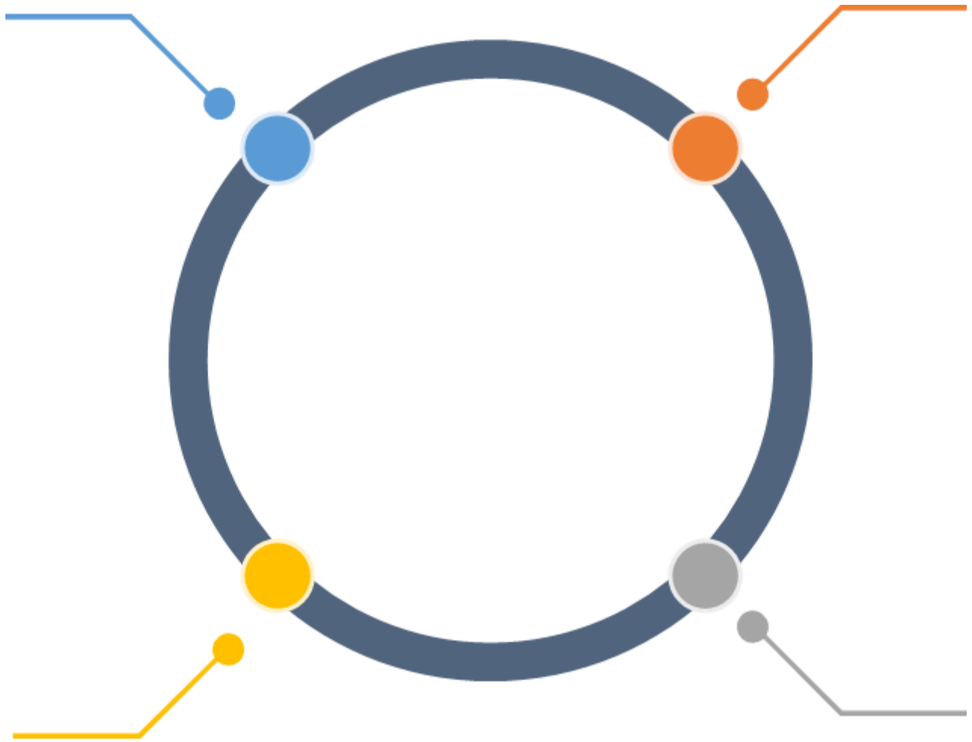
What Is Applied Machine Learning?



- The implementation of machine learning to a particular data-related problem is known as machine learning.
- It uses techniques and theories from mathematics, statistics, computer science, domain knowledge, and information science to build the model.
- Machine learning can be used to solve any problem with probabilistic elements, but it is particularly helpful for manipulating and interpreting large amounts of statistically produced data.

Benefits of Machine Learning

Various uses:
Its usage can be seen in a variety of fields, including healthcare, banking, as well as science and technology.



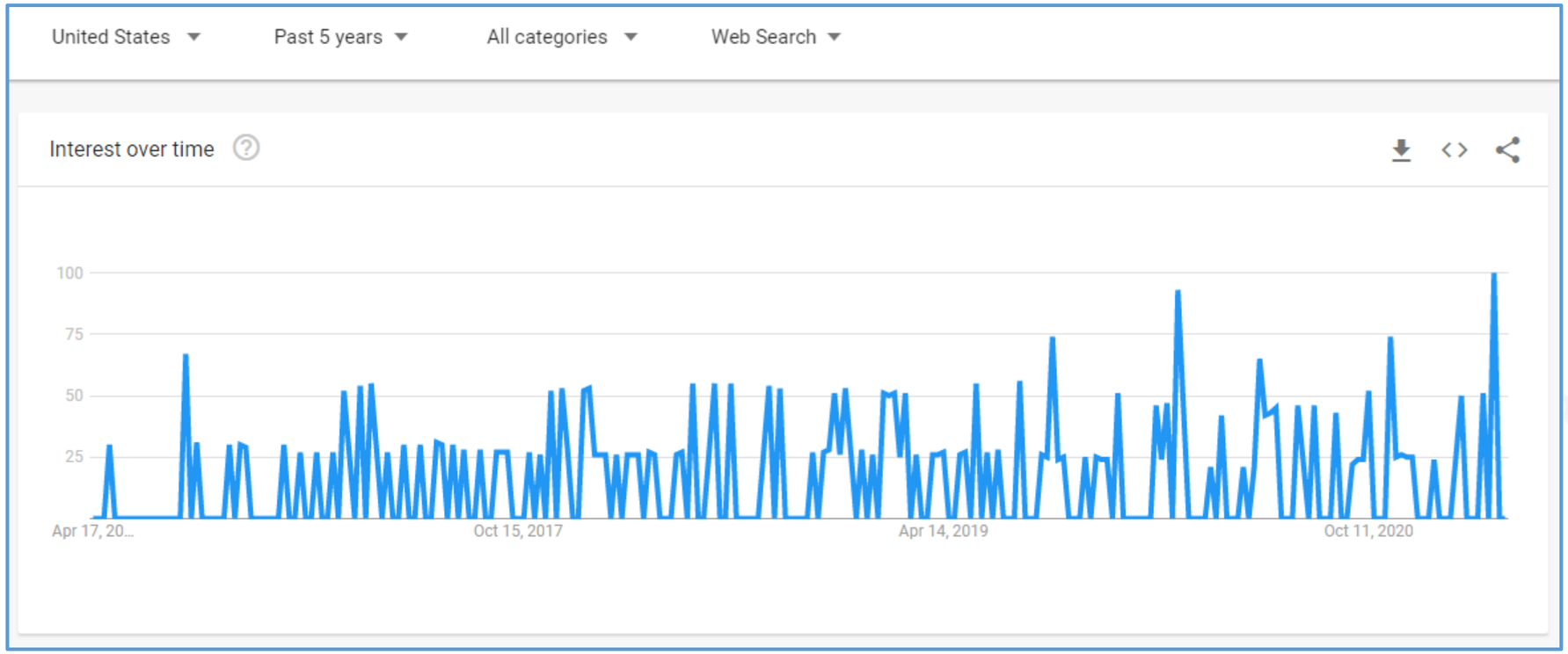
Automation:
It means providing machines with the ability to learn, allowing them to make decisions and self-improve algorithms.

Handles data:
It allows users to handle a large amount of data.

Handles different types of data:
It is capable of managing and processing any form of data that normal systems can't.

Demand for Machine Learning

The demand for machine learning is rapidly increasing. Machine learning is expected to continue to grow significantly in the future.

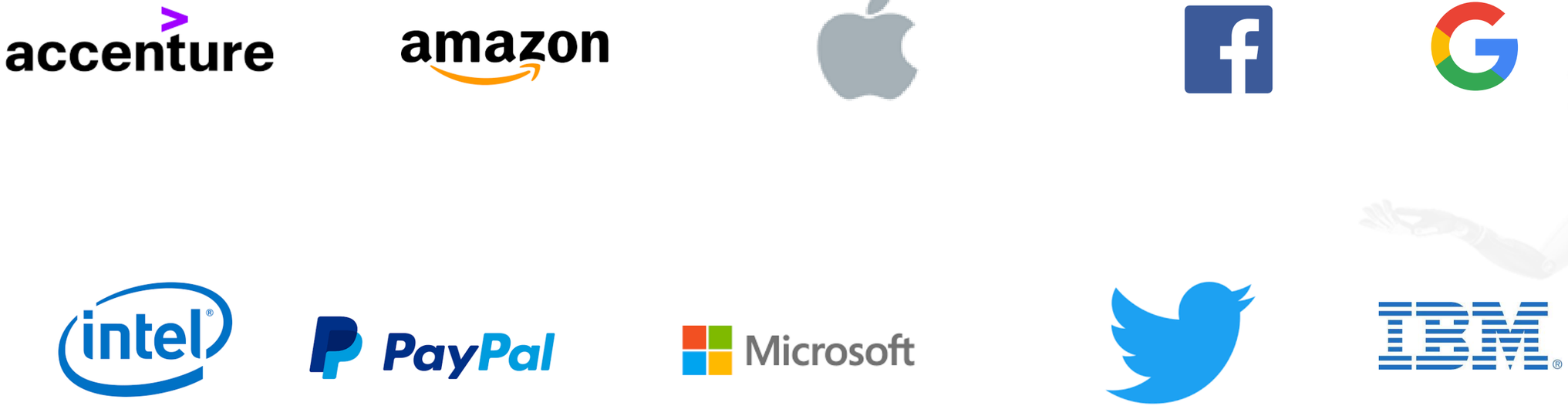


Search trend for applied machine learning in the last five years

Source: https://trends.google.com/trends/?geo=US

Companies Hiring Applied Machine Learning Engineers

There are many companies around the world that hire applied machine learning engineers. These include:



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Simplilearn Program Features

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Program Features

The blended learning program is a combination of:

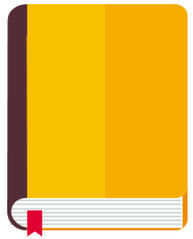
Self-paced learning content

Live virtual classes (LVCs)

Hands-on exercises

Program Features

The program contains different features listed below:



Theoretical concepts

Case studies

Integrated labs

Projects

Program Features

Class sizes are limited to foster maximum interaction.

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Learning Path

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Target Audience

Anyone who aspires to be a data scientist must have an understanding of programming in any one of the popular languages. The target audience includes:

- Programmers
- Software developers
- Analysts
- Learning enthusiasts

Applied Machine Learning Expert

For instance, if an associate programmer who recently graduated as an engineer decides to become an applied machine learning expert, they can do so after completing this program.

Associate Programmer

NumPy matplotlib scikit learn TensorFlow

K Seaborn

Applied Machine Learning Expert

Course Outline

1

Course Introduction

2

Introduction to Machine Learning

3

Supervised Learning: Regression and Classification

4

Decision Trees and Random Forest

Course Outline

5 Unsupervised Learning

6 Time Series Modeling

7 Ensemble Learning

8 Recommender Systems

Learning Path: Lesson 1

Instructor-Led Classes

Self-Paced Learning Content

Course Introduction

- Lessons and components
- Program features and course outline
- Walk through of Jupyter lab demo

Learning Path: Lesson 2

Instructor-Led Classes

Self-Paced Learning Content

Introduction to Machine Learning

- Emergence of artificial intelligence
- Relationship between AI, ML, and data science
- Machine learning approach

Learning Path: Lesson 3

Instructor-Led Classes

Self-Paced Learning Content

Supervised Learning: Regression and Classification

- Supervised learning: process flow
- Types of regression algorithms
- Understanding the Maximum Likelihood Estimation
- Naive Baye's theorem
- Model evaluating using accuracy score and confusion matrix

Learning Path: Lesson 4

Instructor-Led Classes

Self-Paced Learning Content

Decision Trees and Random Forest

- Decision tree
- Overfitting and pruning
- Random forest
- Bagging and bootstrapping

Learning Path: Lesson 5

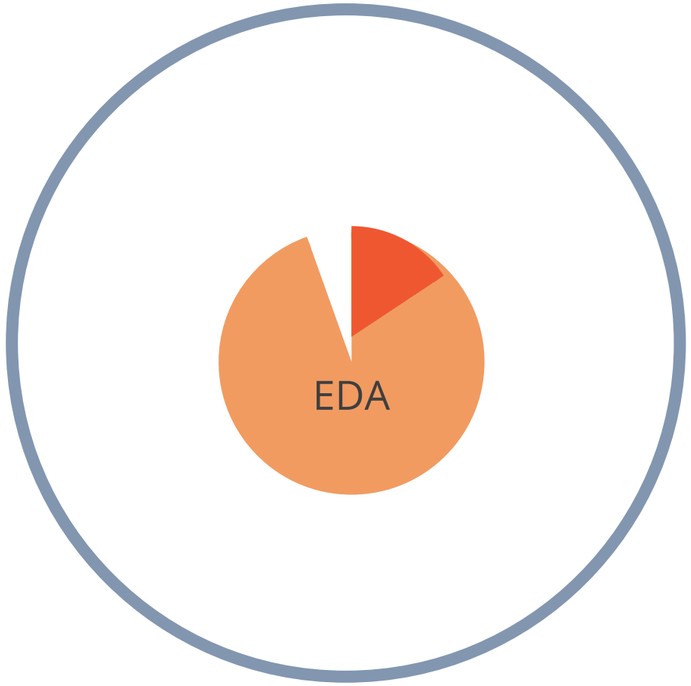
Instructor-Led Classes

Self-Paced Learning Content

Unsupervised Learning

- Unsupervised learning - process flow
- Clustering
- K-means clustering
- Elbow method
- Hierarchical clustering

Learning Path: Lesson 6



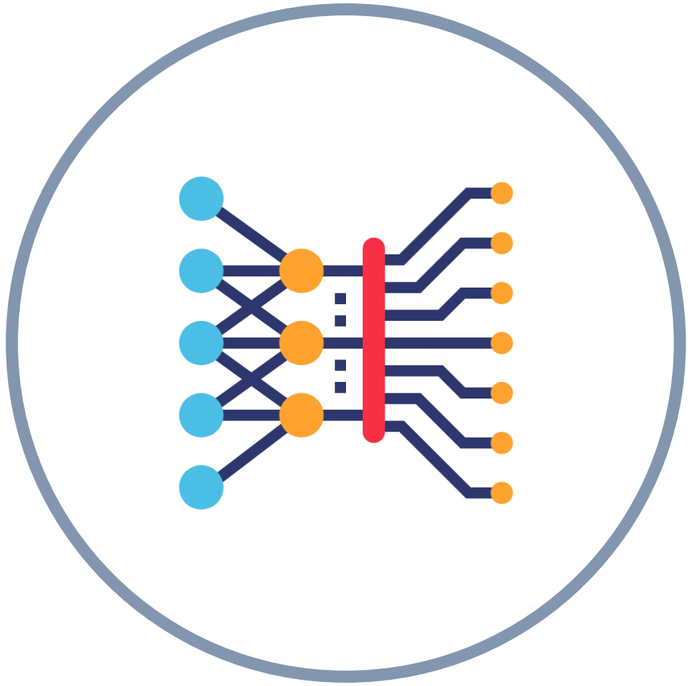
Instructor-Led Classes

Self-Paced Learning Content

Time Series Modeling

- What is time series?
- Time plot
- Important terms related to time series data
- Stationarity check

Learning Path: Lesson 7



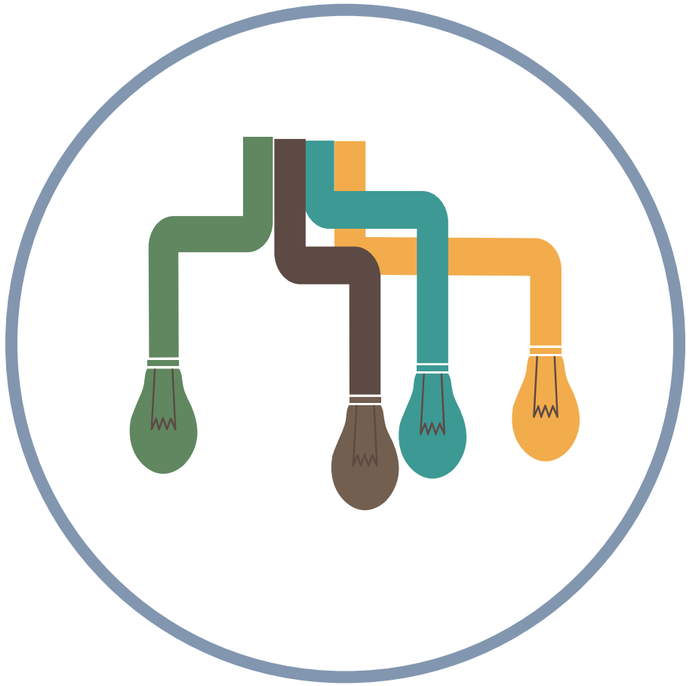
Ensemble Learning

- What is ensemble learning?
- Working of ensemble learning
- Ensemble learning methods
- Types of ensemble methods

Instructor-Led Classes

Self-Paced Learning Content

Learning Path: Lesson 8



Instructor-Led Classes

Self-Paced Learning Content

Recommender Systems

- What is a recommender system?
- Popularity based recommender system
- Building an end-to-end recommender system
- Using the surprise module

Program Components

Program Components

E-books: All lessons are available as PDF files to download and use as quick reference guides

Assisted practices: To assist you in developing abilities that will make you an asset to any business

Assessments: There are over 100 questions to assess your knowledge

Projects: Lesson-end projects and course-end projects to develop your machine learning skills by solving real-life, industry-based projects

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Let's get started!