Machine Learning Bootcamp

Description

Machine Learning training bootcamp is a 3-day technical training course that covers the fundamentals of machine learning, a form and application of artificial intelligence (AI).

Machine learning helps to automate the data analysis process by enabling computers, machines and IoT to learn and adapt through experience applied to specific tasks without explicit programming.

Attendees will learn, comprehend and master ideas on machine learning concepts, key principles, techniques including: supervised and unsupervised learning, mathematical and heuristic aspects, modeling to develop algorithms, prediction, linear regression, clustering, classification, and prediction.

Learn differences and similarities between Machine Learning, Artificial Intelligence, Deep Learning, Data Mining and Data Warehouse. Artificial Intelligence uses models built by Machine Learning to create intelligent behavior applied to businesses, marketing and sales, operations, autonomous cars, games and industrial automation by prediction based on rules and using programming languages and algorithms.

Machine learning based on artificial intelligence provides the ability to learn about newer data sets without being programmed explicitly using methods of data analysis. Machine Learning takes advantages of Data Mining techniques, statistics, other key principles and learning algorithms to build models to predict future outcomes. Math and programming are the basis for many of the machine learning algorithms. Using machine learning as a tool, the machine must automatically learn the parameters of models from the data. Using larger datasets, better accuracy and performance is achieved.

Machine learning and data mining can use the same key algorithms to discover patterns in your data and dataset. In machine learning, the computers, machines and IoT devices must automatically learn the parameters of models from the data using self-learning algorithms to reveal insights and provide feedback in near real-time.
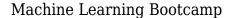
Delegates will learn

- about Artificial Intelligence (AI), Machine Learning (ML) and Deep Learning (DL)
- to list similarities and differences between AI, Machine Learning and Data Mining
- how Artificial Intelligence uses data to offer solutions to existing problems
- To explore how Machine Learning goes beyond AI to offer data necessary for a machine to learn, adapt and optimize
- To clarify how Data Mining can serve as foundation for AI and machine learning to use existing information to highlight patterns
- To list the various applications of machine learning and related algorithms
- how to classify the types of learning such as supervised and unsupervised learning
- To implement supervised learning techniques such as linear and logistic regression
- To use unsupervised learning algorithms including deep learning, clustering and recommender systems (RS) used to help users find new items or services, such as books, music, transportation, people and jobs based on information about the user or the recommended item
- about classification data and Machine Learning models
- To select the best algorithms applied to Machine Learning
- To make accurate predictions and analysis to effectively solve potential problems
- List Machine Learning concepts, principles, algorithms, tools and applications
- the concepts and operation of support neural networks, vector machines, kernel SVM, naive bayes, decision tree classifier, random forest classifier, logistic regression, K-nearest neighbors, K-means and clustering
- Comprehend the theoretical concepts and how they relate to the practical aspects of machine learning
- to model a wide variety of robust machine learning algorithms including deep learning, clustering and recommendation systems

Outline

The Basics of Machine Learning

Machine Learning Techniques, Tools and Algorithms

Data and Data Science

Review of Terminology and Principles

Applied Artificial Intelligence (AI) and Machine Learning

Popular Machine Learning Methods

Learning Applied to Machine Learning

Principal Component Analysis

Principles of Supervised Machine Learning Algorithms

Principles of Unsupervised Machine Learning

Regression Applied to Machines Learning

Principles of Neural Networks

Large Scale Machine Learning

Introduction to Deep Learning

Applying Machine Learning

Overview of Algorithms

Overview of Tools and Processes