

## **Introduction to Machine Learning**

**Modality: Self-Paced Learning**

**Duration: 10 Hours**

### **About this Course:**

This course will provide you a foundational understanding of machine learning models (logistic regression, multilayer perceptron's, convolutional neural networks, natural language processing, etc.) as well as demonstrate how these models can solve complex problems in a variety of industries, from medical diagnostics to image recognition to text prediction. In addition, we have designed practice exercises that will give you hands-on experience implementing these data science models on data sets. These practice exercises will teach you how to implement machine learning algorithms with Python, open-source libraries used by leading tech companies in the machine learning field (e.g., Google, NVIDIA, Coca Cola, eBay, Snapchat, Uber and many more).

### **Course Objectives:**

- Understand the formulation of well-specified machine learning problems.
- Learn how to perform supervised and reinforcement learning, with images and temporal sequences.
- Overview: AI and Machine Learning
- Linear Regression
- Gradient Descent
- Genetic Algorithms
- Advanced Genetic Algorithms

### **Format of this Course:**

This course includes lectures, exercises, and labs.

### **Recommended Prerequisites:**

Computer programming (python); Calculus; Linear Algebra

### **Course Outline:**

This Course Includes:

- Course Introduction
- Overview: AI and Machine Learning
- Linear Regression
- Gradient Descent

- Genetic Algorithms
- Advanced Genetic Algorithms