Enthought

ACADEMY

Machine Learning
for Scientists & Engineers

About This Course

This is a hands-on course. There will be 20 hours of instruction, exercises, and breaks. In the end, you will not only have learned new concepts, but practiced them.

This course counts toward the Machine Learning Track and Manager Track certifications in Enthought Academy.

Certificate Awarded Upon Completion Of Course

Course Overview

Machine Learning for Scientists & Engineers provides scientists and engineers with a practical introduction to classical machine learning using scikit-learn.

The course focuses primarily on supervised learning, starting with regression and then moving into classification.

Some unsupervised machine learning strategies will also be covered.

This course builds a solid foundation of the basics of machine learning, using problems drawn from science and engineering data sets.

Packages: scikit-learn, seaborn

Lectures

Introduction to AI/ML
Basic Terminology, Models

Introduction to scikit-learn
API, ML Workflow

Regression
Regression Models, Scoring

Feature Engineering I
Univariate & Bivariate Analysis

Feature Engineering II
Multivariate & Interaction Analysis

Feature Selection & Tuning
Regularization, Hyperparameters

Model Selection
GLM. SVM, Decision Trees, Ensemble

Classification I
Classification Models, Scoring

Classification II
Classification Workflow

Clustering
Algorithms

Prerequisites

This course requires basic proficiency with Python and the scientific Python stack. Some practical experience with Jupyter Notebooks, NumPy (ndarrays), Pandas (DataFrames), and scientific visualization in Python using Matplotlib are essential to working with the code and concepts presented in this course.

If you have taken Enthought's **Python Foundations for Scientists & Engineers**, you have the requisite background knowledge for this course.

About Our Instructors

Enthought instructors have advanced degrees in scientific fields such as physics engineering, computer science, and mathematics, and all have extensive experience through research and consulting in applying Python to solve complex problems across a range of industries allowing them to bring their real world experience to the classroom every day.

By Scientists & Engineers
For Scientists & Engineers

More info at **enthought.com/academy**