17.0.2

Module 17 Roadmap

Looking Ahead

In 2019, more than 19 million Americans had at least one unsecured personal loan. That's a record-breaking number! Personal lending is growing faster than credit card, auto, mortgage, and even student debt. With such incredible growth, FinTech firms are storming ahead of traditional loan processes. By using the latest machine learning techniques, these FinTech firms can continuously analyze large amounts of data and predict trends to optimize lending.

In this module, you'll use Python to build and evaluate several machine learning models to predict credit risk. Being able to predict credit risk with machine learning algorithms can help banks and financial institutions predict anomalies, reduce risk cases, monitor portfolios, and provide recommendations on what to do in cases of fraud.
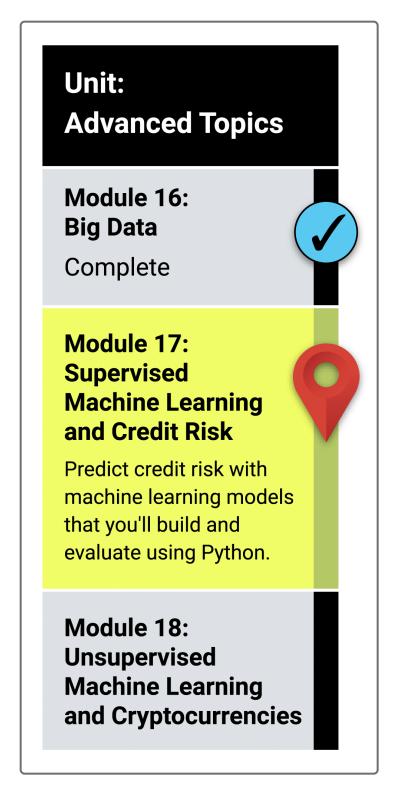
What You Will Learn

By the end of this module, you will be able to:

- Explain how a machine learning algorithm is used in data analytics.
- Create training and test groups from a given data set.
- Implement the logistic regression, decision tree, random forest, and support vector machine algorithms.
- Interpret the results of the logistic regression, decision tree, random forest, and support vector machine algorithms.
- Compare the advantages and disadvantages of each supervised learning algorithm.
- Determine which supervised learning algorithm is best used for a given data set or scenario.
- Use ensemble and resampling techniques to improve model performance.

Planning Your Schedule

Here's a quick look at the lessons and assignments you'll cover in this module. You can use the time estimates to help pace your learning and plan your schedule:

- Introduction to Module 17 (15 minutes)

- Machine Learning Environment (30 minutes)

- Supervised Learning (1 hour)

- Logistic Regression (1 hour)

- Classification Model Validation (1 hour)

- Support Vector Machines (1 hour)

- Data Preprocessing in Machine Learning (1 hour)

- Decision Trees (1 hour)

- Ensemble Learning and Random Forests (1 hour)

- Bagging and Boosting (2 hours)

- Techniques to Resolve Class Imbalance (2 hours)

- Application (5 hours)

**Unit:
Advanced Topics**

**Module 16:
Big Data**

Complete ✓

**Module 17:
Supervised
Machine Learning
and Credit Risk**

Predict credit risk with machine learning models that you'll build and evaluate using Python.

**Module 18:
Unsupervised
Machine Learning
and Cryptocurrencies**