View Full Course Details including Latest Schedule Online

PYTHON
Machine Learning with Python

BONUS! Cyber Phoenix Subscription Included: All Phoenix TS students receive complimentary ninety (90) day access to the Cyber Phoenix learning platform, which hosts hundreds of expert asynchronous training courses in Cybersecurity, IT, Soft Skills, and Management and more!

Course Overview

This 3 day, instructor lead and hands-on machine learning course advances your data analysis skills into the realm of real-world data science. This course will teach participants how to:

- Address business needs and identifying new business opportunities using machine learning
- Work with missing values, outlines, and duplicate records with Python
- Implement hypothesis testing for model evaluation analysis
- Utilize both supervised and unsupervised machine learning
- Build a linear regression model with Python
- Build a classification model with Python
- Use the K-means clustering method for cluster analysis with Python

Schedule

Currently, there are no public classes scheduled. Please contact a Phoenix TS Training Consultant to discuss hosting a private class at 301-258-8200.

Program Level

Advanced

Training Delivery Methods

Group Live

Duration

5 Days / 32 hours Training

CPE credits

26 NASBA CPE Credits

Field of Study

Information Technology

Advanced Prep

N/A

Course Registration

Candidates can choose to register for the course by via any of the below methods:

- Email: Sales@phoenixts.com
- Phone: 301-582-8200
- Website: www.phoenixts.com

Upon registration completion candidates are sent an automated course registration email that includes attachments with specific information on the class and location as well as pre-course study and test preparation material approved by the course vendor. The text of the email contains a registration confirmation as well as the location, date, time and contact person of the class.

Online enrolment closes three days before course start date.

On the first day of class, candidates are provided with instructions to register with the exam provider before the exam date.

Complaint Resolution Policy

To view our complete Complaint Resolution Policy policy please click here: Complaint Resolution Policy

Refunds and Cancellations

To view our complete Refund and Cancellation policy please click here: <u>Refund and Cancellation Policy</u>

Course Outline

Module 1: Overview of Data Science

- Data Science as a Quantitative Discipline
- Overview of a Data Mining Process Cycle

Module 2: The Data Foundation

- Data Sources
- Types of Data
- Working with Missing Values
- Working with Outliers
- Working with Duplicate Records

Module 3: Sampling and Hypothesis Testing

- Why Sampling May be Important for Machine Learning
- Sampling Techniques and Sample Bias
- Statistical Hypothesis
- Z-score, T-score and F statistic
- P-values
- Implementation of Hypothesis Testing for Model Evaluation Analysis

Module 4: Machine Learning Fundamentals

- What is Machine Learning?
- Supervised vs. Unsupervised Learning
- Overview of Supervised Machine Learning
- Overview of Unsupervised Machine Learning
- Overview of Major Steps in Building and Testing Quantitative Models

Module 5: Building a Linear Regression Model with Python

- Univariate Regression vs. Multiple Regression
- Mathematical Foundation of Linear Regression Overview: least square method vs. maximum likelihood method
- Model Assumptions
- Working with Continuous Attributes
- Dealing with Collinear Variable
- Model Subset Selection:
- Automating Model Selection Procedure
- Model Parameter Evaluation, R squared vs. adjusted R squared
- Validating the Model
- Working with Categorical Variables
- Considering Input Variable Interactions

Module 6: Example of building a Classification Model with Python

- Dealing with Imbalanced Training Sets
- Understanding Confusion Matrix
- Evaluating Binary Classifiers using ROC / AUC

Module 7: Example of Cluster Analysis with Python

- Overview of Cluster Analysis Mathematical Foundation
- K-means Clustering Method

Module 8: Dimension Reduction techniques with Python

- What is Dimension Reduction?
- The Practical Goals of Dimension Reduction Implementation
- Principal Component Analysis vs. Singular Value Decomposition
- How Many Components to Choose

Module 9: Class Conclusion

- What was Not Covered in the Class
- Big Data Analytics – the Future of Machine Learning: Main Tools and Concept

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Starting at **$1,945**

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GSA

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