Intermediate Python for Data Science & Machine Learning | Explore NumPy, Pandas, SciKit Learn, SciPy, TensorFlow & More (TTPS4876)

Category: AI, Data & Analytics | **Vendor:** Trivera Tech

Duration: 40.00 hours (5 days) **32.5 CPD Hours** **Rating:** ⭐ 4.6 (5,878 reviews)

Course Information

Delivery Format: Instructor Led - Online

Course Overview

Next Level Python for Data Science and /or Machine Learning covers the essentials of using Python as a tool for data scientists to perform exploratory data analysis, complex visualizations, and large-scale distributed processing on Big Data . In this course we cover essential mathematical and statistics libraries such as NumPy, Pandas, SciPy, SciKit-Learn, TensorFlow, as well as visualization tools like matplotlib, PIL, and Seaborn. This course is intermediate level as it assumes that attendees have solid data analytics and data science background and have basic Python knowledge. Topics are introductory in nature, but are covered in-depth, geared for experienced students

About This Course

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Who Should Attend

This course is geared for experienced data analysts, developers, engineers or anyone tasked with utilizing Python for data analytics or eventual machine learning tasks

Prerequisites & Entry Requirements

General Prerequisites:

This course is geared for experienced data analysts, developers, engineers or anyone tasked with utilizing Python for data
analytics or eventual machine learning tasks. Attending students are required to have a background in basic Python for data
science.

Learning Outcomes

Upon successful completion of this course, participants will be able to:

This course is approximately 50% hands-on, combining expert lecture, real-world demonstrations and group discussions with machine-based practical labs and exercises. Our engaging instructors and mentors are highly experienced practitioners who bring years of current 'on-the-job' experience into every classroom. Working in a hands-on learning environment, guided by our expert team, attendees will learn how to:

How to work with Python in a Data Science Context

How to use NumPy, Pandas, and MatPlotLib

How to create and process images with PIL

How to visualize with Seaborn

Key features of SciPy and Scikit Learn

Detailed Course Outline

Next Level Python for Data Science and /or Machine Learning covers the essentials of using Python as a tool for data scientists to perform exploratory data analysis, complex visualizations, and large-scale distributed processing on “Big Data”. In this course we cover essential mathematical and statistics libraries such as NumPy, Pandas, SciPy, SciKit-Learn, TensorFlow, as well as visualization tools like matplotlib, PIL, and Seaborn. This course is ‘intermediate level’ as it assumes that attendees have solid data analytics and data science background and have basic Python knowledge. Topics are introductory in nature, but are covered in-depth, geared for experienced students, Python Review (Optional)

An overview of machine learning models

The scikit-learn modules for different models

Data representation in scikit-learn

Supervised learning €œ classification and regression

Unsupervised learning €œ clustering and dimensionality reduction

Measuring prediction performance

Machine Learning with scikit-learn

How to Install Pillow

How to Load and Display Images

How to Convert Images to NumPy Arrays and Back

How to Save Images to File

How to Resize Images

How to Flip, Rotate, and Crop Images

Extensions

Using PIL/Pillow

A crash course in Matplotlib

Covariance and correlation

Conditional probability

Bayes' theorem

Visualization Using Matplotlib

Introducing the data sets

Concatenating data sets

Missing values in concatenated DataFrames

Left joins

Inner joins

Outer joins

Merging on index labels

Coding challenge

Merging, Joining and Concatenating

Optimizing a data set for memory use

Filtering by a single condition

Filtering by multiple conditions

Filtering by condition

Dealing with duplicates

Coding challenge

Filtering a DataFrame

Overview of a DataFrame

Similarities between Series and DataFrames

Sorting by index

Setting a new index

Selecting columns and rows from a DataFrame

Selecting rows from a DataFrame

Extracting values from Series

Renaming columns or rows

Resetting an index

The DataFrame Object

Data in the 21st century

Introducing pandas

A tour of pandas

Summary

Next-Level Pandas

Cluster

Constants

FFTpack

Integrate

Interpolate

Linalg

Ndimage

Spatial

SciPy

NumPy arrays

Array functions

Data processing using arrays

Linear algebra with NumPy

NumPy random numbers

NumPy Arrays and Vectorized Computation

Why Python

Python syntax compared to other programming languages

Python interpreter

Strings

Understanding lists

Tuples and Sets

Dictionaries

Parsing command-line arguments

Decision making

Loops

Iterators

Generators

Functions & Modules

Optional: Working with TensorFlow

TensorFlow overview

Keras

Getting Started with TensorFlow

Additional Course Details

Nexus Humans Intermediate Python for Data Science & Machine Learning | Explore NumPy, Pandas, SciKit Learn, SciPy, TensorFlow & More (TTPS4876) training program is a workshop that presents an invigorating mix of sessions, lessons, and masterclasses meticulously crafted to propel your learning expedition forward.

This immersive bootcamp-style experience boasts interactive lectures, hands-on labs, and collaborative hackathons, all strategically designed to fortify fundamental concepts.

Guided by seasoned coaches, each session offers priceless insights and practical skills crucial for honing your expertise. Whether you're stepping into the realm of professional skills or a seasoned professional, this comprehensive course ensures you're equipped with the knowledge and prowess necessary for success.

While we feel this is the best course for the Intermediate Python for Data Science & Machine Learning | Explore NumPy, Pandas, SciKit Learn, SciPy, TensorFlow & More (TTPS4876) course and one of our Top 10 we encourage you to read the course outline to make sure it is the right content for you.

Additionally, private sessions, closed classes or dedicated events are available both live online and at our training centres in Dublin and London, as well as at your offices anywhere in the UK, Ireland or across EMEA.

Frequently Asked Questions

Q: What delivery options are available for Intermediate Python for Data Science & Machine Learning | Explore NumPy, Pandas, SciKit Learn, SciPy, TensorFlow & More (TTPS4876)?

We offer multiple delivery formats:

- Live Instructor-Led Classroom Online (Virtual/Live Online)
- Traditional Instructor-Led Classroom Training (ILT)
- On-site delivery at your offices anywhere in United Kingdom
- Private dedicated courses customized for your team

Q: How many CPD hours does this course provide?

The 5-day Intermediate Python for Data Science & Machine Learning | Explore NumPy, Pandas, SciKit Learn, SciPy, TensorFlow & More (TTPS4876) course provides up to 32.5 CPD hours of structured learning. CPD certificates can be provided upon request.

Q: What is the duration of the Intermediate Python for Data Science & Machine Learning | Explore NumPy, Pandas, SciKit Learn, SciPy, TensorFlow & More (TTPS4876) training?

The training takes place over 5 day(s), with each day lasting approximately 40.00 hours including breaks for lunch and refreshments.

Q: Do you provide corporate training for Intermediate Python for Data Science & Machine Learning | Explore NumPy, Pandas, SciKit Learn, SciPy, TensorFlow & More (TTPS4876)?

Yes, we provide corporate training, dedicated training, and closed classes for Intermediate Python for Data Science & Machine Learning | Explore NumPy, Pandas, SciKit Learn, SciPy, TensorFlow & More (TTPS4876). Training can take place anywhere in United Kingdom including London, Manchester, Birmingham, Edinburgh, or live online allowing teams from across United Kingdom or internationally to attend.

Q: What related terms do people search for?

Popular related searches include: Python; Data Science; Data Anlaysis; Machine Learning

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Q: Why choose Nexus Human for Intermediate Python for Data Science & Machine Learning | Explore NumPy, Pandas, SciKit Learn, SciPy, TensorFlow & More (TTPS4876)?

Nexus Human is recognized as one of the leading training providers. Our trainers have won multiple awards including:

- Small Firms Best Trainer Award
- National Training Partner of the Year (Ireland) - Multiple Years
- Global Top 30 Instructor Awards (2012, 2019, 2021)
- Tech Excellence Award Nominations
- Learning Performance Institute (LPI) External Training Provider Sponsor 2024

Q: Are there any discount codes available?

Yes! Use discount code **PENPAL5** when booking your Intermediate Python for Data Science & Machine Learning | Explore NumPy, Pandas, SciKit Learn, SciPy, TensorFlow & More (TTPS4876) training. Please note that only one discount code can be used per booking and cannot be combined with other special offers.

Nexus Human

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