



## Python Foundations for Finance workshops

### At a glance:

- Two-day Python for Finance workshop
- Up to 20 in-person or 35 online participants

### What you'll get:

- Paperback copies of my book *Advancing into Analytics*
- Approximately twelve hours of hands-on, demo-driven instruction
- Step-by-step demo notes and handouts
- Supplemental video content

### Overview

With Python officially supported in Power BI and something similar in the works for Excel, there are increasing opportunities to pair the programming language with your existing tools for financial analysis.

This two-day workshop will help your finance team make sense of it all: not just the basics of Python coding, but the powerful analytics techniques it's made possible for free.

### Workshop benefits

As part of this workshop, your team will be able to:

- Situate both Python and Excel as part of a wider data analytics stack, understanding what tool to use, when
- Build repeatable data cleaning processes and analyses using shareable, easy-to-read code
- Create window functions, resample data and perform other time series analysis of particular interest to finance professionals
- Apply statistical thinking and rigor to everyday analyses
- Get a hands-on introduction and understanding of machine learning using industry-standard software



# STRINGFEST ANALYTICS

## What makes this workshop different

There are a ton of places to learn Python these days. What distinguishes this workshop is that it's:

- **Participative.** The quicker you apply what you learn, the more likely you are to retain it. This is literally a *hands-on* workshop where attendees will have plenty of time on the keyboard to try the concepts out for themselves with demos, activities and more.
- **Authoritative.** The workshop is designed and led by me, George Mount. I run my own analytics consultancy and have published a book on analytics in Python with O'Reilly Media, the leading technical book publisher.
- **Topical.** No fake, boring data sources and examples here. Upon request, we will design the workshop to use data from your own organization or industry. In any case, we'll use a variety of real world and fun datasets.
- **Tailored.** Most analysts coming to Python have Excel as a strong point of origin. I understand the Excel community as a longtime blogger and author. I understand the needs of finance teams, with a master's degree and work experience in finance myself. This workshop is designed exactly with the needs of the typical financial analyst in mind.

Due to their hands-on and participative nature, sessions work best for groups of up to 20 in-person or 35 online participants.

## Why Python?

- An open source programming language officially supported by Microsoft and used in everything from machine learning to web development
- Conduct analyses and visualizations cumbersome to do in Excel



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## Who should attend

This workshop is designed specifically with corporate finance and FP&A analysts in mind. However, adjacent roles such as those in accounting or operations may also benefit. Some typical job titles:

- Financial analysts
- Data analysts
- Accountants
- Controllers
- Operations analysts

Ideally, attendees will have some familiarity with intermediate Excel topics such as PivotTables or lookup functions such as VLOOKUP() or XLOOKUP().

## **There is no coding experience required to attend this workshop.**

As an Excel user, you have a huge head start toward learning to code... you've arguably already been doing it!

## About your instructor

- George Mount, founder of Stringfest Analytics
- Over ten years of experience in analytics, four years as an independent consultant and trainer
- Author of *Advancing into Analytics* (O'Reilly Media, 2021)



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## Agenda

### Day One

The first day covers the basics of Python and Jupyter Notebooks along with fundamental data analysis and visualization techniques. Particular attention is paid to time series data (a specialty of Pandas which is often quite cumbersome in Excel). Labs, exercises and skills checks are placed throughout to keep the session engaging.

#### *Python language & ecosystem*

- Notebooks and programming
- Python and Excel for data analytics
- Intro to variables, lists and data types
- Intro to numpy

#### *pandas DataFrames*

- Importing and exporting to and from Excel
- Manipulating rows and columns (adding, dropping, renaming)
- Aggregating and summarizing data sources
- Merging and appending

#### *Data visualization with seaborn*

- Information design best practices
- Constructing univariate and bivariate visualizations
- Creating custom visuals and readapting work

#### *Working with time series*

- Converting and formatting dates and times
- Aggregating time series data (resampling)
- Window functions: leads, lags, moving averages

## Software

### requirements

- For best results, please have the desktop version of Excel for Windows 365 installed.
- A cloud-based instance of Python will be made available to use during the session. I'll work with your team to test the setup ahead of time.



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## **Agenda**

### **Day Two**

In the second day, we get into more specific applications of Python and particularly Pandas for finance. Starting with statistics fundamentals such as the central limit theorem (explained through live demos), we move swiftly into statistical modeling and ultimately machine learning. Plenty of hands-on practice is provided to solidify these concepts.

#### ***Python for finance***

- Analyzing missing values
- Working with hierarchical data in MultiIndex
- Calculating returns and payoffs
- Calculating moving correlations and covariances

#### ***Statistical thinking***

- The law of large numbers and expected values
- The central limit theorem and normality
- Visualizing and testing for the normal distribution
- A/B testing and the scientific method

#### ***Exploratory and confirmatory data analysis***

- Exploring a dataset through statistics and visualizations
- Statistical significance and confidence intervals
- Linear and logistic regression

#### ***Introduction to machine learning***

- Supervised vs unsupervised learning
- Classification vs regression
- Feature engineering 101
- Train/test split
- Model evaluation & iteration



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## Get started

### Day Two

Ready for your team to build rigorous, repeatable, readable data analyses for finance in Python?

Drop me a line at <https://stringfestanalytics.com/contact/> and I'll be in touch shortly to get started. To help me get an accurate proposal to you quickly, please let me know the number of participants you expect, your preference for online vs onsite, whether you have custom datasets you'd like to feature or any special requests.

I look forward on build your finance team's analytics talent with Python together.



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