“If you are considering learning Algorithmic Trading, I highly recommend this certificate program. Incredible platform with tons of resources to get you up to speed.” ***Thomas***

THE PYTHON QUANTS

START NEXT COHORT
09. SEPTEMBER 2024

CERTIFICATE IN PYTHON FOR FINANCE (CPF)

—ARTIFICIAL INTELLIGENCE, ASSET MANAGEMENT, ALGORITHMIC TRADING & COMPUTATIONAL FINANCE

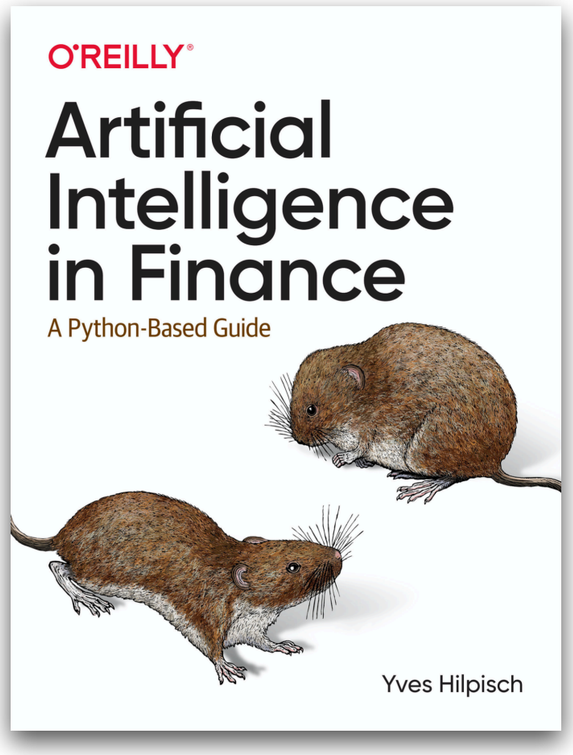
ONLINE PROGRAM | GUIDED & SELF-PACED

EXCLUSIVE
NOW INCLUDING
REINFORCEMENT LEARNING
FOR FINANCE
(BOOK & CLASS)

The AI Machine

“The holistic approach, from the basics of financial markets to the tools of programming and concrete implementation, is unique in my opinion.” ***Andreas***

CPF —DATA-DRIVEN & AI-POWERED FINANCE



Recent years have seen tremendous advances in computing, software, data science, and artificial intelligence. Problems in asset management, algorithmic trading, and computational finance that might have seem too demanding only a few years ago can today often be tackled with open source programming tools and packages running on easily scalable infrastructures in the cloud.

In quantitative finance, this has led to a shift to computational techniques from a theory-first approach. However, this also requires new tools and skills for those working in the financial industry — be it in front office, middle office or back office functions.

As in many other areas, Python has become the programming language and technology platform of choice for quantitative finance and financial data science. Some of the biggest financial institutions as well as some of the biggest hedge funds and asset management firms have implemented core portfolio management, trading, and risk management systems in Python. With the increasing importance of AI in the field, this trend for sure will accelerate.

CPF — COMPREHENSIVE ONLINE PROGRAM

With the Certificate in Python for Finance Program (with the core topics Asset Management, Algorithmic Trading, and Computational Finance) you learn the major Python skills to merge traditional finance concepts, such as Mean-Variance Portfolio Theory, Risk Parity Investing, Option Pricing by Arbitrage, or Trading based on Technical Indicators with modern approaches from Artificial Intelligence (AI), Machine Learning (ML), Deep Learning (DL), and Reinforcement Learning (RL). In addition, you will practice and master important tools for Python software development, such as IPython, JupyterLab, Git version control, Vim/Sublime code editing, Docker, cloud deployment, and more.

The classes and elements of the program include the following:

Finance with Python (9h): an introduction to finance from basic principles and a gentle introduction to Python basics based on documentation with more than 170 pages as a PDF

Python for Financial Data Science (20h): with the 2nd edition of our Python for Finance (O'Reilly) book released in late 2018, this central class is based on an updated code base

Python for Algorithmic Trading (50h): this online class is at the core of the program and is based on documentation with about 450 pages as a PDF and over 3,000 lines of Python code

Python for Computational Finance (20h): this online class is at the core of the program and is based mainly on the book ***Derivatives Analytics with Python*** (Wiley) and the 5,000+ lines of Python code accompanying it

DX Analytics (14h): this online class covers the DX Analytics derivatives pricing Python package (http://dx-analytics.com)

Python for Asset Management (26h): this online class is at the core of the program and covers Python techniques for asset management as well as important AI concepts

Python for Finance Basics (>30h): This class covers the most important Python techniques, idioms, and skills in a simplified and systematic framework. It represents the ideal way to get up to speed from the beginning — i.e. even before the program officially starts

AI & RL in Finance (55h): one class focuses on deep learning techniques for market prediction, building neural networks from scratch and applying packages such as Keras; another class focuses exclusively on reinforcement learning for trading; yet another one covers the book AI in Finance

Crypto Basics (15h): this class introduces and illustrates the main technological components the make up the crypto ecosystem (e.g. hashing, encryption, block chain, mining)

Tools & Skills (20h): this class cover important topics in setting up a Python environment, using Python and Linux development tools (IPython, VIM, Sublime Text, etc.) as well as selected best practices in coding

Tutorials (15h): exercises and test projects of different difficulty levels allow you to gain more practice and to test your skills

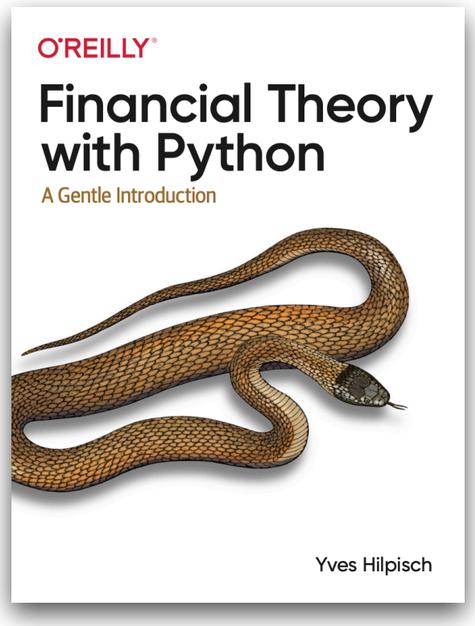
Add On Resources (>40h): the Python for Databases class covers SQL and NoSQL technologies; the Python for Excel class combines the analytical power of Python with Excel

Natural Language Processing: this brand new class introduces techniques for language processing, including those needed for Large Language Models

Final Project: program delegates optionally prepare a final project to earn a prestigious university certificate

Mathematics Basics (>40h): This **new class** covers important mathematical concepts (for example, sets, logic, derivatives, integrals, regression) in a simple, practical fashion from ground up. It serves both as a review as well as a preparation for the more involved mathematical applications in the program.

*The Python Quants Group has designed a unique online training program leading to a **Certificate in Python for Finance**. The Certificate is awarded after the successful completion of a graded final project.*



FOR PROFESSIONALS & ACADEMICS

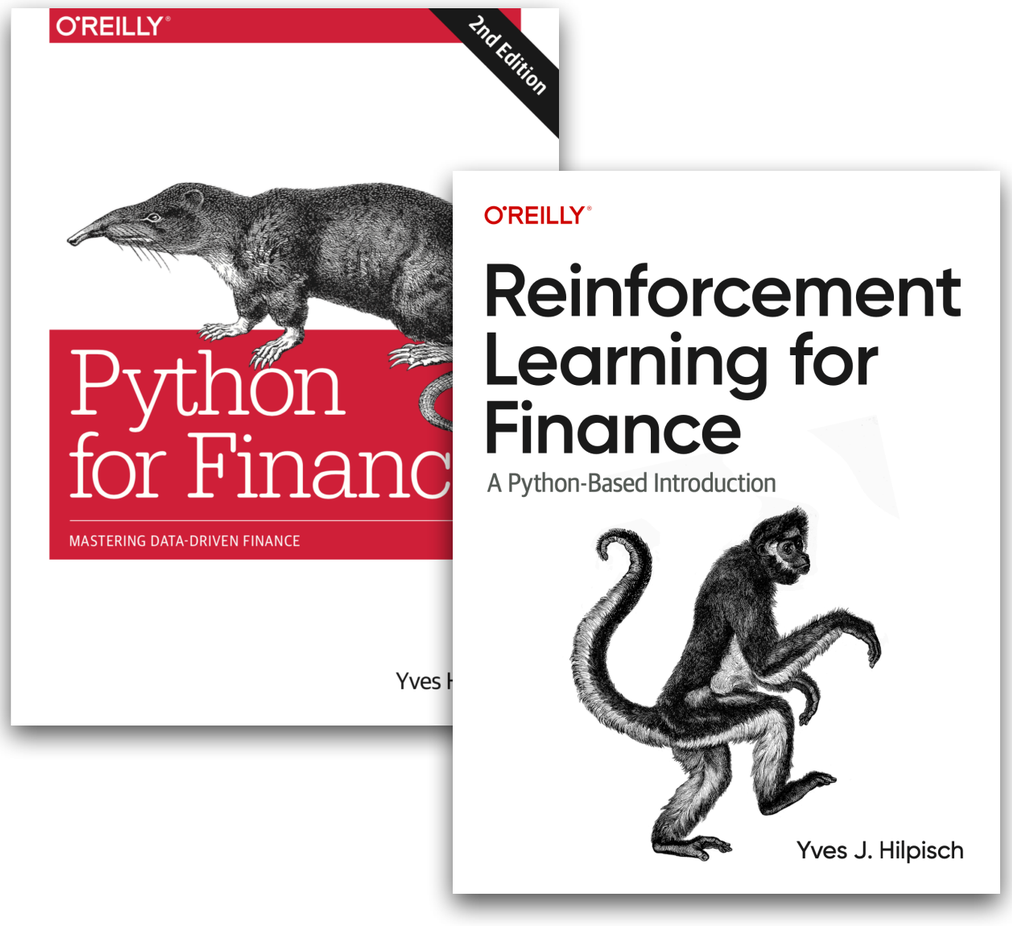
Professionals: Those already working in the industry and wanting to use Python for quantitative finance, be it in their current role or to make their next career move. We have had, for example, many delegates from leading corporate and investment banks as well as large hedge funds and asset managers.

Students & Academics: Those with educational and research interests in the field and looking for a professional online training program. The Certificate allows you to improve your chances in an ever more competitive job environment by documenting your practically relevant skills.

GUIDED & SELF-PACED

The content of CPF Program is mainly studied in a self-paced, self-directed manner over the course of **4 to 12 months**. Once the delegate feels ready, work on the final, graded project — which is required for the Certificate — can begin. The results of the project are to be documented in the form of a Jupyter Notebook. There is **no hard time limit** to finish the program or the final project. In addition, delegates also have **indefinite access to their program resources**, which are regularly updated.

During the program, delegates have access **24/7 to both our User Forum (for technical questions) and the Discord server (for all other questions)**.



BEST VALUE OFFERS

The regular fee for the CPF Program is **3,249 EUR** (all fees net of VAT if applicable). The program can be **joined at any time** and can be done in a **completely self-directed manner**. **The next live cohort starts on 09. September 2024**. Get ready for your next career move and enroll at https://cpf.tpq.io.

2,849 EUR
(until 30. August 2024)

3,249 EUR
(regular fee)

What delegates say about the CPF program:

"Great stuff! I just purchased it. It is the Holy Grail of algo trading! All the things that someone would have spent hours and hours of research on the web and on books, they are now combined in one source. Thank you 'Prometheus' for delivering 'fire' to mankind!" **Konstantinos**

"I also take the opportunity to say that you guys have the best customer service I have ever experienced in my life. You immediately reply to all emails and inquiries, let alone the world-class quality of the training material. This is the best course I have ever done in my entire life and I am recommending it to anybody." **Vito**

"Five days into the curriculum, and the value so far is already worth more than the total cost of the program. Good stuff." **Eric**

"I would like to thank you for this amazing program. Without any doubts it is the best study program I have ever participated in!" **Artem**

"I'd like to take this opportunity to congratulate you on the quality of the course. It is excellently curated and presented with a clear narrative running through. It is challenging and rewarding in equal measure. I always recommend it to colleagues." **Peter**

"I highly recommend this class to anyone who is interested in a career in finance. The class is engaging, interesting and educational while covering advanced topics of algorithmic trading and derivative pricing. Dr. Hilpisch is a masterful instructor who demonstrates a keen interest in imparting his vast knowledge to his students." **Donald**

"If you are considering learning Algo Trading, I highly recommend this certificate program. Incredible platform with tons of resources to get you up to speed. A real wealth of information and certainly worth the price." **Thomas**

PROGRAM DIRECTOR

Dr. Yves J. Hilpisch is founder and CEO of The Python Quants (http://tpq.io), a group focusing on the use of open source technologies for financial data science, artificial intelligence, algorithmic trading and computational finance. He is also founder and CEO of The AI Machine (http://aimachine.io), a company focused on AI-powered algorithmic trading. He is author of the books (included as PDFs in the program):

- Reinforcement Learning for Finance (O'Reilly)
- Financial Theory with Python (O'Reilly)
- Artificial Intelligence in Finance (O'Reilly)
- Python for Algorithmic Trading (O'Reilly)
- Python for Finance, 2nd ed. (O'Reilly)
- Derivatives Analytics with Python (Wiley)
- Listed Volatility and Variance Derivatives (Wiley)

Yves has written the financial analytics library DX Analytics (http://dx-analytics.com) and organizes conferences, bootcamps and Meetup events about Python for finance and algorithmic trading in Frankfurt, Berlin, Paris, London and New York. He has given keynote speeches at technology conferences in the United States, Europe, India, and Asia.

finaince

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