

Functional Python Programming - Create Succinct and Expressive Implementations with Python

Steven Lott



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Key Features

- Implement common functional programming design patterns and techniques in Python
- Learn how to choose between imperative and functional approaches based on expressiveness, clarity, and performance
- Apply functional Python to common Exploratory Data Analysis (EDA) programming problems

Book Description

Python's easy-to-learn and extensible abilities offer a number of functional programming features for you to bring into your workflow, especially in the realm of data science.

If you're a Python developer who wants to discover how to take the power of functional programming and bring it into your own programs then this book is essential for you, even if you know next to nothing about the paradigm. Starting with a general overview of functional concepts you'll explore common functional features such as first-class and higher-order functions, pure functions and more, and how these are accomplished in Python to give you the core foundations you'll build upon. After that, you'll discover common functional optimizations for Python to help your apps reach even higher speeds. You'll also explore data preparation techniques and data exploration in depth, along with learning how the Python standard library fits the functional programming model. Finally, to top off your journey into the world of function Python you'll at look at the PyMonad project and some larger examples to put everything into perspective.

With Functional Python Programming by your side you'll understand the core concepts of function Python, its impact on the programming workflow, and how to implement it in Python, giving you the ability to take your applications to an even higher level.

What you will learn

- Use Python's generator functions and generator expressions to work with collections in a non-strict (or lazy) manner
- Utilize Python library modules including itertools, functools, multiprocessing, and concurrent.futures for efficient functional programs
- Use Python strings with object-oriented suffix notation and prefix notation
- Avoid stateful classes by making use of families of tuples
- Design and implement decorators to create composite functions
- Use functions like max(), min(), map(), filter(), and sorted()
- Write advanced higher-order functions

About the Author

Steven F. Lott has been programming since the 70s, when computers were large, expensive, and rare. As a

contract software developer and architect, he has worked on hundreds of projects, from very small to very large. He's been using Python to solve business problems for over 10 years.

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