Numerical Python: A Practical Techniques Approach for Industry

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Leverage the numerical and mathematical modules in Python and its Standard Library as well as popular open source numerical Python packages like NumPy, SciPy, SymPy, Matplotlib, Pandas, and more to numerically compute solutions and mathematically model applications in a number of areas like big data, cloud computing, financial engineering, business management and more.

After reading and using *Numerical Python*, you will have seen examples and case studies from many areas of computing, and gained familiarity with basic computing techniques such as array-based and symbolic computing, all-around practical skills such as visualisation and numerical file I/O, general computational methods such as equation solving, optimization, interpolation and integration, and domain-specific computational problems, such as differential equation solving, data analysis, statistical modeling and machine learning.

Python has gained widespread popularity as a computing language: It is nowadays employed for computing by practitioners in such diverse fields as for example scientific research, engineering, finance, and data analytics. One reason for the popularity of Python is its high-level and easy-to-work-with syntax, which enables the rapid development and exploratory computing that is required in modern computational work.

What you'll learn

- How to work with vectors and matrices using NumPy
- How to work with symbolic computing using SymPy
- How to plot and visualize data with Matplotlib
- How to solve linear and nonlinear equations with SymPy and SciPy
- How to solve solve optimization, interpolation, and integration problems using SciPy
- How to solve ordinary and partial differential equations with SciPy and FEniCS
- How to perform data analysis tasks and solve statistical problems with Pandas and SciPy
- How to work with statistical modeling and machine learning with statsmodels and scikit-learn
- How to handle file I/O using HDF5 and other common file formats for numerical data
- How to optimize Python code using Numba and Cython

Who this book is for

This practical book is for those practicing industry coders, data scientists, engineers, financial engineers, scientists, business managers and more who use or plan to use numerical Python techniques and methods.

From reader reviews:

Ismael Roop:

Do you have favorite book? For those who have, what is your favorite's book? Reserve is very important thing for us to be aware of everything in the world. Each reserve has different aim or goal; it means that book has different type. Some people sense enjoy to spend their a chance to read a book. They are reading whatever they acquire because their hobby will be reading a book. How about the person who don't like examining a book? Sometime, man or woman feel need book whenever they found difficult problem as well as exercise. Well, probably you will require this Numerical Python: A Practical Techniques Approach for Industry.

Kate Word:

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Ralph Dell:

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Louis Chavez:

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