Oficina de Intro. a Python

Estácio Alexandrino | Prof. Rodrigo

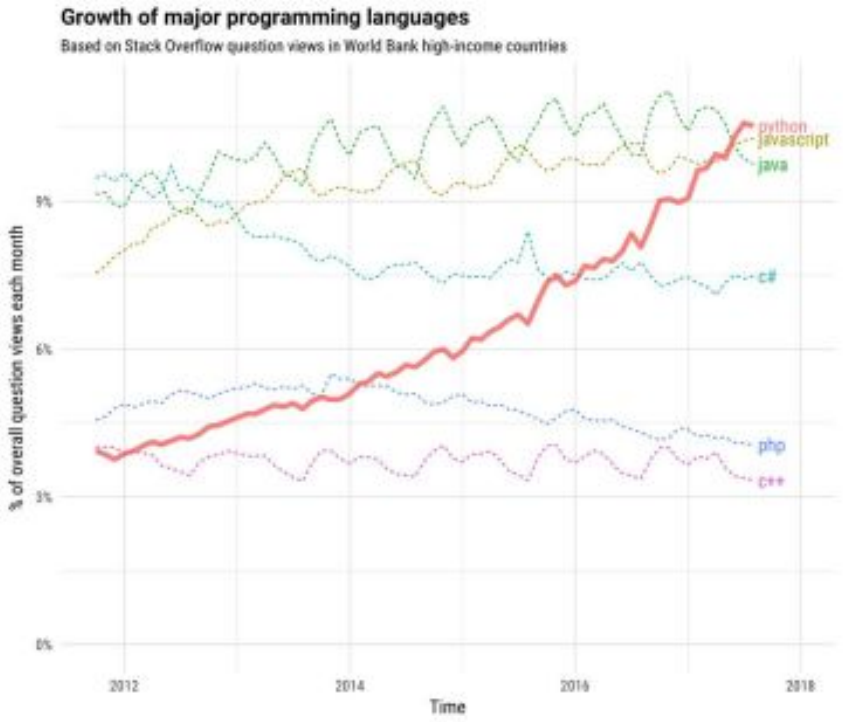
Informações sobre a oficina

- Metodologia: Tutoria durante a realização um curso online de intro. a Python
- Material: Udacity. Programming Foundations with Python. Disponível em https://www.udacity.com/course/introduction-to-python--ud1110
- 3 encontros presenciais :
  - 25/02/2019 : Apresentação do curso e orientações gerais
  - 11/03/2019 : Esclarecimento sobre dúvidas das lições 1-7
  - 25/03/2019 : Esclarecimento sobre dúvidas das lições 8-13

- Outros cursos da Udacity para alunos mais avançados na linguagem:
  - https://www.udacity.com/course/programming-foundations-with-python--ud036
  - https://www.udacity.com/course/data-structures-and-algorithms-in-python--ud513

Source: *Jason Olson. Python: The Big Picture. https://app.pluralsight.com/library/courses/python-big-picture*

Growing in Popularity



Stack Overflow (http://bit.ly/2wkMATk)

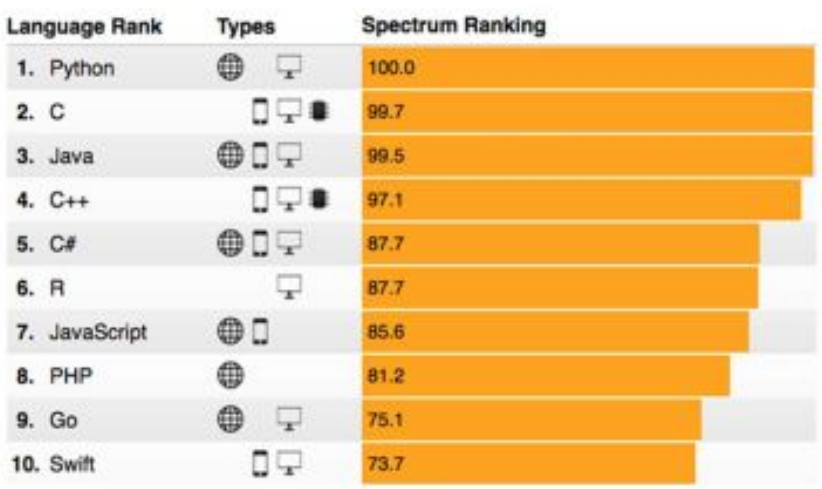
Worldwide, Sept 2017 compared to a year ago:

Rank	Change	Language	Share	Trend
1		Java	22.4 %	-0.8 %
2		Python	17.0 %	+4.0 %
3		PHP	8.7 %	-1.0 %
4		C#	8.1 %	-0.4 %
5		Javascript	8.0 %	+0.6 %
6		C++	6.8 %	-0.2 %
7		C	6.1 %	-1.1 %
8	↑	R	3.7 %	+0.6 %
9	↓	Objective-C	3.5 %	-1.4 %
10		Swift	2.9 %	-0.1 %

PYPL (http://bit.ly/2eJ2rnC)

Source: Jason Olson. Python: The Big Picture. https://app.pluralsight.com/library/courses/python-big-picture

Growing in Popularity



Language Rank	Types	Spectrum Ranking
1. Python		100.0
2. C		99.7
3. Java		99.5
4. C++		97.1
5. C#		87.7
6. R		87.7
7. JavaScript		85.6
8. PHP		81.2
9. Go		75.1
10. Swift		73.7

IEEE Spectrum (http://bit.ly/2wWgUaB)

Sep 2017	Sep 2016	Change	Programming Language	Ratings
1	1		Java	12.687%
2	2		C	7.382%
3	3		C++	5.565%
4	4		C#	4.779%
5	5		Python	2.983%
6	7	^	PHP	2.210%
7	6	v	JavaScript	2.017%
8	9	^	Visual Basic .NET	1.982%
9	10	^	Perl	1.962%
10	12	^	Ruby	1.933%

TIOBE (http://bit.ly/2mPBq5f)

Source: *Jason Olson. Python: The Big Picture. https://app.pluralsight.com/library/courses/python-big-picture*

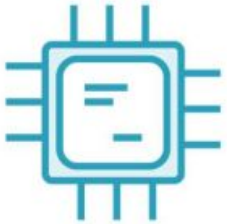
The Python Philosophy

Source: *Jason Olson. Python: The Big Picture. https://app.pluralsight.com/library/courses/python-big-picture*

When and Where is Python been used?

System Administration

Web Development



Machine Learning

Big Data

Application Scripting

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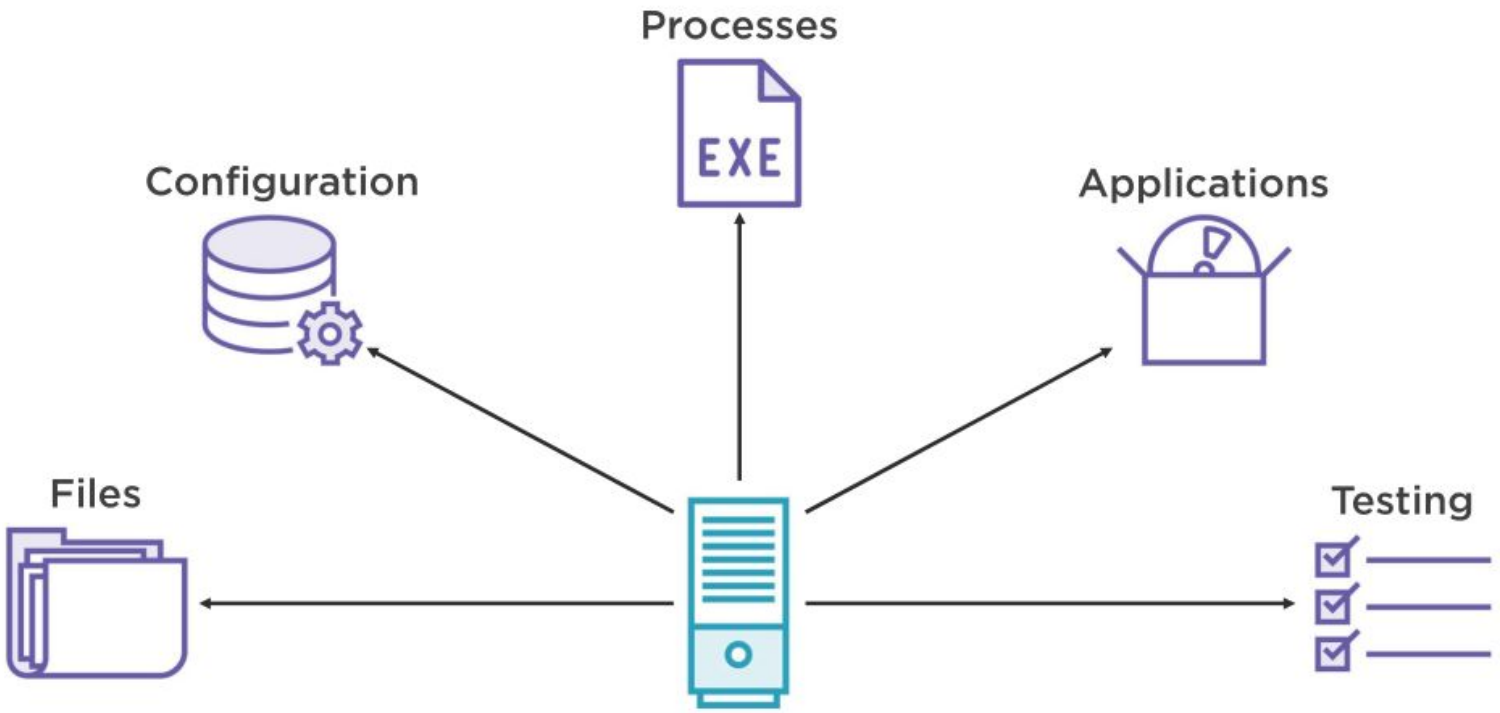
Machine Scripting and Administration



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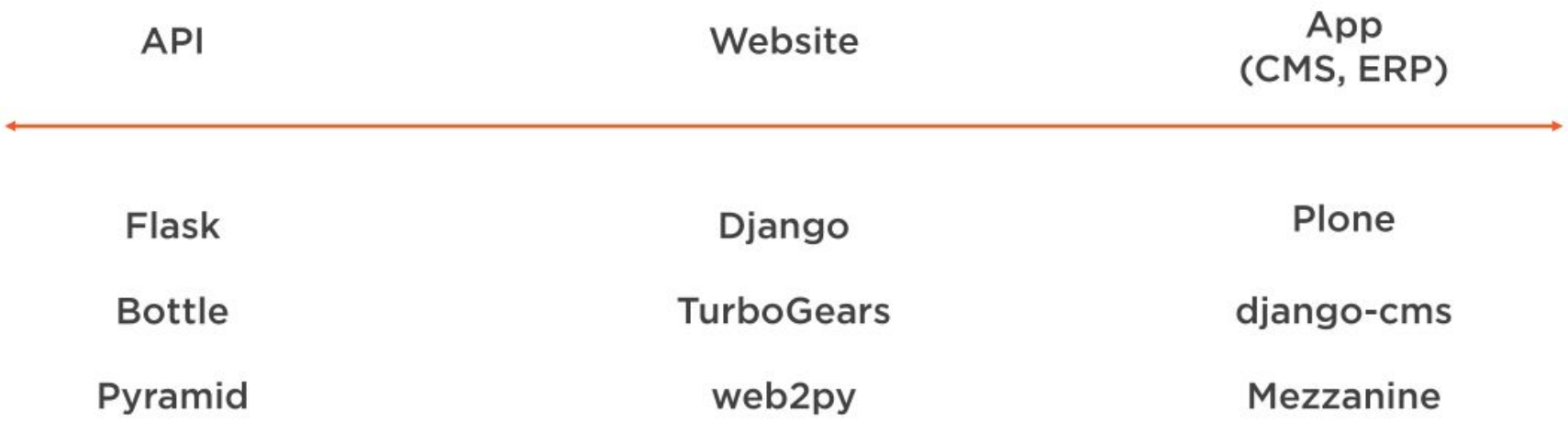
Web Development



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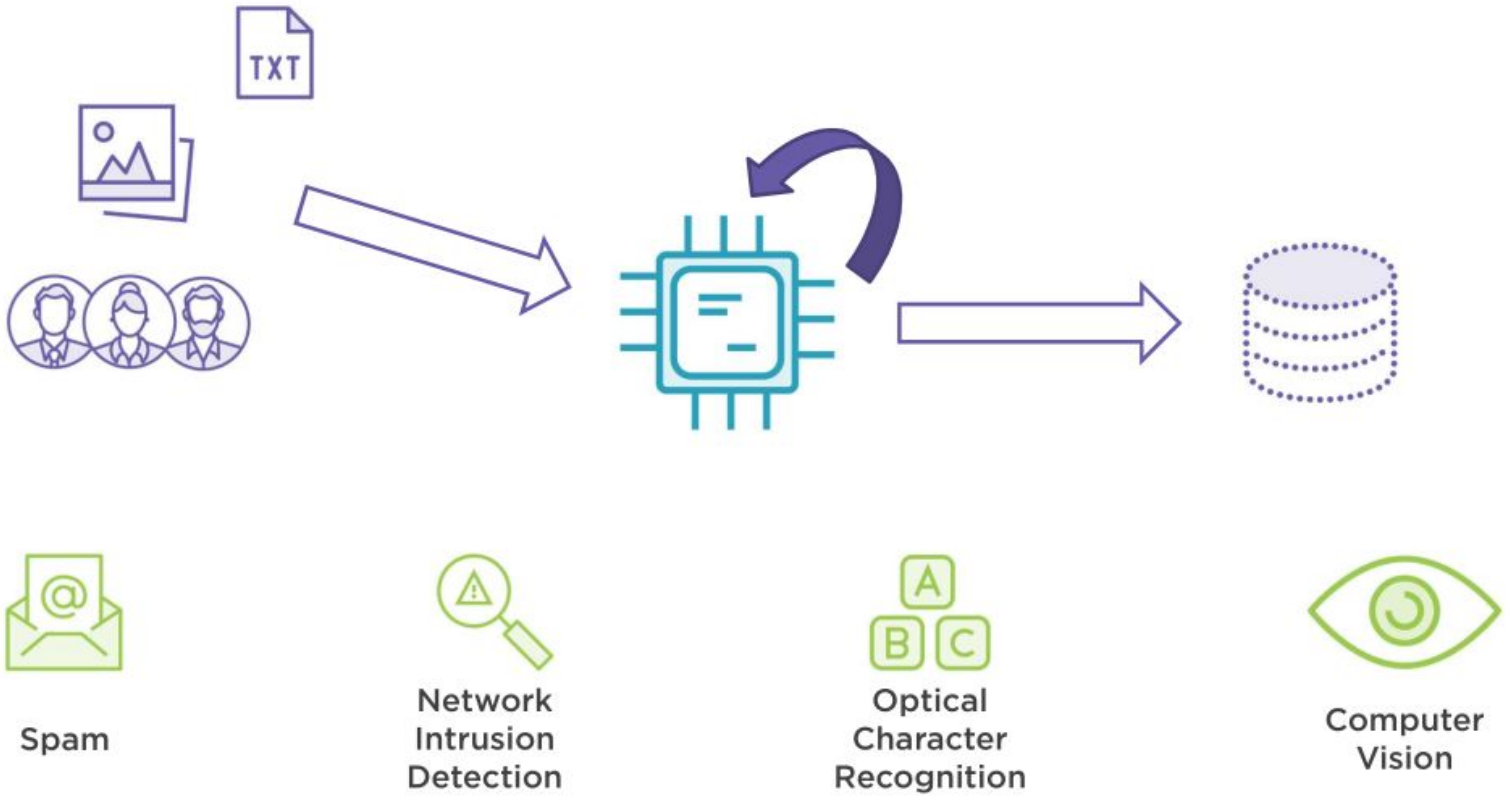
What Is Machine Learning?



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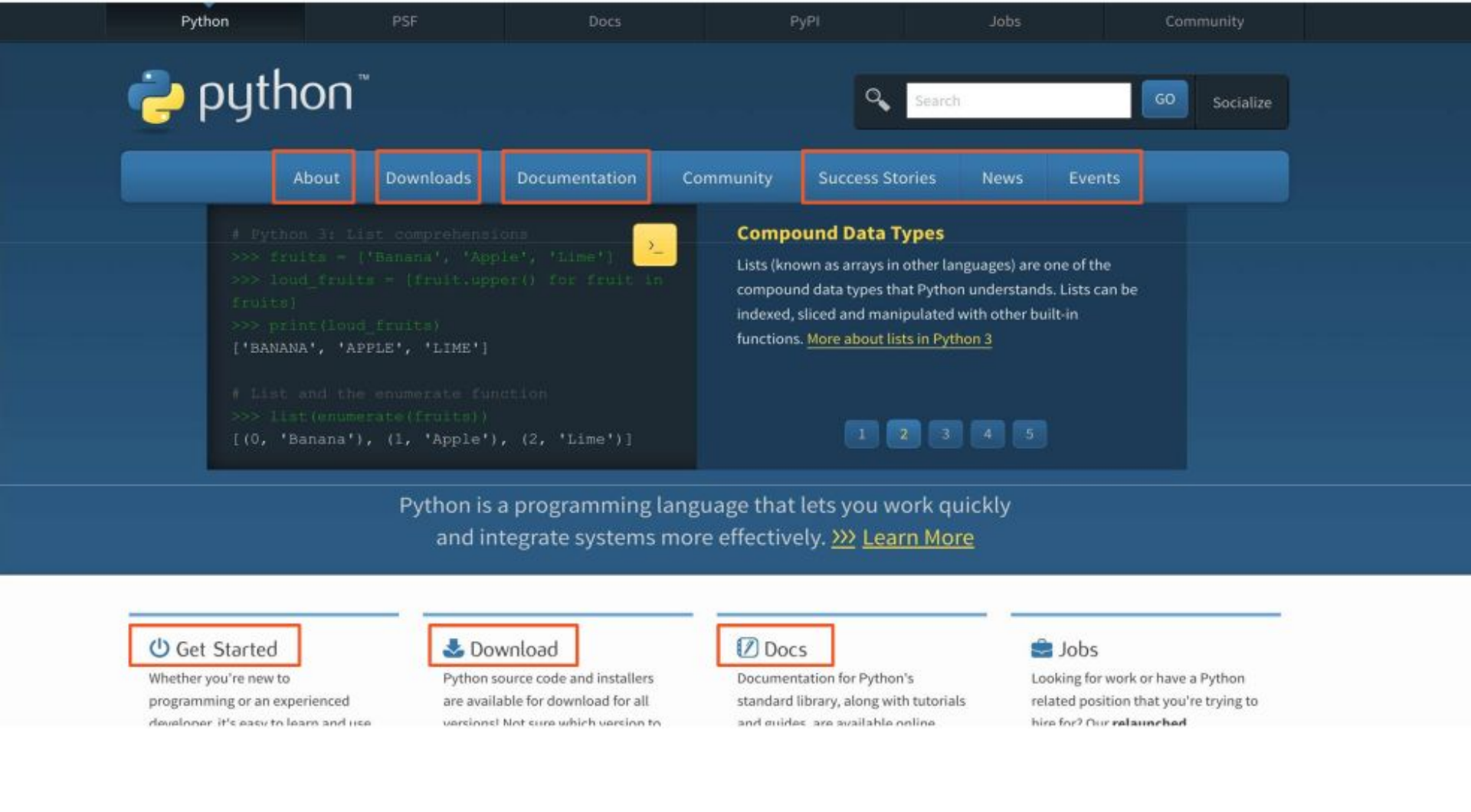
python.org


Python
PSF
Docs
PyPI
Jobs
Community
python
Search
GO
Socialize
About
Downloads
Documentation
Community
Success Stories
News
Events
# Python 3: List comprehensions
>>> fruits = ['Banana', 'Apple', 'Lime']
>>> loud_fruits = [fruit.upper() for fruit in fruits]
>>> print(loud_fruits)
['BANANA', 'APPLE', 'LIME']
# List and the enumerate function
>>> list(enumerate(fruits))
[(0, 'Banana'), (1, 'Apple'), (2, 'Lime')]
Compound Data Types
Lists (known as arrays in other languages) are one of the compound data types that Python understands. Lists can be indexed, sliced and manipulated with other built-in functions. More about lists in Python 3
1
2
3
4
5
Python is a programming language that lets you work quickly and integrate systems more effectively. >>> Learn More
Get Started
Whether you're new to programming or an experienced
Download
Python source code and installers are available for download for all
Docs
Documentation for Python's standard library, along with tutorials
Jobs
Looking for work or have a Python related position that you're trying to

Working with Python

1. python

- Executing python file
- Rudimentary REPL

2. pip

- 3rd party libraries

3. ipython

- Robust interactive shell

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anaconda.com

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The open-source Anaconda Distribution is the easiest way to perform Python/R data science and machine learning on Linux, Windows, and Mac OS X. With over 11 million users worldwide, it is the industry standard for developing, testing, and training on a single machine, enabling *individual data scientists* to:

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- Manage libraries, dependencies, and environments with Conda
- Develop and train machine learning and deep learning models with scikit-learn, TensorFlow, and Theano
- Analyze data with scalability and performance with Dask, NumPy, pandas, and Numba
- Visualize results with Matplotlib, Bokeh, Datashader, and Holoviews

jetbrains.com/pycharm

Referências

Python. https://www.python.org/

Anaconda. https://www.anaconda.com/distribution/

PyCharm. https://www.jetbrains.com/pycharm/

Jason Olson. Python: The Big Picture. https://app.pluralsight.com/library/courses/python-big-picture