Introdução à Python

Felipe "Bidu" Rodrigues

Ambiente Jupyter

Material: https://bit.ly/3Ebvwo6
ou Google: "fbidu stairway to python

Dúvidas: https://bit.ly/3ssFuyX

PYTHON HANDS-ON

What is Python? Powerful, intuitive programming

Why the Python programming language shines for data science, machine learning, systems automation, web and API development, and more

TIOBE Index for April 2022

April Headline: MATLAB about to drop out of the top 20

Good old MATLAB is about to drop out of the top 20 for the first time in more than 10 years. The MATLAB programming language is mainly used in the numerical analysis domain. It is often combined with Simulink models, which are from the same MathWorks company. Although MATLAB has a biannual release cycle, the language doesn't evolve that much. And since MATLAB licenses are rather expensive, alternatives are catching up quickly now. Its main competitors are Python (currently number 1) and Julia (moving from position 32 to position 26 this month). *--Paul Jansen CEO TIOBE Software*

The TIOBE Programming Community index is an indicator of the popularity of programming languages. The index is updated once a month. The ratings are based on the number of skilled engineers world-wide, courses and third party vendors. Popular search engines such as Google, Bing, Yahoo!, Wikipedia, Amazon, YouTube and Baidu are used to calculate the ratings. It is important to note that the TIOBE index is not about the *best* programming language or the language in which *most lines of code* have been written.

The index can be used to check whether your programming skills are still up to date or to make a strategic decision about what programming language should be adopted when starting to build a new software system. The definition of the TIOBE index can be found here.

Apr 2022	Apr 2021	Change	Programming Language	Ratings	Change
1	3	↑	Python	13.92%	+2.88%
2	1	↓	C	12.71%	-1.61%
3	2	↓	Java	10.82%	-0.41%
4	4		C++	8.28%	+1.14%
5	5		C#	6.82%	+1.91%
6	6		Visual Basic	5.40%	+0.85%
7	7		JavaScript	2.41%	-0.03%
8	8		Assembly language	2.35%	+0.03%

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Python is devouring data science

Someone once said that Python's data science training wheels increasingly lead to the R language. Boy, was he wrong.

Python nabs programming language of the year honors

For the second year in a row, the Tiobe index identified Python as the programming language whose popularity increased the most.

Aug 2022	Aug 2021	Change	Programming Language	Ratings	Change
1	2	↑	Python	15.42%	+3.56%
2	1	↓	C	14.59%	+2.03%
3	3		Java	12.40%	+1.96%
4	4		C++	10.17%	+2.81%
5	5		C#	5.59%	+0.45%
6	6		Visual Basic	4.99%	+0.33%
7	7		JavaScript	2.33%	-0.61%
8	9	↑	Assembly language	2.17%	+0.14%
9	10	↑	SQL	1.70%	+0.23%
10	8	↓	PHP	1.39%	-0.80%
11	16	⇈	Swift	1.27%	+0.30%
12	12		Classic Visual Basic	1.27%	+0.04%
13	22	⇈	Delphi/Object Pascal	1.22%	+0.60%
14	23	⇈	Objective-C	1.22%	+0.61%
15	18	↑	Go	0.98%	+0.08%
16	14	↓	R	0.92%	-0.13%

Sintaxe

Aprender Programar =
Aprender uma linguagem
+ Aprender Lógica de
Programação +
Aprender várias
ferramentas +
Aprender vocabulário
específico...

Python = Sintaxe direta e ambiente dinâmico

visibilidade = velocidade

Arquivo Editar Ver Pesquisar Terminal Ajuda

```
In [1]: from random import randint

In [2]: randint?
Signature: randint(a, b)
Docstring:
Return random integer in range [a, b], including both end points.

File:      ~/miniconda3/lib/python3.8/random.py
Type:      method

In [3]:
```

Download

Baixar esses documentos

Documentação por versão

Python 3.11 (in development)
Python 3.10 (stable)
Python 3.9 (stable)
Python 3.8 (security-fixes)
Python 3.7 (security-fixes)
Python 3.6 (EOL)
Python 3.5 (EOL)
Python 2.7 (EOL)
Todas versões

Outros recursos

Índice das PEPs
Guia do Iniciante
Lista de Livros
Material Audiovisual
Guia do Desenvolvedor do Python

documentação Python 3.10.4

Seja bem-vindo! Esta é a documentação oficial do Python 3.10.4,

Partes da documentação:

O que há de novo no Python 3.10?

ou todos os documentos "O que há de novo" desde a 2.0

Tutorial

comece por aqui

Referência da Biblioteca

mantenha isso debaixo do seu travesseiro

Referência da Linguagem

descreve sintaxe e elementos da linguagem

Configurações e Uso do Python

como usar o Python em diferentes plataformas

Python HOWTOs

documentos aprofundados sobre tópicos específicos

Instalando módulos Python

instalando a partir do Python Package Index e outras fontes

Distribuindo módulos Python

publicando módulos para instalação por outros

Estendendo e Incorporando

tutorial para programadores C/C++

API Python/C

referência para programadores C/C++

FAQs

perguntas frequentes (com respostas!)

Índices e Tabelas:

Índice Global de Módulos

acesso rápido para todos os módulos

Página de busca

Rica Biblioteca Padrão

Biblioteca Padrão?

Documentação da Biblioteca Padrão

Rico Sistema de Pacotes externos

Find, install and publish Python packages with the Python Package Index

Search projects

Or browse projects

371,322 projects 3,406,705 releases 5,949,591 files 588,512 users

The Python Package Index (PyPI) is a repository of software for the Python programming language.

PyPI helps you find and install software developed and shared by the Python community. Learn about installing packages.

Package authors use PyPI to distribute their software. Learn how to package your Python code for PyPI.

PyPI

Published in Instagram Engineering

Benjamin Woodruff

Aug 15, 2019 · 13 min read · Listen

Static Analysis at Scale: An Instagram Story

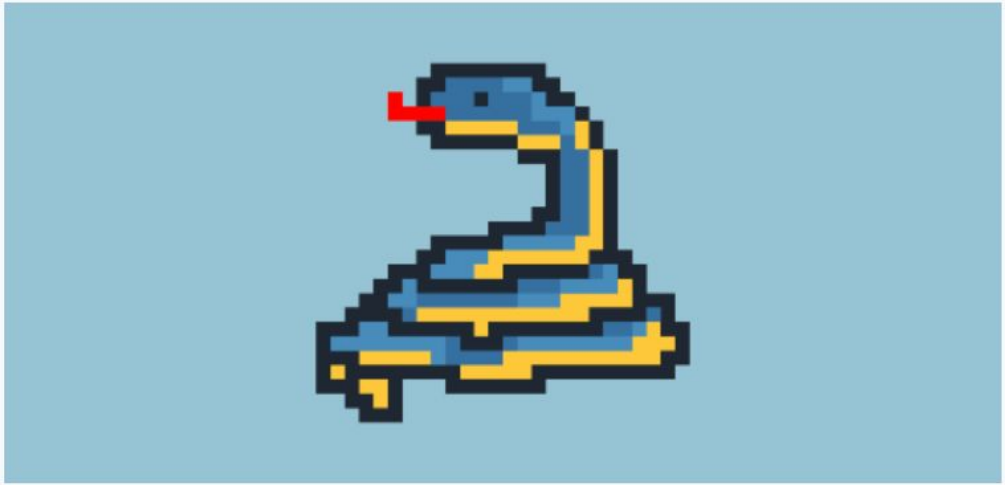
Instagram Server is entirely Python powered.

Well, mostly. There's also some Cython, and our dependencies include a fair amount of C++ code exposed to Python as C extensions.

Our server app is a monolith, one big codebase of several million lines and a few thousand Django endpoints [1], all loaded up and served together. A few services have been split out of the monolith, but we don't have any plans to aggressively break it up.

How we use Python at Spotify

March 20, 2013
Published by Geoff van der Meer



The most frequent question we heard at PyCon this weekend, was how do we use Python at Spotify. Hopefully this post answers the question!

At Spotify the main two places we use Python are backend services and data analysis. Python has a habit of turning up in other random places, as most of our developers are happy programming in it.

Spotify's backend consists of many interdependent services, connected by own messaging protocol over ZeroMQ. Around 80% of these services are written in Python.

Engineering at Meta
Open Source
Platforms
Infrastructure Systems
Physical Infrastructure
Video Engineering & AR/VR
POSTED ON MAY 27, 2016 TO PRODUCTION ENGINEERING
Python in production engineering

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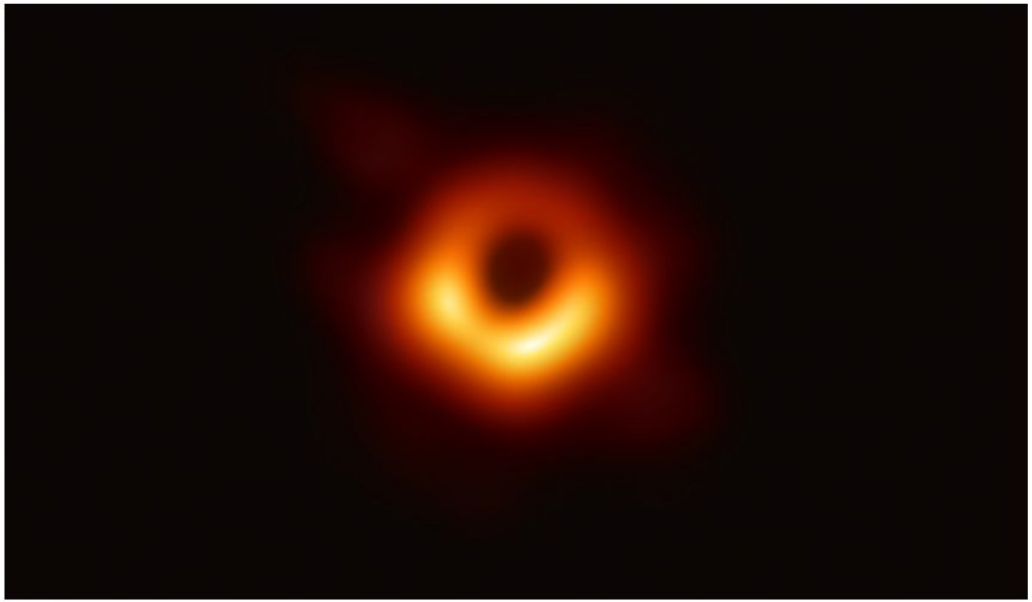
Scientific Computing with Python | Austin, TX · July 10-16
SciPy 2023
CONFERENCE PROGRAM

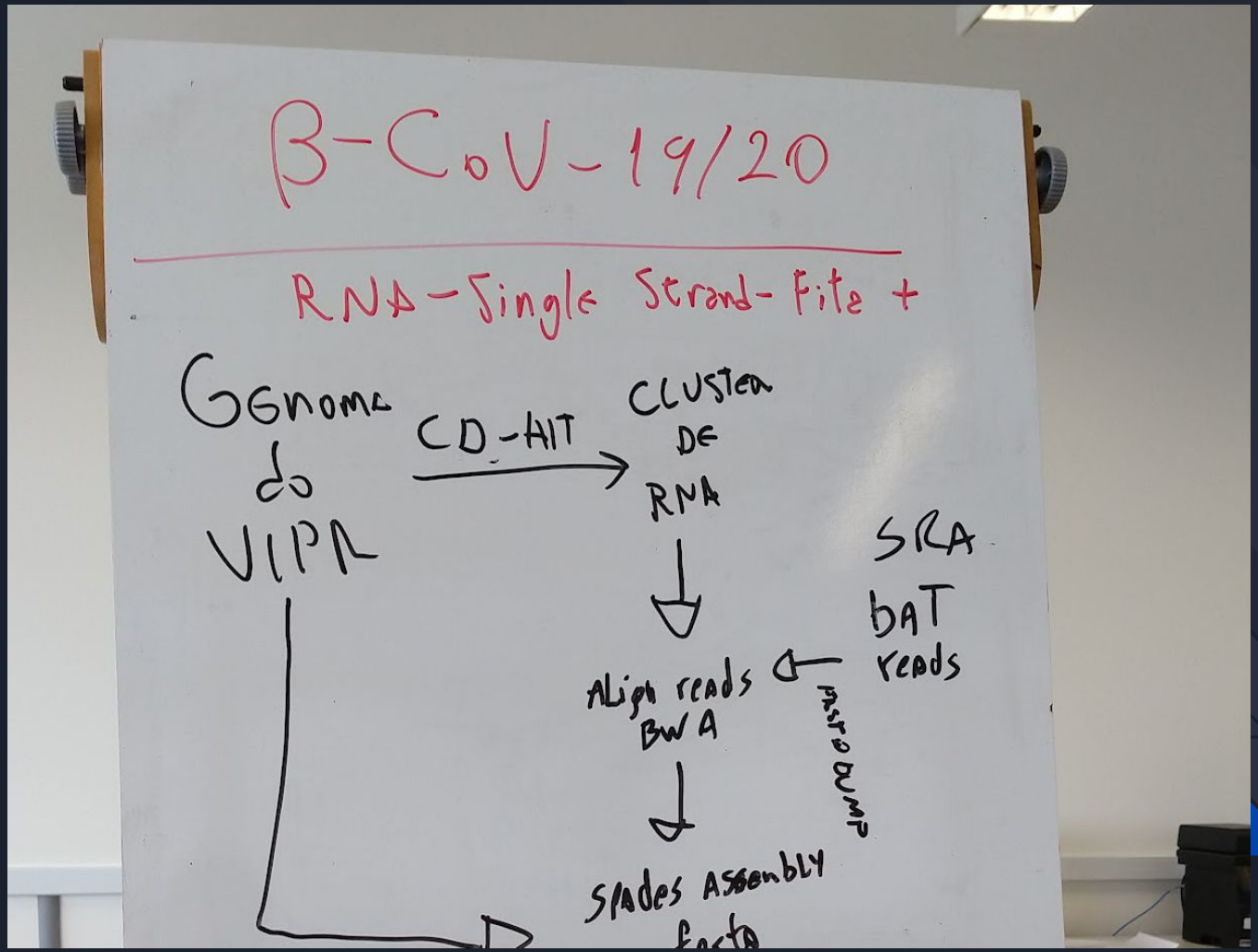
CASE STUDY: FIRST IMAGE OF A BLACK HOLE



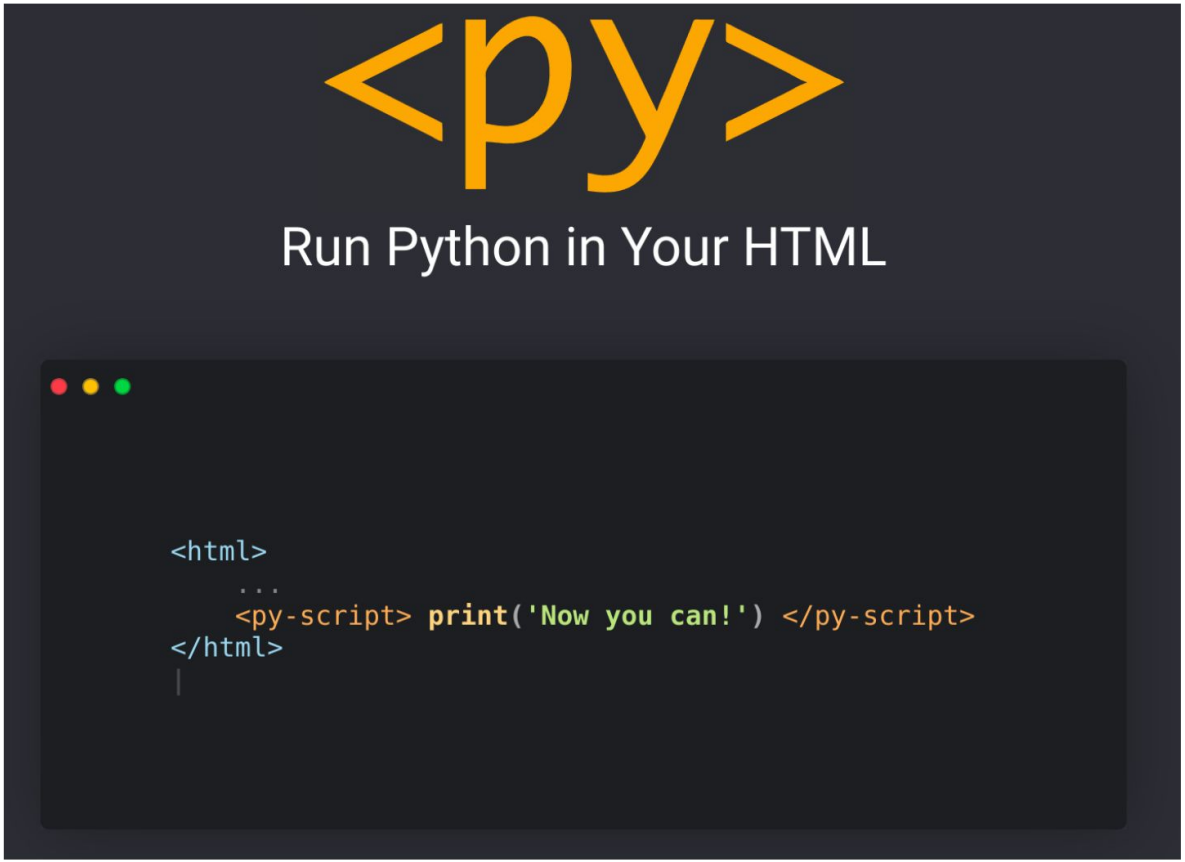
Black Hole M87 *(Image Credits: Event Horizon Telescope Collaboration)*

> *Imaging the M87 Black Hole is like trying to see something that is by definition impossible to see.*
>
> *— Katie Bouman, Assistant Professor, Computing & Mathematical Sciences, Caltech*

A TELESCOPE THE SIZE OF THE EARTH


β-CoV-19/20
RNA-Single Strand-Fite +
Genoma
do
VIPR
CD-HIT
CLUSTER
DE
RNA
SRA
bAT
reads
Align reads
BWA
fastq-dump
Spades Assembly

Pyscript & Python no Front - o passado & o futuro



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Python's creators unveil speedup plans for Python

Incremental improvements are on the way that promise to speed up Python by a factor of 2x to 5x, and remain compatible with existing code.

By Serdar Yegulalp
Senior Writer, InfoWorld | MAY 13, 2021 6:26 AM PDT

DE 30 OUTUBRO À 05 NOVEMBRO 2023

#PYTHONBRASIL2023

As inscrições para a Python Brasil 2023 podem ser feitas pelo botão abaixo.

🎟 Inscreva-se para o evento aqui
(Presencial e online)

Caxias do Sul, RS

Tipos de Dados

Fontes / Saiba Mais

- Automate the Boring Stuff with Python
- Pense em Python | PensePython2e
- Python Essentials - Aprenda os fundamentos da programação Python
- Eduardo Mendes - YouTube
- GitHub - jakevdp/PythonDataScienceHandbook: Python Data Science Handbook: full text in Jupyter Notebooks
- https://www.lactad.unicamp.br/br
- Rosalind
- BioStars
- SIB
- https://replit.com/
- https://github.com/spyder-ide/spyder