Python

Python (programming language)

Python is an interpreted high-level programming language for general-purpose programming.

Created by Guido van Rossum and first released in 1991.

CPython, the reference implementation of Python

CPython is managed by the non-profit Python Software Foundation (PSF)

Alternative Python Implementations

IronPython (Python running on .NET)

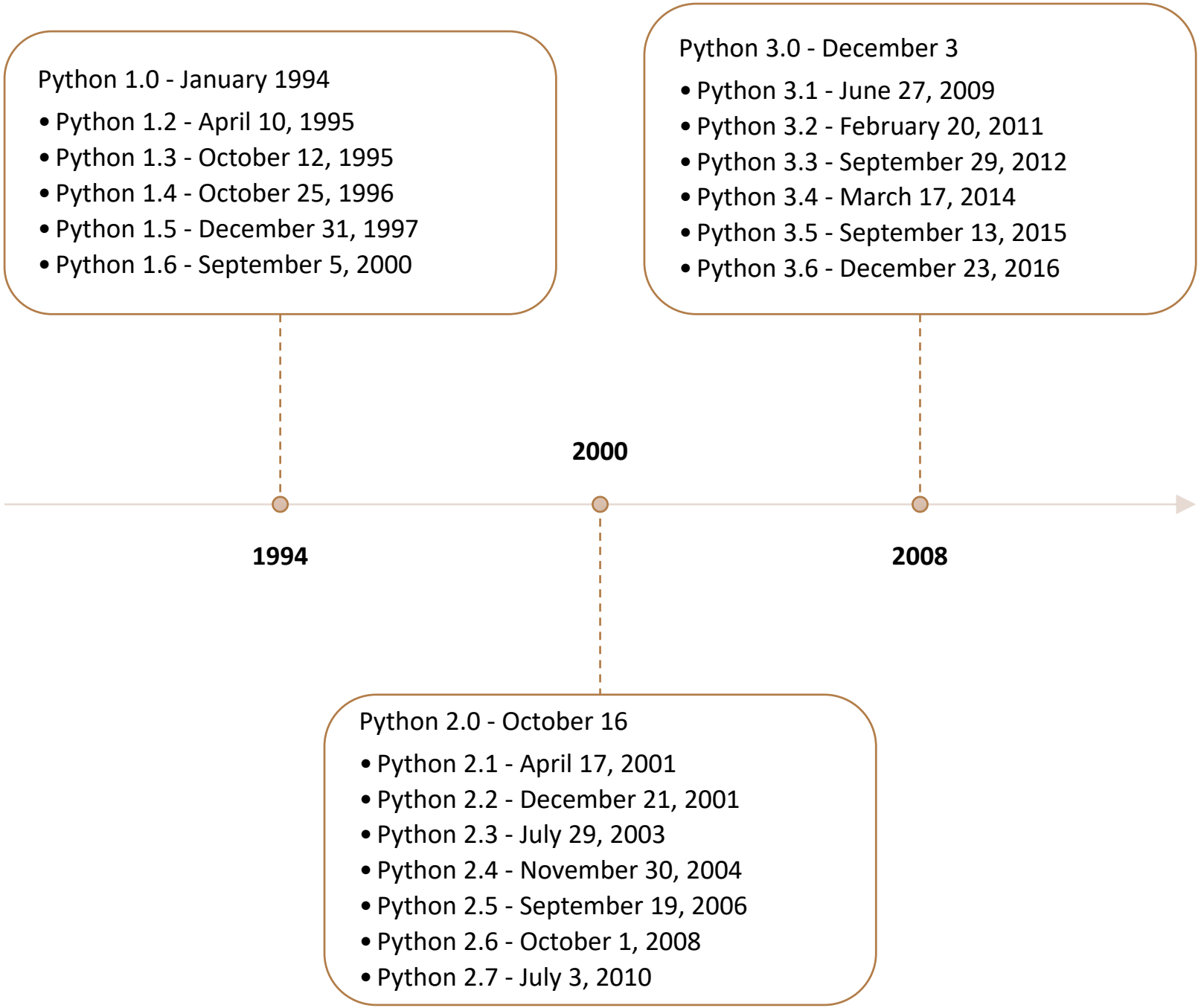
Jython (Python running on the Java Virtual Machine)

PyPy (A fast python implementation with a JIT compiler)

Stackless Python (Branch of CPython supporting microthreads)

MicroPython (Python running on micro controllers)

Version release dates



Python: The Future of Possibilities

Python programming language is one of the fastest growing programming languages present here in this industry.

In fact, python ranked 1st in IEEE spectrum's list of top programming languages of 2017.

Python has continuously served and is serving as one of the best programming language for

- Web development
- Application development
- System administration
- Game development
- Security tools development
- GIS and much more.

Python: Features

Python programming language is Object-Oriented

Python is a Beginner's Language

Easy-to-learn

Easy-to-read

Easy-to-maintain

A broad standard library

Portable

Databases

Fewer lines of codes

Python Comparision to other language

To Display "Hello World"

"Hello World!" Program in Python

```
print("Hello World !")
```

"Hello World!" Program in C

```
#include <stdio.h>
int main( )
{
printf("Hello World !") ;
 return 0 ;
}
```

"Hello World!" Program in C++

```
#include <iostream>
using namespace std ;
int main( )
{
cout << "Hello World !" ;
return 0 ;
}
```

"Hello World!" Program in Java

```
public class HelloWorld {
public static void main(Strings[ ] args) {
System.out.println("Hello World !") ;
}
}
```

Future technologies relying on python

Artificial intelligence

In the field of AI there is no hiding that python is leading the game.

AI has given way to diverse technologies like speech recognition systems, robots, etc.

Some branches of AI are:

- General AI
- Text processing
- Neural networks
- Machine learning
- Cognitive science

Future technologies relying on python

Networking

Python is used widely to read write and configure routers.

It has libraries that facilitates writing network based applications.

Many use Python to make sites because there are very good tools available for doing so.

Frameworks like flask and Django make things rather easier.

Future technologies relying on python

Big data and analytics

Due to its simple usage and wide set of data processing libraries, python is the No. 1 contender for big data processing.

Another reason that python is used widely for big data processing is its ability to

- Integrate easily with web applications
- Generating quick insights
- Handling large amount of data sets
- Presence of high performance toolkits and libraries.

Websites developed under python

- Uber
- Instagram
- YouTube
- Quora
- Reddit
- Spotify
- Flipkart
- Pinterest
- Slack
- Dropbox
- NASA etc.

Python as a career

Some of the job profiles associated with python are:

- Software engineer
- Research analyst
- Data analyst
- Data scientist
- Software developer
- Networking

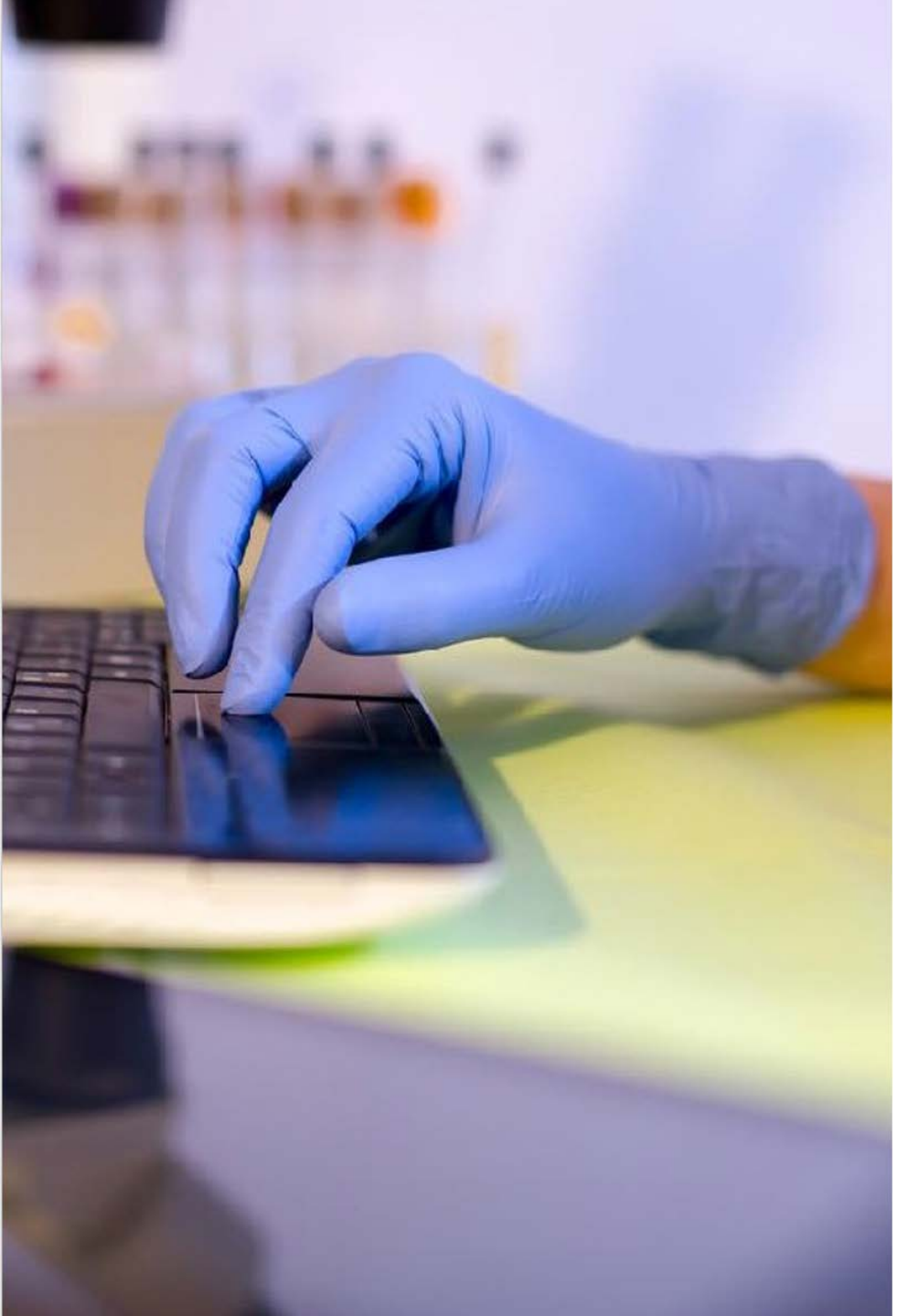
python™

For Web Development

django

Flask
web development,
one drop at a time

Pyramid™



python™

For Science

astropy
A Community Python Library for Astronomy

NumPy

SciPy

biopython

python™

For Cloud Configuration

ANSIBLE

Boto 3

amazon web services

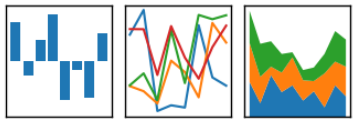
Microsoft Azure
SDK for Python

python™

For Data Analytics

pandas

$y_{it} = \beta' x_{it} + \mu_i + \epsilon_{it}$



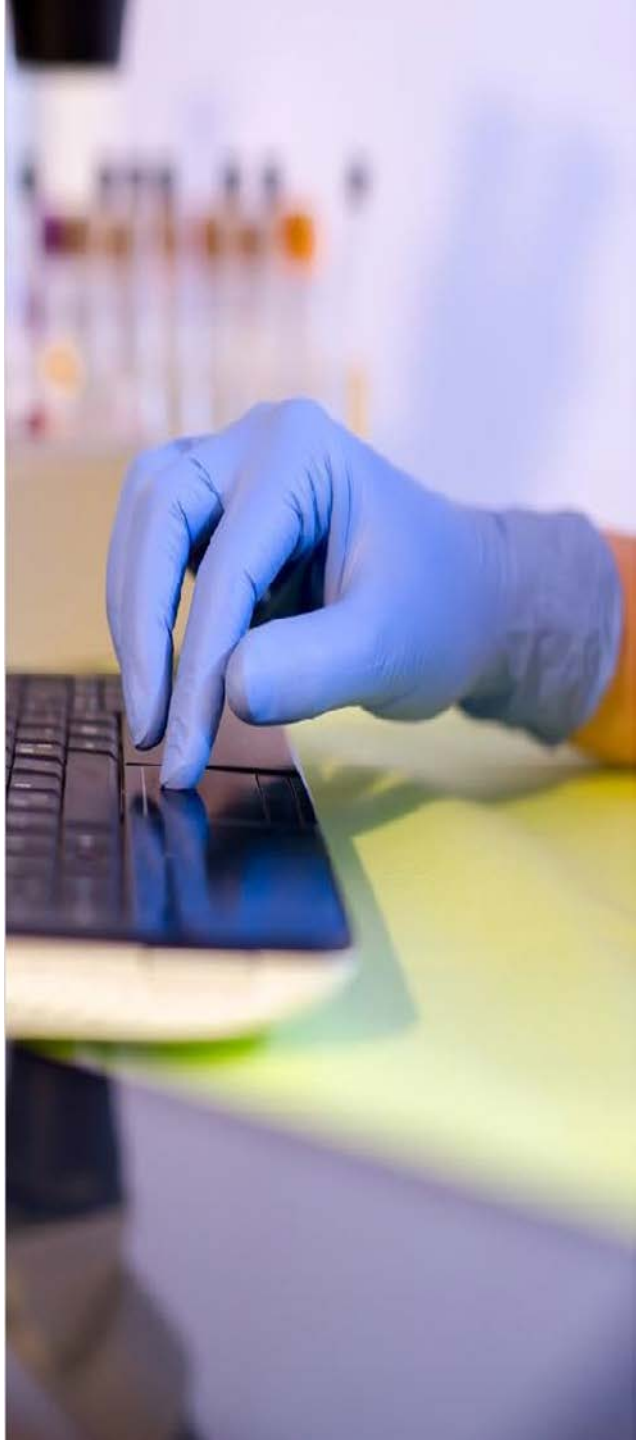
matplotlib

TensorFlow

Bokeh

scikits learn

machine learning in Python

comprehensions

duck typing

REPL

classes

packaging

modules

standard library

resources

exceptions

iteration

collections

Batteries Included

Python Standard Library

string	numbers	pickle
difflib	fraction	marshal
textwrap	random	configparser
struct	itertools	hashlib
codecs	operator	logging
datetime	functools	time
heapq	filecmp	threading
weakref	tempfile	concurrent
copy	glob	email
pprint	linecache	asyncio ……