

Moving from BI to AI: Python

Speaker Name

Job Title,

Organization

Level: Intermediate

The Ultimate Education Destination



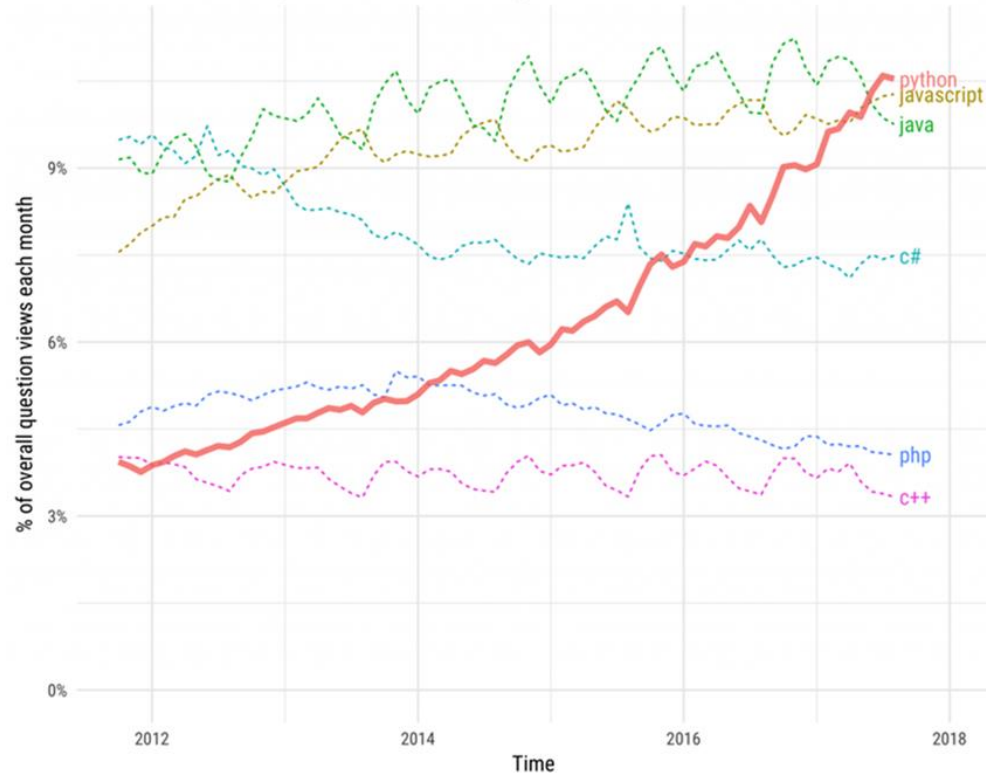
2018
Orlando

Here is your opportunity to add to your skills

- Python will help you to ***diversify***...
- Python will help you to ***accelerate***...
- Python will help you to ***succeed***...

Growth of major programming languages

Based on Stack Overflow question views in World Bank high-income countries



Python is...

-a scripting language
- ... free, open-source
- ... a huge ecosystem
- ... well used and supported



Python for quick development, long
maintenance

Not every programmer has a CS degree

- What happens when your business out-grows Excel?
- Python is an interactive data analysis platform
- Used by:

Bank of America



J.P.Morgan
CHASE 



Jupyter is...

- ... in the browser
- ... Python, R and more
- ... graphical plots and tables
- ... free, open-source

What is Python?

- Powerful, interpreted language
- iPython Notebook is easy to use
- Created by Guido van Rossum – Benevolent Dictator for Life
- Scripting language
- Indentation for statement grouping

What is Python?

- High-level data types
- Fast

Python points to note

- Python is an interpreted language so it will be slower than compiled languages
- It is high level so it uses many layers to communicate with the hardware and OS
- Might not be good for graphics-intensive applications

Python Versus R

Python	R	Result
Younger programming language	Long, trusted history	Python doesn't have as many packages and libraries
Growing support in the data industry, but less than R	Growing support in the data industry	
Good data visualisation	Excellent data visualization	
Strength in wrangling data	Heavy Statistical Analysis	If the data is very messy, go with Python.
Straight-out-of-the-box maths	Straight-out-of-the-box maths	
Easier to learn if you have experience in an Object-Oriented language e.g. C++	Array-oriented syntax	

What can Python do for you?

- *Interact* – read and write file formats
- *Preparation* – clean, munge, integrate, combine, normalize, reshape, slice and dice
- *Transform* – Apply stats to get new data sets
- *Model* – Connect to ML
- *Present*

Who Uses Python?

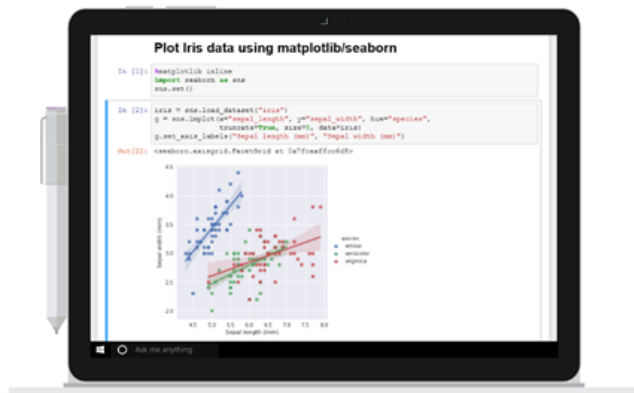
- **Google**
- **Yahoo**
- **NASA**
- **CERN**
- **AstraZeneca**

Python Terminology

- Everything in Python has an object that has an:
 - `identity(id)`
 - A Value
- Python has variables (like R)



Now Featuring: Python Data Science Handbook by Jake VanderPlas



Interactive coding in your browser

Free, in the cloud,
powered by **Jupyter**

[Get Started](#)

Powerful
Languages

Numerous Charting
Libraries

Built for
Sharing

Use the languages of Data Science

Azure Notebooks provides execution environments for Python 2, Python 3, F#, and R.

Microsoft Azure Notebooks Preview

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Libraries

Sidak > Libraries

[+ New Library](#) [Share](#) [Clone](#) [Run](#) [Settings](#) [Terminal](#) [Shutdown](#) [Download](#) [Delete](#)



NAME ▼

STATUS

CLONES



Learning Python with Azure Notebooks

Running

0

Learning Python with Azure

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Notebook

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Notebook

Featured Libraries

Introduction to Python



Learn the basics of Python 3 in Azure Notebooks. Learn Python syntax, standard data types, as well as how to write a simple program.

Introduction to R



Get a brief introduction to charting and graphing capabilities of R in the Jupyter Notebook. You will learn how to make line charts, pie charts and scatter plots.

Introduction to F#



Get a brief introduction to using F# in the Jupyter Notebook.

Getting to your data in Azure Notebooks



There are many ways to fetch your data within a Jupyter Notebook. This sample aims to show you a few different ways of doing so.

Discover Sentiments in Tweets



Notebooks can allow anyone with a social media account to gain a greater understanding about customers and communities by analyzing social feeds.

Introduction to Cognitive Toolkit (CNTK)



Learn the basics of CNTK, Microsoft's commercial grade deep learning toolkit. Use our Python notebooks and learn how harness the power of AI algorithms with uncompromised scaling, speed and accuracy.

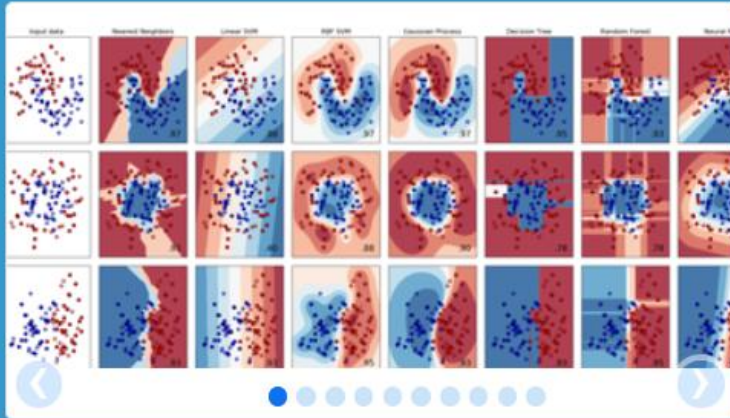
```
nbuser@nbserver:~$
```

Resources



Home Installation Documentation ▾ Examples

Google Custom Search



scikit-learn

Machine Learning in Python

- Simple and efficient tools for data mining and data analysis
- Accessible to everybody, and reusable in various contexts
- Built on NumPy, SciPy, and matplotlib
- Open source, commercially usable - BSD license

- Azure Notebooks <https://notebooks.azure.com/>
- <https://scikit-learn.org/stable/>