

Polymath Python!

Python All The Things!

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Who Am I?



- [Aaron Brooks\(A-A-Ron\)](#)
- DevOps Engineer/Technical Lead with ~9 years of industry experience
- I love cars/motorsports(Nitrous Blue Focus RS)
- I am an overly competitive but extremely average gamer([StoneColdStreamAustin](#))
- I'm a beer fan #StoutsAndPorters
- I wish I was a fighter pilot
- In a year, you won't be able to tell me and Dwayne Johnson apart
- @mastermndio

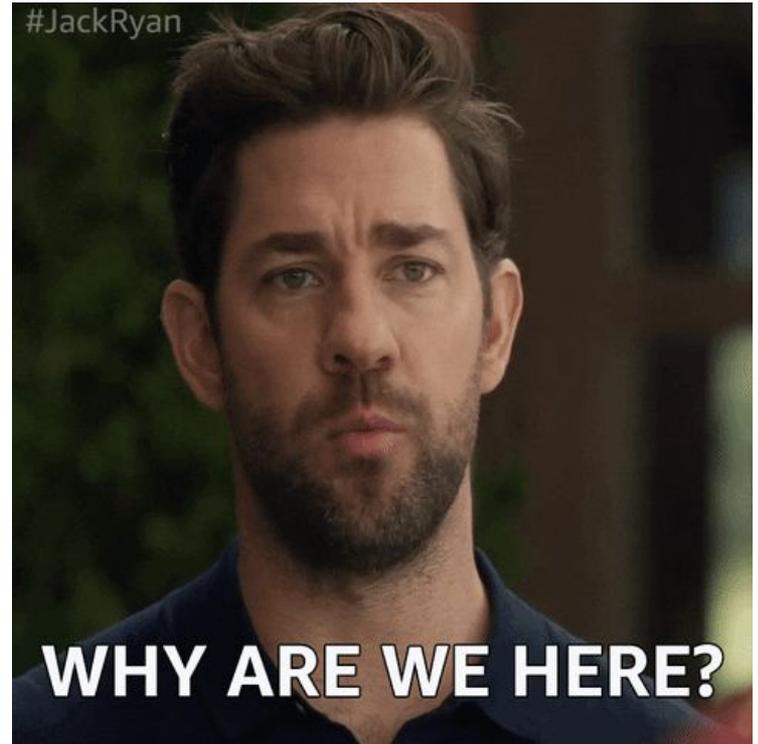
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What you're in for...

I'm no Data Scientist, but I do use the same tools...

I'm here to provide...

- An understanding of Python as a technical tool used to solve people problems
- What other problems Python can be used to solve
- Why we need to ensure as many people can use this tool as possible
- How to get you, or someone you know involved
- Some sweet sweet lofi hip hop tunes



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What is Python?

A Simple Answer

Python is a general purpose programming language, designed to be easy to read and simple to implement.

A Little Less Simple Answer

Python is an Interpreted, Dynamically Typed language that uses whitespace to define structure and scope

What is a Polymath

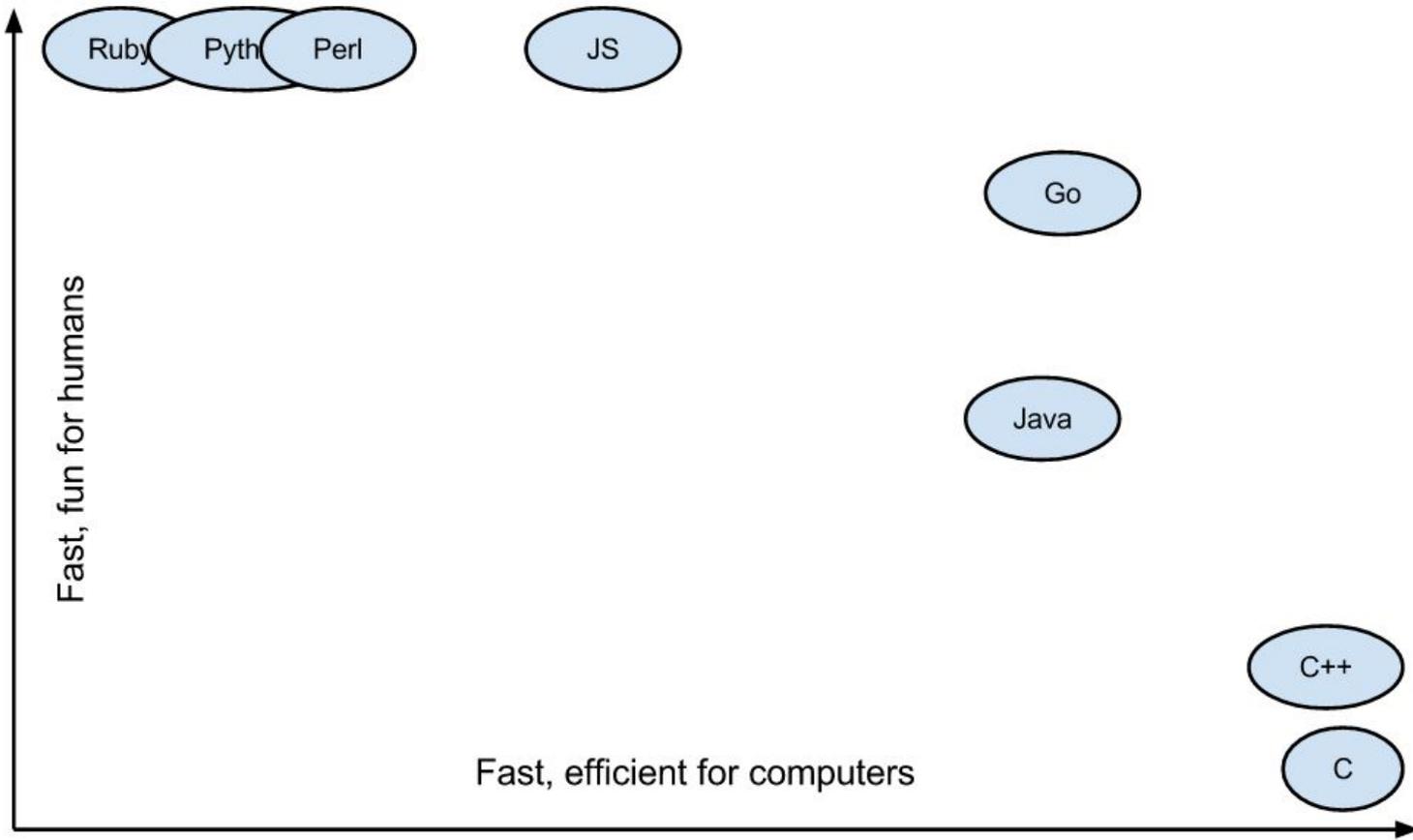
Polymath



A polymath is an individual whose knowledge spans a significant number of subjects, known to draw on complex bodies of knowledge to solve specific problems. [Wikipedia](#)

Why Python?

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Fastest doesn't necessarily mean the best

- Simplicity
- Libraries
- Community
- Fun!
- Common
- Combination of Power and Ease of use



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Bodies of Knowledge

Python in DataSci/AI/ML

- **Pandas** - High Performance Data Analysis Tool
- **NumPy** - Amazing tools for Scientific Computing
- **Matplotlib** - Package for data visualization
- **Tensor Flow** - Premiere ML Framework...for everyone!

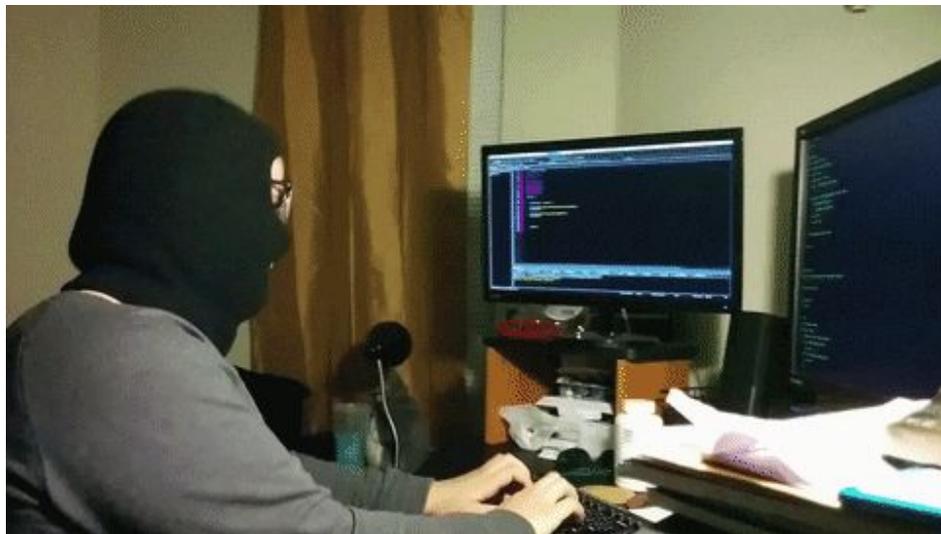


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Python in the Web

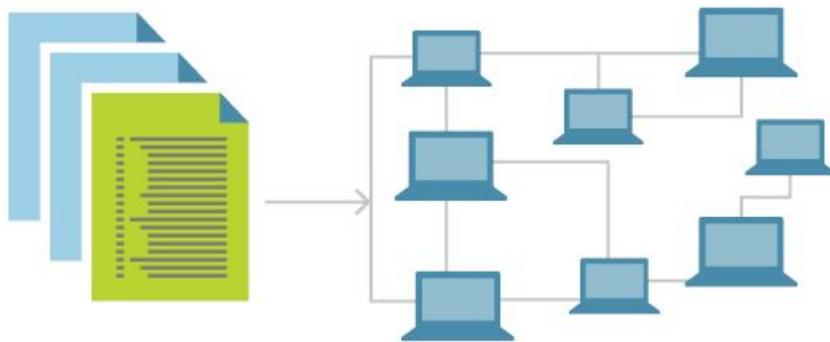
Python can be used to develop robust websites and webapps using the following web frameworks

- Django
- Flask



Infra as Code - func buildMeAServer()

Infrastructure as code (IaC) is the process of managing and provisioning computer data centers through machine-readable definition files, rather than physical hardware configuration or interactive configuration tools



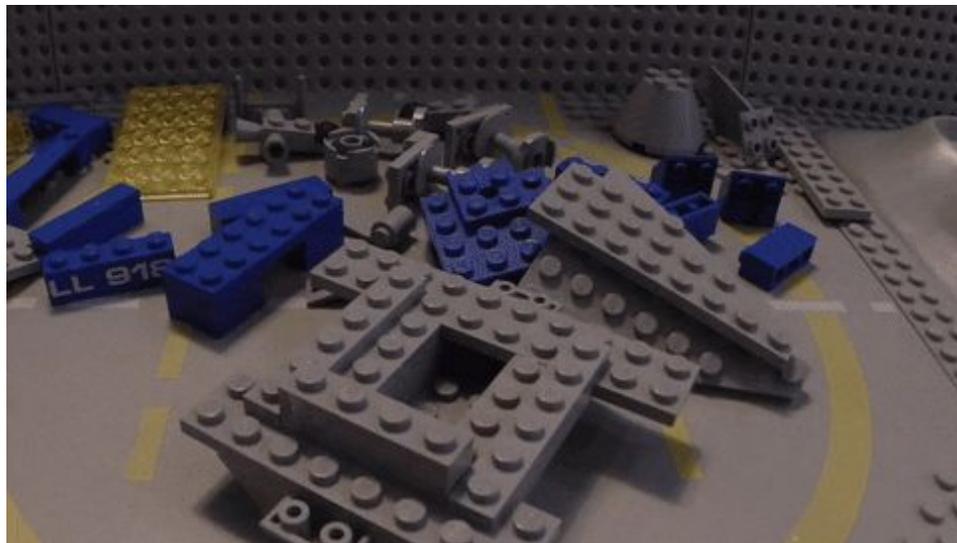
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Python in Cloud

Python's ease of use allows for great Infrastructure as Code frameworks

- AWS CDK -
- Pulumi

Tools to provision tangible web resources in order to support applications or workloads



The New World IS Software

```
import pulumi
import pulumi_aws as aws

size = 't2.micro'
ami = aws.get_ami(most_recent="true",
                 owners=["137112412989"],
                 filters=[{"name": "name", "values": ["amzn-ami-hvm-*"]}))

group = aws.ec2.SecurityGroup('webserver-secgrp',
                              description='Enable HTTP access',
                              ingress=[
                                  { 'protocol': 'tcp', 'from_port': 22, 'to_port': 22, 'cidr_blocks': ['0.0.0.0/0'] }
                              ])

server = aws.ec2.Instance('webserver-www',
                          instance_type=size,
                          security_groups=[group.name], # reference security group from above
                          ami=ami.id)

pulumi.export('publicIp', server.public_ip)
pulumi.export(['publicHostName', server.public_dns])
```

Python in IOT

With more connected devices than ever,
IOT will be integral to our future

- Mraa - GPIO library
- Sockets - Facilitates networking over TCP/IP and UDP
- Ibm-watson - Allows users to leverage the IBM Watson platform



Python is Cool, But It Looks Hard

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You Can Do It

Learning to Code is no more difficult than learning to be a mechanic, and there are more FREE resources than ever

As we said before, programming is simply using a computer as a tool to help us solve people problems.



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How You Can Do It

<https://github.com/stephenh67/python-resources-2019>

Meetups

Free Code Camp

Learn Python Dot Org

EdX

W3 schools



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Why should we do it?

Technology can literally change the world, and learning to wield it can change not only lives, but entire lineages....

The amount of change we have at our fingertips is mind boggling



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