# Python Fundamentals & Numpy

"Back to square zero"

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1/11

- 1 Why it's Worth Your Time
- 2 Bootsrapping Terminology
- 3 Python for ML
- Mailing Numpy

SIGAI Python & Numpy September 12, 2022 2 / 11

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- 2 Bootsrapping Terminology
- 3 Python for ML
- A Nailing Numpy

3/11

Python is interpreted

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Python is interpreted, high-level

SIGAI Python & Numpy September 12, 2022 4/

Python is interpreted, high-level, dynamically typed

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Python is interpreted, high-level, dynamically typed & garbage collected.

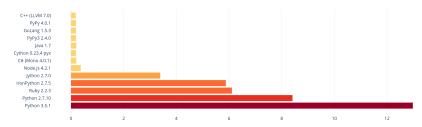
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Python is interpreted, high-level, dynamically typed & garbage collected.

Pretty awesome, yeah?

4/11

#### Well, it's very slow.

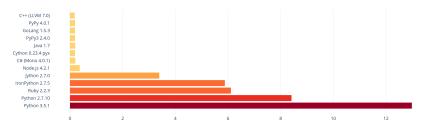


Time(s) to complete BuildBridge with D=9, L=1

5/11

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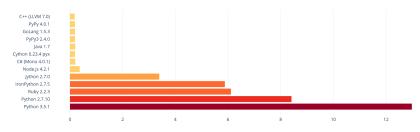


Time(s) to complete BuildBridge with D=9, L=1

If we want to brew millions of parameters worth of linear algebra soup, we need **speed**.

SIGAI Python & Numpy September 12, 2022 5/11

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Time(s) to complete BuildBridge with D=9, L=1

If we want to brew millions of parameters worth of linear algebra soup, we need **speed**.

Python is very easy to work with. C, C++ are fast but unintuitive.

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Can't be too hard to guess a solution?

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Can't be too hard to guess a solution?

Enter NumPy:

#### Languages



Can't be too hard to guess a solution?

Enter NumPy:



By effectively using Python as a *wrapper*, we delegate compute-intensive tasks to LLVM infrastructure, while maintining ease-of-use.

Voilà; best of both worlds.

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SIGAI Python & Numpy September 12, 2022 7

# Categorizing Popular Learning Methods

SIGAI Python & Numpy September 12, 2022 8/

- Why it's Worth Your Time
- 2 Bootsrapping Terminology
- Open Python for ML
- A Nailing Numpy

SIGAI Python & Numpy September 12, 2022 9/11

- Why it's Worth Your Time
- 2 Bootsrapping Terminology
- Python for ML
- 4 Nailing Numpy

SIGAI Python & Numpy September 12, 2022 10 / 11

### Thank you!

Have an awesome rest of your day!

#### Slides:

https://cs.purdue.edu/homes/jsetpal/slides/python-numpy.pdf