

Python Fundamentals & Numpy

"Back to square zero"

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September 12, 2022



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Let's Talk Python

Python is interpreted

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Python is interpreted, high-level

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Python is interpreted, high-level, dynamically typed

Let's Talk Python

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

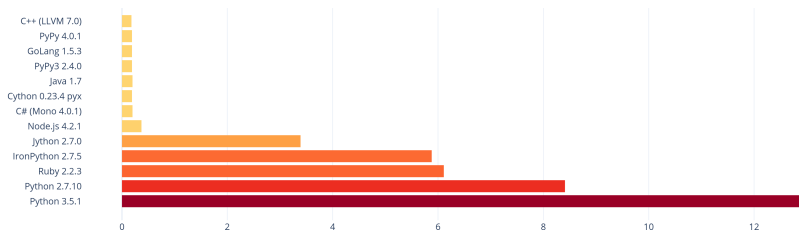
Let's Talk Python

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

Pretty awesome, yeah?

Why Numpy

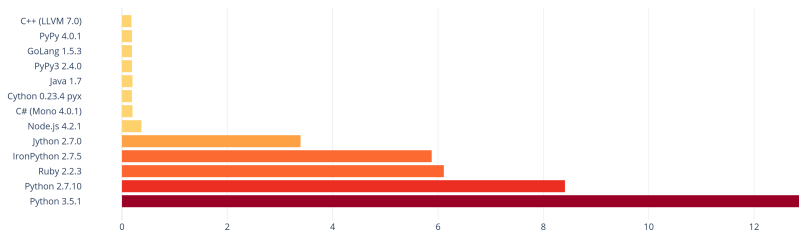
Well, it's *very* slow.



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

Why Numpy

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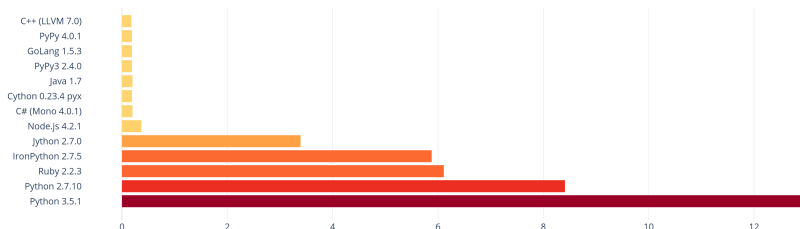


Time(s) to complete BuildBridge with $D=9$, $L=1$

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

Why Numpy

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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.

Why Numpy

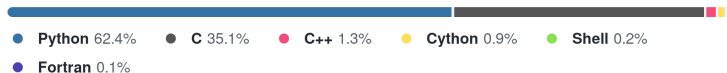
Can't be too hard to guess a solution?

Why Numpy

Can't be too hard to guess a solution?

Enter NumPy:

Languages

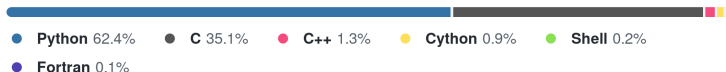


Why Numpy

Can't be too hard to guess a solution?

Enter NumPy:

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

Voilà; best of both worlds.

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Categorizing Popular Learning Methods

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Thank you!

Have an awesome rest of your day!

Slides:

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