

# Python data science

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# Python itself is slow !

- Having an interpreter / translator obviously slow down the process
- Not being explicit about what you want to do make the computer spend a lot of time adapting

$c = a + b$

- Dynamic typing prevent efficient data structure

# Efficient data structure



NumPy array  
100x / 1000x faster



Python array  
Slow

- for image processing and data analysis, there is no hope outside of compiled language (which currently means C or C++ 99% of the time)
- compiled language produce platform dependant library / program
- python is very good at interfacing with compiled language
- you use python as a high level manager => it doesn't do any work, it just tells C/C++ library what to do

# There is no magic in computing

- using python will allow you to do a lot of work with low level efficiency with high level code . . .
- but it won't totally save you from understanding low-level structure when doing more complicated processing
- python has lost a lot of windows / linux compatibility in the process
- you can do python on windows or linux but be careful if you want a program to run on both (locally developing under windows and deploying on linux)