Writing fast Python programs

Armin Rigo
Maciej Fijałkowski

InVitae 2013

March 20 2013

who we are

- Maciej Fijałkowski
- Armin Rigo

what we're going to talk about

- the problem of fast python
- cython, numpy, weave, etc
- PyPy and our approach
- promise to keep it short

python language

- expressive
- concise
- performance characteristics not 100% clear

classic solutions

- use numpy, but your algorithms have to be vectorized

- use cython, but you have to write down your types

- don't use python, just call C

classic solutions

- use numpy, but your algorithms have to be vectorized

- use cython, but you have to write down your types

- don't use python, just call C

classic solutions

- use numpy, but your algorithms have to be vectorized

- use cython, but you have to write down your types

- don't use python, just call C

...

pypy approach

- make language fast enough for algorithms
- make numpy compatible enough to reuse it
- more algorithms less pipeline building

more

- pypy.org