

Parallel Python Using MPI4Py

Nick Featherstone
CU Research Computing

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Performance & Python

Python is an **interpreted** language

- No binary executable is created
- Interpreter executes source code line-by-line
- Instructions are executed *naively*
 - exactly as you wrote them
 - In the order you wrote them
 - no inherent vectorization

Compiled languages are different

- A binary executable is created
- Instructions are executed *holistically*
 - Same outcome as naive approach
 - Compiler-assisted optimization & vectorization
 - Implementation differs between compilers