

Cython

The benefits of C/++
without writing C/++



What is Cython?

- ◆ A superset of Python
- ◆ A Python-to-C/C++ translator*

Cython Basics

- ◆ .py, .pyx, .pxd, **and** .pyd
- ◆ def, cdef, **and** cpdef
- ◆ **Python-style type declarations**
 - ◆ def myfunc (foo: cy.int, bar) -> cy.int:
 - ◆ baz: cy.double = 0.1337

Why Use Cython?

- ◆ Gotta go fast (native C speed)
- ◆ Wrapping external C/C++ code
- ◆ Calling Python code from C/C++
- ◆ Releasing the GIL (true threading!)*

Why Not ctypes?

- ◆ Messy with large codebases
- ◆ Speed

When Not to Use Cython

- ◆ Code is not performance critical
- ◆ Code has not been profiled/benchmarked

Code Examples

Summary

◆ Why use C when you can use Cython?

Further Reading

- ◆ <https://makecode.run/talks/cython>
 - ◆ Collection of links to helpful resources
 - ◆ Slideshow and code example downloads

Questions?

◆ Join us at The Barn Light downtown!