with $\theta$ Serialization and $\varepsilon$ Memory
How many times do I have to tell you? The right tool for the right job!

Lt. Commander Montgomery Scott
RPC
Glue Language

Duct tape is like the force. It has a light side, and a dark side, and it holds the universe together.

— Carl Zwanzig

Preconditions

- Go’s float64 & numpy’s float64 have the same representation in memory
- numpy arrays are contiguous in memory, same as Go’s slices
Setup
- Initialize Python
- Initialize numpy
- Load Module
- Get pointer to function
Going Down
Outliers detection process:

1. Go Managed Memory
2. Go Go Delte (outliers.go)
3. Data: []float64
4. Carr: *C.double
5. Glue C detect
   - Values: double*
   - Arr: numpy.ndarray
6. Outliers Python detect
   - Data: numpy.ndarray
Up Going
Go Managed Memory

Underlying array

call stack
outliers.go Detect

s []float64
arr *C.long

glue.c detect
res.indices numpy.ndarray

outliers.py detect

return value numpy.ndarray

Python Managed Memory
What’s Left?

● Goroutine/thread safety (GIL)
● Better error recovery
● Memory leaks?
● ...

...
Thank You!

https://poweruser.blog/embedding-python-in-go-338c0399f3d5
#darkarts on https://gophers.slack.com/
https://github.com/tebeka/talks/tree/master/embed-py-fosdem