MIT 18.337/6.338:

Numerical Computing with Julia

MW 2-3:30 pm -- Room: 4-237 -- Prof. Alan Edelman

Topics:

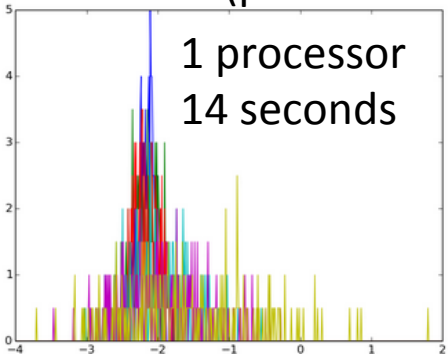
- **Why is Julia so fast?**
- **Parallel Computing with Julia**
- **The design of Julia**
- **Linear Algebra Algorithms in Julia**
- **Composable Abstractions**

Julia has demonstrated that a numerical computing language can be easy to use, elegant, and fast. This course will ask and perhaps try to answer the really hard questions such as

- Why is it that hardly anyone is using much parallel computation? (we think the answer is not hardware, not need, but language and convenience!)

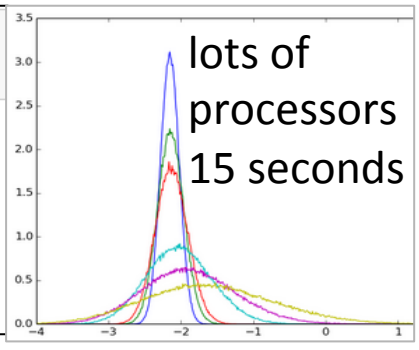
- What could we accomplish if we had one language that extends well beyond numerical computation?

Monte Carlo Case Study:
(parallel code hardly different from serial code)




```
p = 1024;
include("../jucluster/jucluster.jl")
addprocs_jucluster()
```

```
Adding 32 machines...
     160/1024 cores added
     320/1024 cores added
     480/1024 cores added
     640/1024 cores added
     800/1024 cores added
     960/1024 cores added
     1024/1024 cores added
Started JuliaBox cluster with 1024 cores.
```



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