

PackageEcosystem

September 19, 2016

1 Overview of the Package Ecosystem

2 Good Packages to Know

3 Interop

3.0.1 ccall

While not technically a package because it's built into Julia, `ccall` is very important to know. The documentation page for `ccall` is: <http://docs.julialang.org/en/release-0.4/manual/calling-c-and-fortran-code/>. I wrote a tutorial for using `ccall`: <http://www.stochasticlifestyle.com/using-julias-c-interface-utilize-c-libraries/>

Xeon Phi Note that you can use `ccall` to control Xeon Phi acceleration cards: <http://www.stochasticlifestyle.com/interfacing-xeon-phi-via-julia/>

3.0.2 Cxx.jl

3.0.3 RCall

3.0.4 PyCall

3.0.5 MATLAB.jl

3.0.6 CUDArt.jl

<http://www.stochasticlifestyle.com/julia-on-the-hpc-with-gpus/>
<http://www.stochasticlifestyle.com/multiple-gpu-on-the-hpc-with-julia/>

4 Plotting

Visualizations are provided by external packages. The standard package for plotting is `Plots.jl`.

5 Statistics

Statistical libraries in Julia are curated by JuliaStats. Their website can be found here: <http://juliastats.github.io/> (old). Some packages of note are:

5.0.7 DataArrays.jl

5.0.8 GLM.jl

5.0.9 RDatasets.jl

5.0.10 StatPlots.jl

5.0.11 DataFrames.jl

5.0.12 Distributions.jl

5.0.13 DataFramesMeta.jl

5.0.14 HypothesisTests.jl

6 Differential Equations

6.0.15 DifferentialEquations.jl

6.0.16 ParameterizedFunctions.jl

7 Optimization

7.0.17 JuMP

7.0.18 Optim.jl

8 Misc

8.0.19 ForwardDiff.jl

8.0.20 JLD.jl

8.0.21 IterativeSolvers.jl