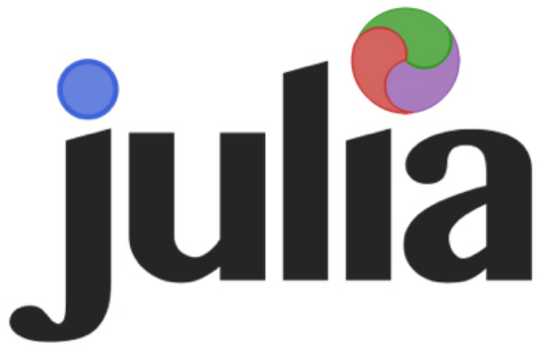
Julia 0.5
 * DataFrames.jl
 * TensorFlow.jl

October 14, 2016
 - wookyoung noh
 - https://github.com/wookay



목차 1

목차 2

 * Julia 커뮤니티
  - 깃헙, 메일링 리스트
  - JuliaCon, Julia in the classroom

 * Julia Korea 커뮤니티
  - 깃헙, 페이스북, 슬랙
  - 줄리아 문서 번역 프로젝트

* 개발 툴
  - REPL, Jupyter notebook, Juno IDE

* Julia 0.5
  - 코딩 시간

* Julia 0.6, 1.0, 2.0

발표자 소개

- https://github.com/wookay/hackdiary/blob/master/merged/Julia.md
- https://github.com/wookay/journal/wiki/언어-덕후의-일기

Julia 0.5

 * 2016년 9월 19일 릴리즈
  - Version 0.5.0 (2016-09-19 18:14 UTC)
  - https://github.com/JuliaLang/julia/milestone/14

```
# Julia Packages

julia> Pkg.add("DataFrames")

julia> using DataFrames

julia> Pkg.add("TensorFlow")

julia> using TensorFlow
```

짤

Julia Statistics

Statistics and Machine Learning made easy in Julia

- https://github.com/JuliaStats

DataFrames.jl

 library for working with tabular data in Julia
 - https://github.com/JuliaStats/DataFrames.jl

경쟁자
 * R
 * Python pandas

```
# pandas, DataFrames.jl | wc

~/work/python/pandas $ git shortlog --numbered --summary | wc
     757    2098   14956



~/.julia/v0.5/DataFrames $ git shortlog --numbered --summary | wc
     105     301    2118
```

https://github.com/JuliaStats/DataFrames.jl/graphs/contributors

JuliaStats / DataFrames.jl

Watch 57 | Unstar 313 | Fork 159

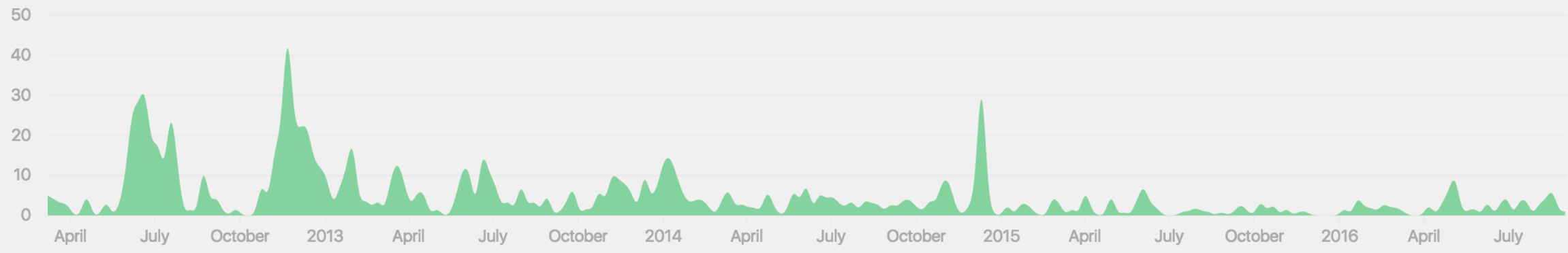
Code | Issues 139 | Pull requests 37 | Projects 0 | Wiki | Pulse | Graphs

Contributors | Commits | Code frequency | Punch card | Network | Members

Mar 25, 2012 – Sep 20, 2016

Contributions: Commits

Contributions to master, excluding merge commits



johnmyleswhite #1

317 commits / 187,854 ++ / 113,485 --

powerdistribution #2

203 commits / 18,933 ++ / 16,497 --

* John Myles White
  http://www.oreilly.com/pub/au/4730

John Myles White

Statistics and machine learning educator

jmw@johnmyleswhite.com | @johnmyleswhite

Princeton, New Jersey

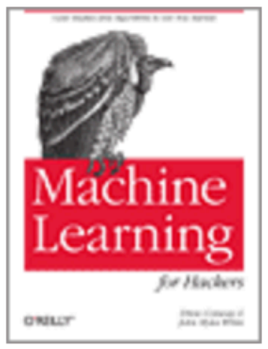
Areas of Expertise:

- machine learning
- statistics
- data science
- R
- consulting
- speaking
- training
- writing

Biography | Books | Multimedia | Praise

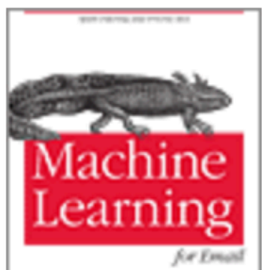
Bandit Algorithms for Website Optimization
by John Myles White
December 2012
Print: **$19.99**
Ebook: **$16.99**

4.0



Machine Learning for Hackers
by Drew Conway, John Myles White
February 2012
Print: **$49.99**
Ebook: **$42.99**

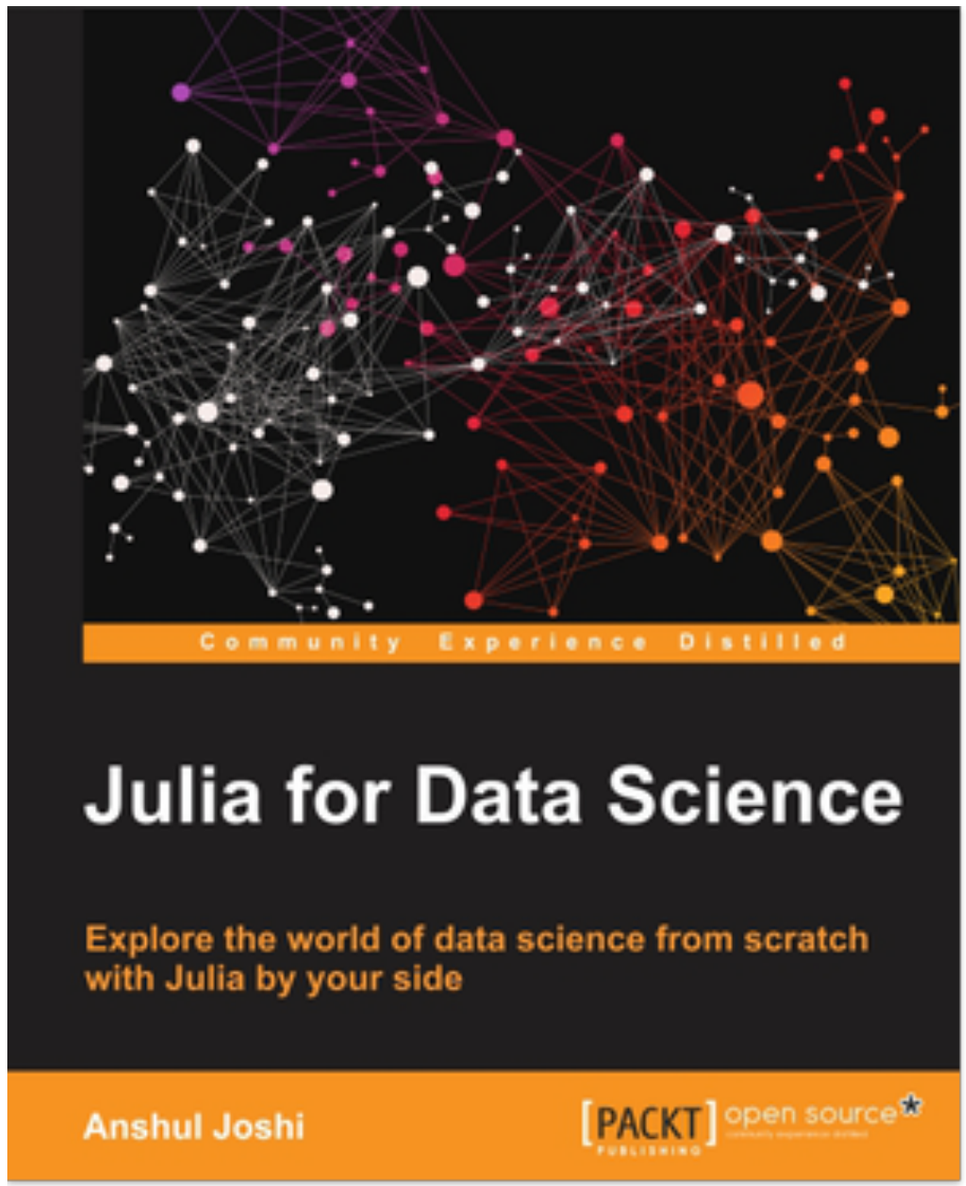
3.6



Machine Learning for Email
by Drew Conway, John Myles White
October 2011
Print: **$24.99**
Ebook: **$20.99**

Julia for Data Science 책 두권

- http://julialang.org/learning/#books



짤

TensorFlow.jl

 Julia wrapper for TensorFlow
 - https://github.com/malmaud/TensorFlow.jl

경쟁자
  * Python
  * C++

TensorFlow

TensorFlow is an Open Source Software Library for Machine Intelligence
- https://www.tensorflow.org/

“ TensorFlow was originally developed by researchers and engineers working on the Google Brain Team within Google's Machine Intelligence research organization for the purposes of conducting machine learning and deep neural networks research, but the system is general enough to be applicable in a wide variety of other domains as well. ”

```
# tensorflow, tensorflow/python, TensorFlow.jl | wc


~/work/tensorFlow $ git shortlog --numbered --summary | wc
     457    1299    9199


~/work/tensorFlow/tensorflow/python $ git shortlog --numbered --
summary . | wc
     173     506    3529


~/.julia/v0.5/TensorFlow $ git shortlog --numbered --summary | wc
       5      14      96
```

```
~/work/tensorFlow $ git shortlog --numbered --summary .
  2702  A. Unique TensorFlower
   638  Vijay Vasudevan
   363  Illia Polosukhin
   215  Martin Wicke
   211  Benoit Steiner
   183  terrytangyuan
   179  Derek Murray
…
```

```
~/work/tensorFlow/tensorflow/python $ git shortlog --numbered --
summary .
   638  A. Unique TensorFlower
   263  Vijay Vasudevan
   114  Eugene Brevdo
   100  Derek Murray
    83  Geoffrey Irving
    67  Benoit Steiner
    63  Martin Wicke
```

TensorFlow KR

- https://www.facebook.com/groups/TensorFlowKR/

짤

Julia 커뮤니티

- Github, 메일링 리스트, Gitter, IRC
- JuliaCon
- Julia in the classroom

Julia 커뮤니티 - Github

https://github.com/JuliaLang/julia

- Code
- Issues
- Pull requests

Julia 커뮤니티

http://julialang.org/community/

- Mailing lists
  https://groups.google.com/forum/#!forum/julia-users

- Gitter
  https://gitter.im/JuliaLang/julia

- IRC
  http://webchat.freenode.net/?channels=julia

JuliaCon

 * 줄리아 컨퍼런스
  - JuliaCon 2014
  - JuliaCon 2015
  - JuliaCon 2016

JuliaCon 2014 - 시카고 Gleacher Center

 - http://juliacon.org/2014/
 - 유투브 https://www.youtube.com/playlist?list=PLP8iPy9hna6TSRouJfvobfxkZFYiPSvPd

JuliaCon 2015 - MIT

 - http://juliacon.org/2015/
 - 유투브 https://www.youtube.com/playlist?list=PLP8iPy9hna6Sdx4soiGrSefrmOPdUWixM

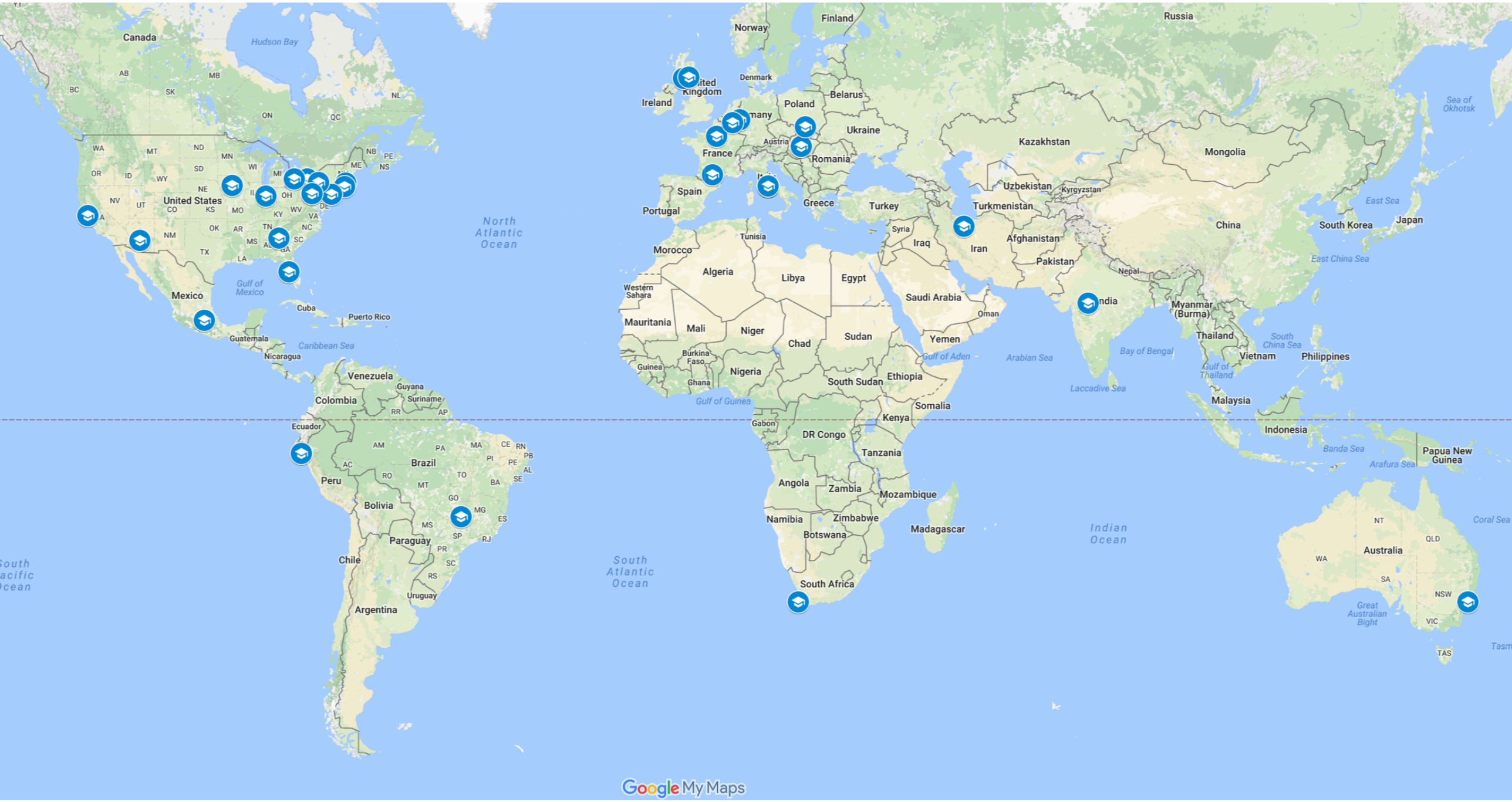
JuliaCon 2016 - MIT

 - http://juliacon.org/2016/
 - 유투브 https://www.youtube.com/playlist?list=PLP8iPy9hna6SQPwZUDtAM59-wPzCPyD_S

Julia in the classroom

 * 줄리아를 강의에 사용하는 대학
  - https://drive.google.com/open?id=1w6BwQzf87CxKyEGjRD32lW93174&usp=sharing

Julia in the classroom



머시기 Korea 페이스북 커뮤니티

 * Python Korea

 * TensorFlow KR

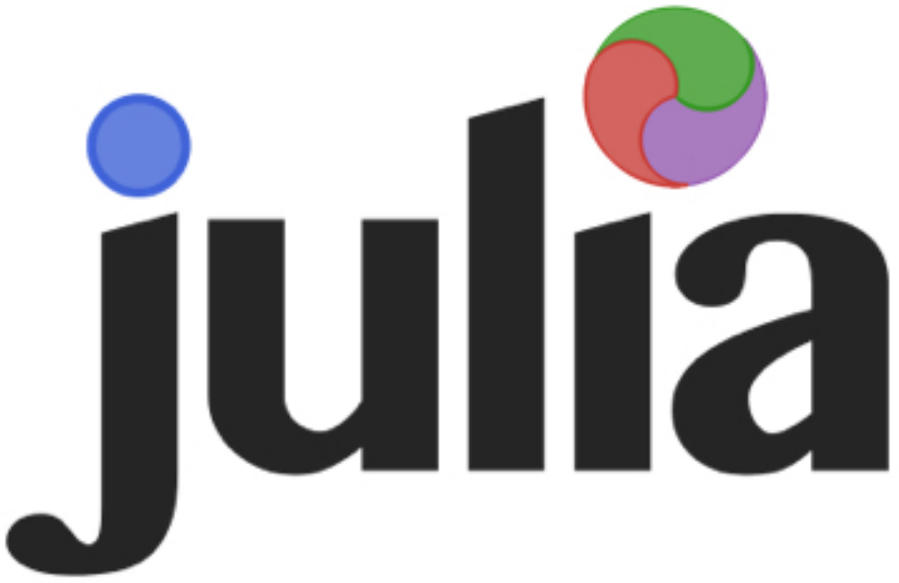
 * R Korea

머시기 Korea 페이스북 커뮤니티

############## Python Korea 멤버 13,033명
- https://www.facebook.com/groups/pythonkorea/

TensorFlow KR 멤버 5,204명
- https://www.facebook.com/groups/TensorFlowKR/

R Korea 멤버 2,972명
- https://www.facebook.com/groups/KoreaRUsers/



* Julia Korea 멤버 237명
- https://www.facebook.com/groups/juliakorea/

Julia Korea 커뮤니티

 * Github
 - https://github.com/juliakorea

 * Facebook Group
 - https://www.facebook.com/groups/juliakorea/

 * Slack
 - http://juliakorea.slack.com/

Julia Korea 커뮤니티 - Github

 * 줄리아 문서 번역 프로젝트
 - https://github.com/juliakorea/doc

 * 줄리아 매뉴얼 (일부 번역)
 - http://juliakorea.github.io/latest/

Julia Korea 커뮤니티 - 슬랙

 - http://juliakorea.slack.com/

 juliakorea 슬랙 가입하기

 - http://juliakorea-slack.herokuapp.com/

짤

개발 툴

- REPL
- Jupyter notebook
- Juno

REPL

* 건 乾 ☰
* 리 離 ☲
* 감 坎 ☵
* 곤 坤 ☷

REPL - 0.3.12, 0.4.7, 0.5.0, 0.6.0-dev

5. ☰ (sh)

```
λ ~ ☰

               _
   _       _ _(_)_     |  A fresh approach to technical computing
  (_)     | (_) (_)    |  Documentation: http://docs.julialang.org
   _ _   _| |_  __ _   |  Type "help()" for help.
  | | | | | | |/ _` |  |
  | | |_| | | | (_| |  |  Version 0.3.12 (2015-10-26 12:41 UTC)
 _/ |\__'_|_|_|\__'_|  |  Official http://julialang.org/ release
|__/                   |  x86_64-apple-darwin13.4.0

julia>
```

4. ☷ (sh)

```
λ ~ ☷

               _
   _       _ _(_)_     |  A fresh approach to technical computing
  (_)     | (_) (_)    |  Documentation: http://docs.julialang.org
   _ _   _| |_  __ _   |  Type "?help" for help.
  | | | | | | |/ _` |  |
  | | |_| | | | (_| |  |  Version 0.5.0 (2016-09-19 18:14 UTC)
 _/ |\__'_|_|_|\__'_|  |  Official http://julialang.org/ release
|__/                   |  x86_64-apple-darwin13.4.0

julia>
```

2. ☲ (julia)

```
λ ~ ☲

               _
   _       _ _(_)_     |  A fresh approach to technical computing
  (_)     | (_) (_)    |  Documentation: http://docs.julialang.org
   _ _   _| |_  __ _   |  Type "?help" for help.
  | | | | | | |/ _` |  |
  | | |_| | | | (_| |  |  Version 0.4.7 (2016-09-18 16:17 UTC)
 _/ |\__'_|_|_|\__'_|  |  Official http://julialang.org/ release
|__/                   |  x86_64-apple-darwin13.4.0

julia>
```

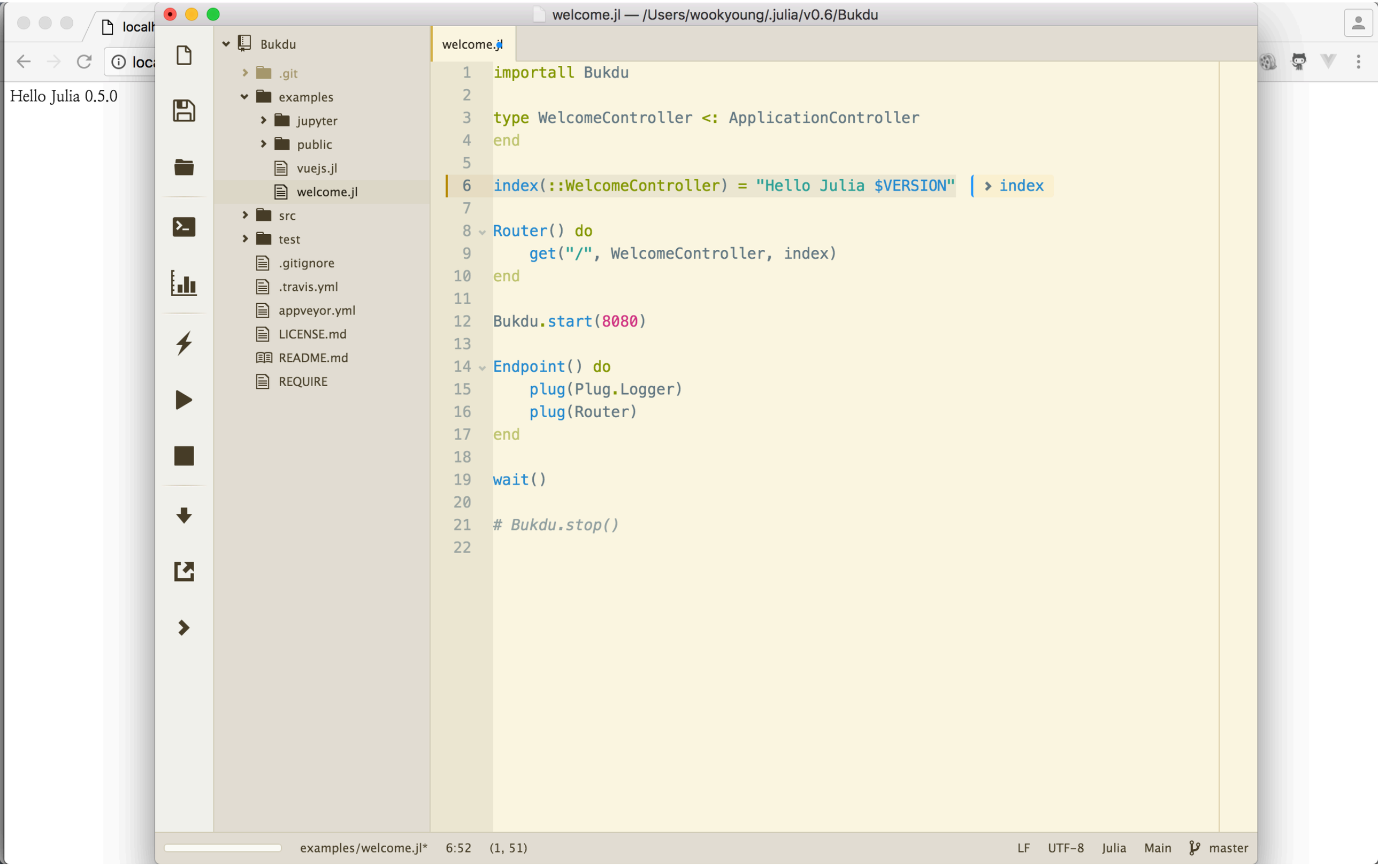
6. ☷ (sh)

```
λ ~ ☷

               _
   _       _ _(_)_     |  A fresh approach to technical computing
  (_)     | (_) (_)    |  Documentation: http://docs.julialang.org
   _ _   _| |_  __ _   |  Type "?help" for help.
  | | | | | | |/ _` |  |
  | | |_| | | | (_| |  |  Version 0.6.0-dev.716 (2016-09-20 08:45 UTC)
 _/ |\__'_|_|_|\__'_|  |  Commit 721ba7a* (0 days old master)
|__/                   |  x86_64-apple-darwin16.0.0

julia>
```

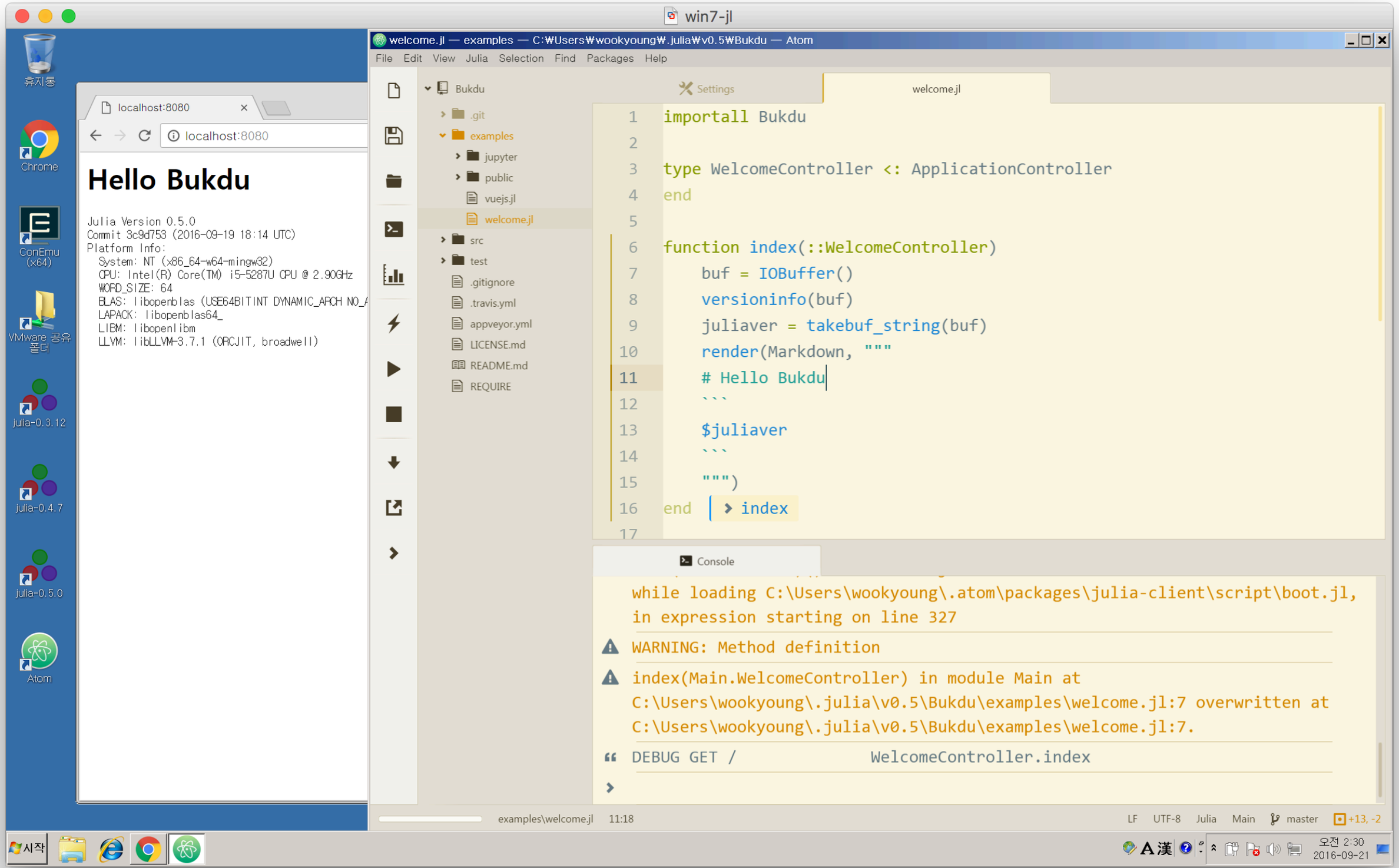
Jupyter notebook

 - Project Jupyter http://jupyter.org/
 - Julia python r

Juno IDE - 맥


Hello Julia 0.5.0
welcome.jl — /Users/wookyoung/.julia/v0.6/Bukdu
Bukdu
.git
examples
jupyter
public
vuejs.jl
welcome.jl
src
test
.gitignore
.travis.yml
appveyor.yml
LICENSE.md
README.md
REQUIRE
welcome.jl
1 importall Bukdu
2
3 type WelcomeController <: ApplicationController
4 end
5
6 index(::WelcomeController) = "Hello Julia $VERSION" | > index
7
8 Router() do
9 get("/", WelcomeController, index)
10 end
11
12 Bukdu.start(8080)
13
14 Endpoint() do
15 plug(Plug.Logger)
16 plug(Router)
17 end
18
19 wait()
20
21 # Bukdu.stop()
22
examples/welcome.jl* 6:52 (1, 51) LF UTF-8 Julia Main master

Juno IDE - 윈도우


win7-jl
휴지통
Chrome
ConEmu (x64)
VMware 공유 폴더
julia-0.3.12
julia-0.4.7
julia-0.5.0
Atom
localhost:8080
localhost:8080
Hello Bukdu
Julia Version 0.5.0
Commit 3c9d753 (2016-09-19 18:14 UTC)
Platform Info:
System: NT (x86_64-w64-mingw32)
CPU: Intel(R) Core(TM) i5-5287U CPU @ 2.90GHz
WORD_SIZE: 64
BLAS: libopenblas (USE64BITINT DYNAMIC_ARCH NO_A
LAPACK: libopenblas64_
LIBM: libopenlibm
LLVM: libLLVM-3.7.1 (ORCJIT, broadwell)
welcome.jl — examples — C:₩Users₩wookyoung₩.julia₩v0.5₩Bukdu — Atom
File Edit View Julia Selection Find Packages Help
Bukdu
.git
examples
jupyter
public
vuejs.jl
welcome.jl
src
test
.gitignore
.travis.yml
appveyor.yml
LICENSE.md
README.md
REQUIRE
Settings
welcome.jl
1 importall Bukdu
2
3 type WelcomeController <: ApplicationController
4 end
5
6 function index(::WelcomeController)
7 buf = IOBuffer()
8 versioninfo(buf)
9 juliaver = takebuf_string(buf)
10 render(Markdown, """
11 # Hello Bukdu
12 ```
13 $juliaver
14 ```
15 """)
16 end
› index
17
Console
while loading C:\Users\wookyoung\.atom\packages\julia-client\script\boot.jl,
in expression starting on line 327
WARNING: Method definition
index(Main.WelcomeController) in module Main at
C:\Users\wookyoung\.julia\v0.5\Bukdu\examples\welcome.jl:7 overwritten at
C:\Users\wookyoung\.julia\v0.5\Bukdu\examples\welcome.jl:7.
DEBUG GET / WelcomeController.index
examples\welcome.jl 11:18
LF UTF-8 Julia Main master +13, -2
시작
오전 2:30
2016-09-21

Julia v0.5.0 Release Notes

* https://github.com/JuliaLang/julia/blob/v0.5.0/NEWS.md

New language features
----

  * Generator expressions: `f(i) for i in 1:n` ([#4470]). This returns an iterator
    that computes the specified values on demand. This is useful for computing, e.g.
    `sum(f(i) for i in 1:n)` without creating an intermediate array of values.

  * Generators and comprehensions support filtering using `if` ([#550]) and nested
    iteration using multiple `for` keywords ([#4867]).

New language features
----

 * Fused broadcasting syntax: ``f.(args...)`` is equivalent to ``broadcast(f, args...)`` (
   and nested `f.(g.(args...))` calls are fused into a single `broadcast` loop ([#17300]).
   Similarly, the syntax `x .= ...` is equivalent to a `broadcast!(identity, x, ...)`
   call and fuses with nested "dot" calls; also, `x .+= y` and similar is now
   equivalent to `x .= x .+ y`, rather than `x = x .+ y` ([#17510]).

New language features
----

  * Macro expander functions are now generic, so macros can have multiple definitions
    (e.g. for different numbers of arguments, or optional arguments) ([#8846], [#9627]).
    However note that the argument types refer to the syntax tree representation, and not
    to the types of run time values.

  * Varargs functions like `foo{T}(x::T...)` may now restrict the number
    of such arguments using `foo{T,N}(x::Vararg{T,N})` ([#11242]).

  * `x ∈ X` is now a synonym for `x in X` in `for` loops and comprehensions,
    as it already was in comparisons ([#13824]).

New language features
----

  * The `PROGRAM_FILE` global is now available for determining the name of the running script ([#14114]).

  * The syntax `x.:sym` (e.g. `Base.:+`) is now supported, while using `x.(:sym)`
    or `x.(i)` for field access are deprecated in favor of `getfield` ([#15032]).

  * Function return type syntax `function f()::T` has been added ([#1090]). Values returned
    from a function with such a declaration will be converted to the specified type `T`.

New language features
----

 * Many more operators now support `.` prefixes (e.g. `.≤`) ([#17393]). However,
   users are discouraged from overloading these, since they are mainly parsed
   in order to implement backwards compatibility with planned automatic
   broadcasting of dot operators in Julia 0.6 ([#16285]). Explicitly qualified
   operator names like `Base.≤` should now use `Base.:≤` (prefixed by `@compat`
   if you need 0.4 compatibility via the `Compat` package).

New language features
----

 * User-extensible bounds check elimination is now possible with the new
   `@boundscheck` macro ([#14474]). This macro marks bounds checking code blocks,
   which the compiler may remove when encountered inside an `@inbounds` call.

코딩 시간

```
# Julia | wc

~/work/julia master git shortlog --numbered --summary | wc
     621    1799   12624                         # Sep 30, 2016

~/work/julia tags/v0.5.0 git shortlog --numbered --summary | wc
     614    1778   12478                         # Sep 19, 2016

~/work/julia tags/v0.4.0 git shortlog --numbered --summary | wc
     465    1358    9485                         # Oct 2015

~/work/julia tags/v0.3.0 git shortlog --numbered --summary | wc
     310     909    6339                           # Aug 2014

~/work/julia v0.2.0 git shortlog --numbered --summary | wc
     186     550    3799                           # Nov 2013

~/work/julia tags/v0.1 git shortlog --numbered --summary | wc
     112     339    2314                           # Feb 2013
```

```
~/work/julia master git shortlog --numbered -summary
  7887  Jeff Bezanson
  3605  Stefan Karpinski
  2724  Viral B. Shah
  2165  Jameson Nash
  1420  Tony Kelman
  1213  Keno Fischer
  1199  Tim Holy
   861  Yichao Yu
   730  Andreas Noack Jensen
   724  Mike Nolta
   720  Jiahao Chen
   683  Steven G. Johnson
   632  Jake Bolewski
   571  Carlo Baldassi
   560  Elliot Saba
   409  Katharine Hyatt
   333  Amit Murthy
   273  Isaiah Norton
   262  Simon Kornblith
```

```
~/work/julia master git log -reverse

commit a9cbc036ac62dc5ba5200416ca7b40a2f9aa59ea
Author: Stefan Karpinski <stefan.karpinski@gmail.com>
Date:   Sat Aug 22 20:39:06 2009 -0700

    Initial empty commit.

commit eb256df11428c8ce63f6cb6ae0bc495645c6eec5
Author: Jeff Bezanson <bezanson@post.harvard.edu>
Date:   Sun Aug 23 02:02:49 2009 -0400

    beginning work on parser

commit c474155897f42940d76b3ef8087ab7749e7a3a6b
Author: Jeff Bezanson <bezanson@post.harvard.edu>
Date:   Sun Aug 23 02:46:56 2009 -0400

    adding basic [vector] and {list} syntax

commit 1565577e1041bb2dfe310d31b004ead3a906a1c3
Author: Jeff Bezanson <bezanson@post.harvard.edu>
Date:   Sun Aug 23 22:23:02 2009 -0400
```

Julia 0.6

 * prompt pasting
 * https://github.com/JuliaLang/julia/milestone/20

Julia 1.0

 * 2017년
 * https://github.com/JuliaLang/julia/milestone/4

Julia 2.0

 * https://github.com/JuliaLang/julia/milestone/23

참여하기

- Notes for Julia Contributors
  https://github.com/JuliaLang/julia/blob/master/CONTRIBUTING.md

- julia doc 번역
  https://github.com/juliakorea/doc

- julialang-web 번역
  https://www.transifex.com/julialang-i18n/julialang-web/

참여하기

- Notes for Julia Contributors
  https://github.com/JuliaLang/julia/blob/master/CONTRIBUTING.md

참여하기

- julia doc 번역
  https://github.com/juliakorea/doc

- GitHub Flow에 대한 설명과 스쿼시, forked repository update하는 방법
  https://www.youtube.com/watch?v=x-b_ij22vWg

참여하기

 - julialang-web 번역
   https://www.transifex.com/julialang-i18n/julialang-web/

 - julialang-web : Languages - Korean
   https://www.transifex.com/julialang-i18n/julialang-web/language/ko/

참여하기

 * Facebook Group
 - https://www.facebook.com/groups/juliakorea/

 * Slack
 - http://juliakorea.slack.com/

References

 * Julia http://julialang.org/
 * JuliaCon http://juliacon.org/
 * Packages
   - DataFrames.jl https://github.com/JuliaStats/DataFrames.jl
   - TensorFlow.jl https://github.com/malmaud/TensorFlow.jl
 * Project Jupyter http://jupyter.org/
 * Juno http://junolab.org/
 * John Myles White http://www.johnmyleswhite.com/
 * TensorFlow https://www.tensorflow.org/

ㄲ

* ㄱㅅㅎㄴㄷ

* ㄱㅁㅅㄴㄷ

* ㄸㅋㅂㄹㅁㅊ