# The Computer as Laboratory for Science

27 June 2016

# Installing & Getting Started with Github

- Make an account at https://github.com/ if you haven't already

- Add the FreeSurfer-Summer-Workshop Repository

- Navigate to ~/Documents/Github/FreeSurfer-Summer-Workshop

Open our jupyter notebook for today

# Jupyter Notebook

Open an iTerm Session

- Type → jupyter-notebook 'Notebook|2017.06.26.ipynb'

# Slack Channel

- Everyone have a user account?

- You should see the following channels: random, general, freesurfer

- Type help in slackbot channel for information on commands

- Communicate all questions & issues through slack, don't hesitate to ask questions if you're confused!
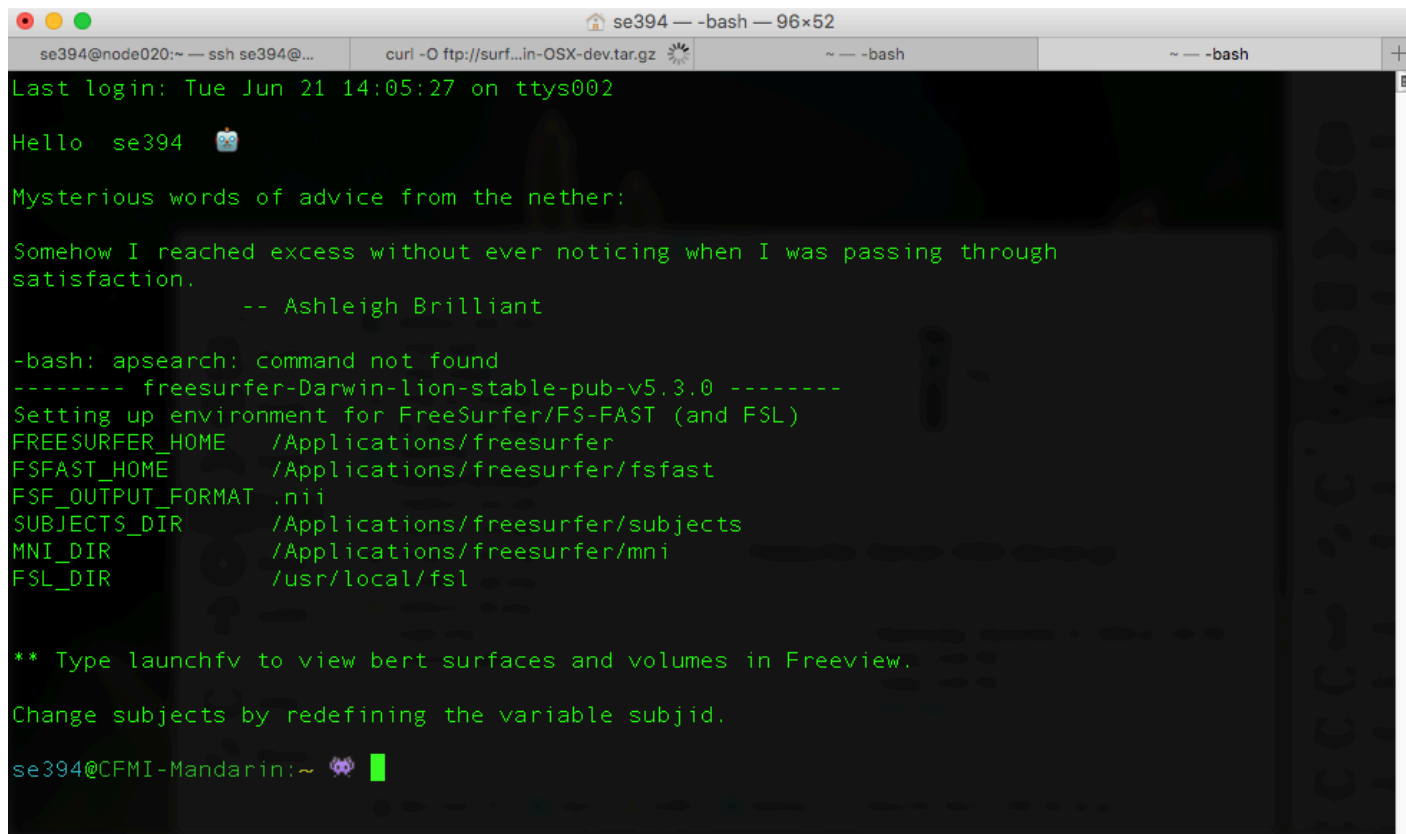
# Unix Tutorial

# I-nix, U-nix, we-all-nix!

📌 UNIX is a <u>fundamental</u> tool for manipulating files, tuning your system, performing network tasks, installing new software, automating routine tasks, etc.

📌 You must learn UNIX if you are serious about neuroimaging.

📌 Getting started is easy - Just open a terminal!

# I-nix, U-nix, we-all-nix!



Default
Environment
Settings&
Commands
*set in .bash_profile*

Command Prompt →

```
se394 — -bash — 96×52

se394@node020:~ — ssh se394@...    curl -O ftp://surf...in-OSX-dev.tar.gz    ~ — -bash    ~ — -bash

Last login: Tue Jun 21 14:05:27 on ttys002

Hello  se394  🤖

Mysterious words of advice from the nether:

Somehow I reached excess without ever noticing when I was passing through
satisfaction.
            -- Ashleigh Brilliant

-bash: apsearch: command not found
-------- freesurfer-Darwin-lion-stable-pub-v5.3.0 --------
Setting up environment for FreeSurfer/FS-FAST (and FSL)
FREESURFER_HOME    /Applications/freesurfer
FSFAST_HOME        /Applications/freesurfer/fsfast
FSF_OUTPUT_FORMAT  .nii
SUBJECTS_DIR       /Applications/freesurfer/subjects
MNI_DIR            /Applications/freesurfer/mni
FSL_DIR            /usr/local/fsl


** Type launchfv to view bert surfaces and volumes in Freeview.

Change subjects by redefining the variable subjid.


se394@CFMI-Mandarin:~ 👾 ▮
```
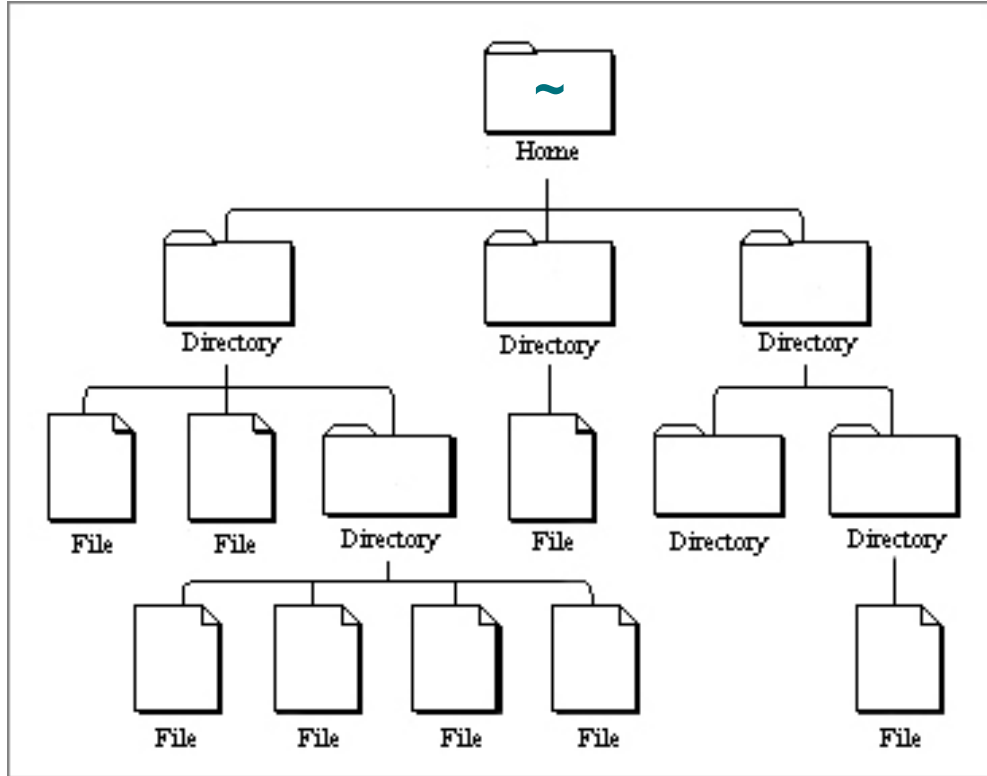
# Unix :: A Hierarchical File System



## Navigating File Systems

**Basic**
| | | |
|---|---|---|
| pwd | -- | print working directory |
| cd | -- | change directory |
| ls | -- | list directory contents |

**Advanced Usage**
| | | |
|---|---|---|
| pushd | -- | save current directory |
| popd | -- | return to saved directory |

# Anatomy of a Command

command  -option1  –option2   file

command  - -help

command  -h

man  __

Try:

ls  --help        **or**        man  ls

# I-nix, U-nix, we-all-nix!

File Name Completion

👾 ls ~/Dow          # hit TAB key for autocomplete

👾 ls ~/Downloads    # should autocomplete

History

Use up arrow ( ↑ ) to see previous commands

# I-nix, U-nix, we-all-nix!

Source your .bash_profile for changes to take effect

> 👾 **source .bash_profile**

You can make a back-up copy using the cp command:

> 👾 **cp .bash_profile .bash_profile.bak**

Make a folder to store it in and move the back-up file there

> 👾 **mkdir backup-files**
> 👾 **mv .bash_profile.bak backup-files/.bash_profile.bak**

# I-nix, U-nix, we-all-nix!

Rename your folder using the mv command

👾 **mv backup-files mystery-folder**

Delete the files in the folder

👾 **rm backup-files/***

Delete the folder (note the use of the –r option)

👾 **rm –r backup-files**