ANTs installation

Nick (UVa) and Brian (Penn)

1 **ANTs installation**

2 **ITK-SNAP installation**

ANTs installation

ANTs is a *dynamic* toolkit

so we generally recommend compiling from source.

Current modifications: `antsAI` and `CreateTieldMosaic`.

Requirements for source installation

- CMake – build system

Requirements for source installation

- CMake – build system
- git – version control system

Requirements for source installation

- CMake – build system
- git – version control system
- C++ compiler

Requirements for source installation

- CMake – build system
- git – version control system
- C++ compiler
- ITK/VTK dependencies are handled by CMake magic

First source for documentation

https://github.com/stnava/ANTs

- README.md

First source for documentation

https://github.com/stnava/ANTs

- README.md
  - "Is the current code building without compilation errors?"

First source for documentation

https://github.com/stnava/ANTs

- README.md
  - "Is the current code building without compilation errors?"
  - More information about ANTs.

First source for documentation

https://github.com/stnava/ANTs

- README.md
    - "Is the current code building without compilation errors?"
    - More information about ANTs.

- Where to report issues

First source for documentation

https://github.com/stnava/ANTs

- README.md
    - "Is the current code building without compilation errors?"
    - More information about ANTs.

- Where to report issues

- or contribute.

From the terminal...

```
$ cd ${WHICH_PATH}
$ git clone https://github.com/stnava/ANTs.git
$ cd ANTs
$ mkdir bin
$ cd bin
$ ccmake ..
$ make
$ echo "export ANTSPATH=/${WHICH_PATH}/ANTs/bin/bin/" >> ~/.p
$ echo "export ITK_GLOBAL_DEFAULT_NUMBER_OF_THREADS=1" >> ~/.p
$ source ~/.profile
```

Some cmake considerations

- Installation location? (default = /usr/local/bin)

Some cmake considerations

- Installation location? (default = /usr/local/bin)
- Enable external applications (only `jointFusion`)

Some cmake considerations

- Installation location? (default = /usr/local/bin)
- Enable external applications (only `jointFusion`)
- Type of build (a debug build produces **slow** programs)

Now test installation

Try calling the `KellyKapowski` short help menu.

```
$ KellyKapowski -h

COMMAND:
     KellyKapowski

OPTIONS:
     -d, --image-dimensionality 2/3
     -s, --segmentation-image imageFilename
                              [imageFilename,<grayMatterLabel=
     -g, --gray-matter-probability-image imageFilename
     -w, --white-matter-probability-image imageFilename
     -c, --convergence [<numberOfIterations=50>,<convergenceTh
     -t, --thickness-prior-estimate thicknessPriorEstimate
     -a, --thickness-prior-image thicknessPriorFileName
     -r, --gradient-step stepSize
     -l, --smoothing-variance variance
```

`antsRegistration` long help menu.

```
$ antsRegistration --help


COMMAND:
     antsRegistration
          This program is a user-level registration applicatio
          ITKv4-only classes. The user can specify any number
          consists of a transform; an image metric; and iterat
          smoothing sigmas for each level.Note that dimensiona
          output, convergence, shrink-factors and smoothing-si
          mandatory.


OPTIONS:
     --version
          Get Version Information.

     -d  --dimensionality 2/3
```
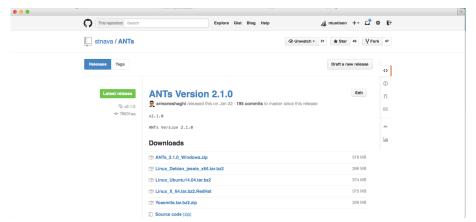
However,

binaries are available.

Steps for binary installation

1. Download appropriate binaries (~350 MB) from ANTs website.

Steps for binary installation

1. Download appropriate binaries (~350 MB) from ANTs website.
2. De-archive downloaded file to desired directory.

Steps for binary installation

1. Download appropriate binaries (~350 MB) from ANTs website.
2. De-archive downloaded file to desired directory.
3. export the `ANTSPATH` to the .profile or .bashrc file.

Steps for binary installation

1. Download appropriate binaries (~350 MB) from ANTs website.
2. De-archive downloaded file to desired directory.
3. export the `ANTSPATH` to the .profile or .bashrc file.
4. Test the installation by calling an ANTs program help menu.

ITK-SNAP installation

MacOS

1 Download

MacOS

1 Download

2 Drag the `ITK-SNAP.app` icon to the Applications folder

MacOS

1. Download
2. Drag the `ITK-SNAP.app` icon to the Applications folder
3. Drag the `itksnap` icon to the `usr_local_bin` folder

Linux

1. Download

Linux

1. Download
2. Open terminal.

Linux

1. Download
2. Open terminal.
3. Uncompress the downloaded file and copy the archive directory to `/usr/local/`.

Linux (command line)

```
$ tar -zxvf itksnap-3.2.0-rc2-20140919-Linux_x86_64.tar.gz
$ sudo cp itksnap-3.2.0-rc2-20140919-Linux_x86_64/ /usr/local/
$ itksnap
```

Ready to go!