

Preprocessing T1 Images

Let's get started!

```
1 ssh intj5@ssh.fsl.byu.edu
```

Move Files

```
1 rsync -rauv ~/fsl_groups/fslg_byustudent/compute/class ~/compute/
```

Convert DICOMs to NIfTI

Set participant directory

```
1 subjDir=~/compute/class/1304/
```

Make a new directory for your NIfTI images

```
1 cd $subjDir
2 mkdir t1
```

DICOM to NIfTI

```
1 ~/apps/dcm2niix/bin/dcm2niix -o t1/ -x y DICOM/
```

AC-PC Aligned

```
1 ~/apps/acpcdetect/acpcdetect -M -o ${subjDir}/t1/acpc.nii -i ${subjDir}/t1/t1_Crop_1.nii
```

N4 Bias Field Correction

```
1 ~/apps/ants-20160716/bin/N4BiasFieldCorrection -d 3 -i $subjDir/t1/acpc.nii -o  
$subjDir/t1/n4.nii.gz -s 4 -b [200] -c [50x50x50x50,0.000001] -v
```

Resample

```
1 ~/apps/c3d-1.1.0-Linux-x86_64/bin/c3d $subjDir/t1/n4.nii.gz -resample-mm 1x1x1mm -o  
$subjDir/t1/resampled.nii.gz
```

Script

```
1 mkdir -p ~/scripts/class
2 cd ~/scripts/class
3 vi preprocessed.sh
```

Enter this text in for the script:

```
1 mkdir $1/t1
2 ~/apps/dcm2niix/bin/dcm2niix -o $1/t1/ -x y $1/DICOM
3 ~/apps/acpcdetect/acpcdetect -M -o $1/t1/acpc.nii -i $1/t1/t1_Crop_1.nii
4 ~/apps/ants-20160716/bin/N4BiasFieldCorrection -v -d 3 -i $1/t1/acpc.nii -o $1/t1/n4.nii.gz
  -s 4 -b [200] -c [50x50x50x50,0.000001]
5 ~/apps/c3d-1.1.0-Linux-x86_64/bin/c3d $1/t1/n4.nii.gz -resample-mm 1x1x1mm -o
  $1/t1/resampled.nii.gz
6 ls $1/t1/
```

To run the script

```
1 sh ~/scripts/class/preprocess.sh ~/compute/class/1307
```

Copy Remote to Local

```
1 exit
2 rsync -rauv --exclude="DICOM" intj5@ssh.fsl.byu.edu:~/compute/call ~/Desktop/
```