

# Overview

Today's Tech PSA will go over:

1. SPM8 and some toolboxes in MATLAB
2. Various Python tools

**On Monday, if you followed my advice about using a course issued laptop or the course virtual machine, you can stop reading now.**

If you are using your own machine and need to install these tools, please continue reading.

## 1. SPM8 + Toolboxes

We will assume that you have a working version of MATLAB from 7.1 to 8.1 (find out your version number here: [http://en.wikipedia.org/wiki/MATLAB#Release\\_history](http://en.wikipedia.org/wiki/MATLAB#Release_history)).

Two ways to install:

1. Grab all the software from the web
  - a. SPM8
    - i. <http://www.fil.ion.ucl.ac.uk/spm/software/download.html>
    - ii. fill out the form and make sure the SPM8 radio button is selected, then download the zip file
  - b. MarsBaR
    - i. <http://sourceforge.net/projects/marsbar/files/marsbar/0.43/marsbar-0.43.zip/download>
    - ii. [http://sourceforge.net/projects/marsbar/files/marsbar%20example%20data/0.3/marsbar\\_example\\_data-0.3.zip/download](http://sourceforge.net/projects/marsbar/files/marsbar%20example%20data/0.3/marsbar_example_data-0.3.zip/download)
  - c. ART
    - i. [http://www.nitrc.org/frs/?group\\_id=104&release\\_id=1625](http://www.nitrc.org/frs/?group_id=104&release_id=1625)

OR

2. Grab all the software from our hard drives
  - a. SPM8
    - i. NITP3-DATA/matlab/spm/spm8.zip
  - b. MarsBaR
    - i. NITP3-DATA/matlab/spm/marsbar-0.43.zip
    - ii. NITP3-DATA/matlab/spm/marsbar\_example\_data-0.3.zip
  - c. ART
    - i. NITP3-DATA/matlab/spm/art-2011-07.zip

Once you have all of the zip files.

1. Unzip the ***spm8.zip*** file and move the resulting directory wherever you would like to install SPM8.
2. Within the SPM8 directory, navigate to the subdirectory named ***toolbox***
3. Here, unzip the file ***marsbar-0.43.zip***
4. Rename the resulting ***marsbar-0.43*** directory to ***marsbar***
5. Navigate to anywhere else on your computer and unzip the file ***marsbar\_example\_data-0.3.zip***
6. Navigate to somewhere else on your computer and unzip the file ***art-2011-07.zip***
7. Open MATLAB and change your matlab path to include (with subdirectories) your new directories ***spm8***, ***marsbar\_example\_data-0.3*** and ***art-2011-07***
8. Save your path and you are done setting up SPM8 and the toolboxes we will be using!

## 2. Python and friends

Instructions for

- Linux Users
- Mac Users

Sorry PC users, I'm hoping you have the virtual machine running or can figure this out on your own as I don't have enough experience setting Python up on a Windows machine.

### Linux Users (because apparently there are a lot of Ubuntu fans this summer)

I believe you should already have Python 2.7.x installed on your system by default if you are running a modern Ubuntu installation. All that is left is to install some other modules to go with it.

1. On the command line
  - a. `sudo apt-get update`
2. And use apt-get to install the following tools for Python 2.7.x
  - a. `numpy`
  - b. `scipy`
  - c. `matplotlib`
  - d. `statsmodels`
  - e. `nibabel`
  - f. `scikit-learn` (aka `sklearn`)
  - g. `reportlab`
  - h. `ipython`
  - i. `pymvpa` (aka `mvpa`)
  - j. `ply`
3. Visit the website <https://github.com/poldrack/fmriqa> and download the zip for the master file (button at the bottom of the right hand sidebar)
  - a. Unzip the file
  - b. Modify your environment variable PYTHONPATH to include this directory
    - i. `export PYTHONPATH=$PYTHONPATH:/path/to/fmriqa`
    - ii. Add this to your `.bashrc` file perhaps for the future

4. Visit the website <https://github.com/NeuroSynth/Neurosynth> and download the zip for the master file (button at the bottom of the right hand sidebar)
  - a. Unzip the file and change into it
  - b. Run the command
    - i. `python setup.py install`
  - c. And the tool should be available for you

## Mac Users

To more easily install the needed Python version and associated tools, I recommend installing MacPorts or HomeBrew.

- <http://www.macports.org/install.php> (needs sudo)
- <http://mxcl.github.io/homebrew/> (avoids needing sudo)

Once you install one of those, please use the respective command line interfaces (**port** or **brew**) to install the following tools:

- py27-numpy
- py27-scipy
- py27-nibabel
- py27-ipython
- py27-matplotlib
- py27-ply
- py27-reportlab
- py27-scikit-learn
- py27-scikits-statsmodels

Then:

1. Visit the website <https://github.com/PyMVPA/PyMVPA/archive/debian/0.4.8-3.zip> and download that zip file
  - a. Unzip the file
  - b. Change into the directory and run the command
    - i. MacPorts:
      1. `/opt/local/bin/python2.7 ./steup.py build_ext`
      2. `/opt/local/bin/python2.7 ./setup.py install --prefix=/opt/local`
    - ii. HomeBrew:
      1. `/opt/local/bin/python2.7 ./setup.py build_ext`
      2. `/usr/local/bin/python2.7 ./setup.py install --prefix=/usr/local`
2. Visit the website <https://github.com/poldrack/fmriqa> and download the zip for the master file (button at the bottom of the right hand sidebar)
  - a. Unzip the file
  - b. Modify your environment variable PYTHONPATH to include this directory
    - i. `export PYTHONPATH=$PYTHONPATH:/path/to/this/directory`

- c. Maybe include that line in your `~/.bashrc` file for the future
- 3. Visit the website <https://github.com/NeuroSynth/Neurosynth> and download the zip for the master file (button at the bottom of the right hand sidebar)
  - a. Unzip the file
  - b. Change into the directory and run the command
    - i. MacPorts:
      - 1. `/opt/local/bin/python2.7 ./setup.py install --prefix=/opt/local`
    - ii. HomeBrew:
      - 1. `python2.7 ./setup.py install --prefix=/usr/local`