=======Notizia dell'AFNI=======

John A. Lee[1], Richard C. Reynolds[1], Paul A. Taylor[1], Dylan M Nielson[2], Robert W. Cox[1]

1) Scientific and Statistical Computing Core, National Institute of Mental Health (NIMH); 2) Data Science and Sharing Team, NIMH

AFNI: Adapting to future needs in human neuroimaging.

Introduction

AFNI is an open-source software toolbox for neuroimaging analysis and visualization of several MRI and other modalities. It provides a customizable set of tools for integrating data defined on 3D volume grids, 2D surface meshes SUMA, and 1D linear structures such as white matter tracts.

The BRAIN Initiative aims to make all data collected under its auspices made available on the Cloud. To complement this goal directly, we plan to extend AFNI's widely-used analytical and visualization capabilities to Cloud-based environments. We will continue to develop our support for the evolving BRAIN Initiative standards for human neuroimaging data, including BIDS. This applies to both the data's organization and the experimental specification. This improved support will further simplify the use of AFNI on such "standardized" datasets. Finally, we discuss our progress in further integrating modern software development practices in order to both make AFNI even more robust and facilitate and encourage community contribution to this important suite of tools for neuroimaging.

Methods

The AFNI source code is freely available at github.com/afni. The most recent results of our build and testing infrastructure can be downloaded as a docker image at hub.docker.com/r/afni/afni.

Results

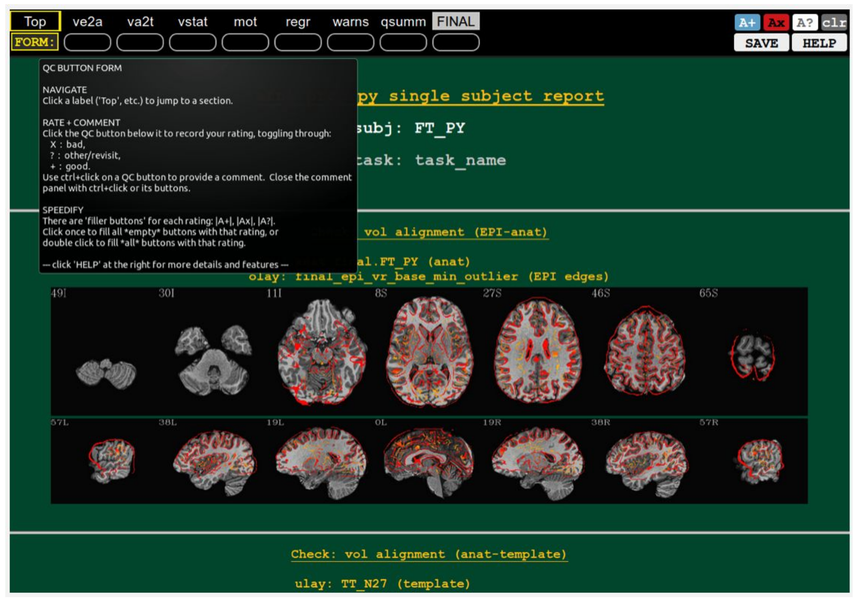
- Testing and distribution.
- Enabling cloud-computing
- Containerization
- Creating a standardized interface.
- Integration with community tools/standards/and computing platforms
- afni_proc.py QC output in HTML

Conclusion

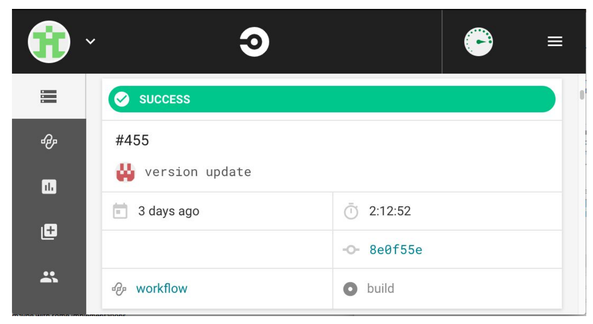
As from its starting days, AFNI continues to adapt and add features for modern processing needs. Importantly, feedback continues to be welcomed from the neuroimaging community. Tell us how we can help.

References

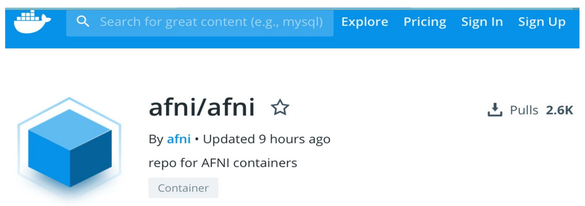
[1] Cox RW. 1996. AFNI: software for analysis and visualization of functional magnetic resonance neuroimages. Computers and Biomedical Research 29:162–173.



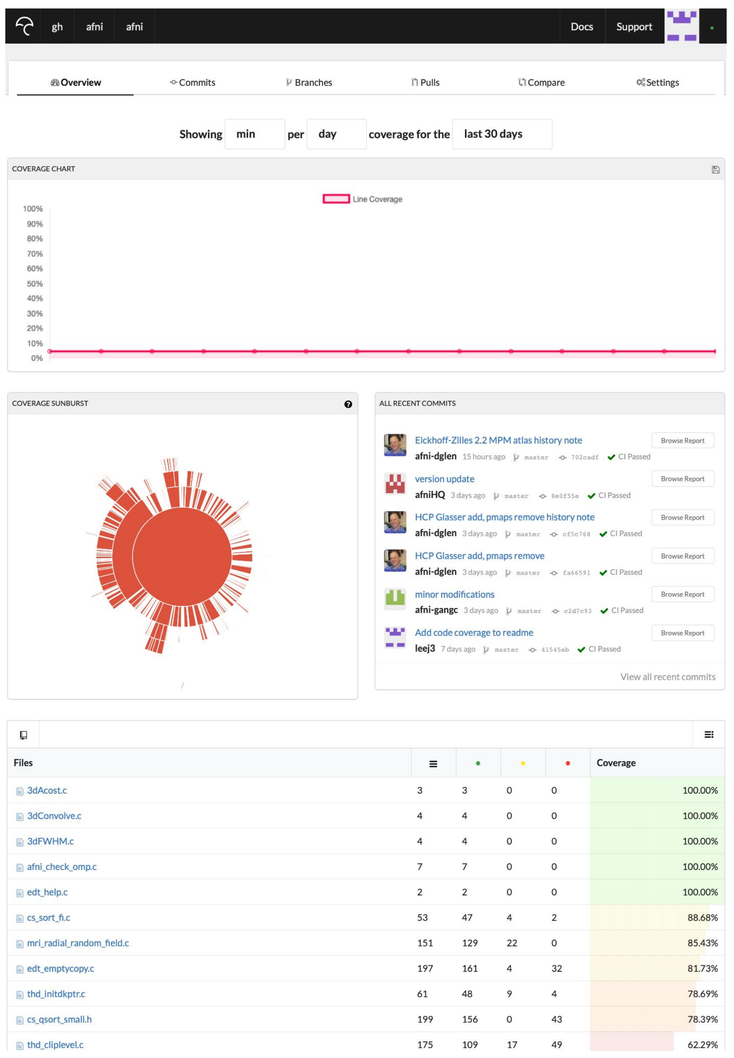
afni_proc.py



Circleci



Docker



Codecov

Software demos (Wedn, 12:45-14:45):

- 4590 on QC interface, by PA Taylor
- 3114 on afni_proc.py, by RW Cox