

Supplementary Table 1. An incomplete but illustrative list of free and well-supported tools for open science tools for neuroimaging. This table highlights analysis tools that can be scripted, allowing replicable analyses, as well as pipeline environments that bind together different software for replicable analyses, across heterogeneous software tools. The items under Data Sharing focus on tools to facilitate sharing and repositories that accept data. As repositories can have varying cost structures depending on the scale of data to be shared, we did not attempt to classify as “free” or not; likewise, repositories generally do not comprise software that need to be downloaded, and we likewise did not attempt to classify by open source nature of the project. Results sharing tools either facilitate sharing or serve as repositories for shared results data. The Reproducibility Tools are a loose collection of resources that facilitate research using open science methods.

Resource	Type	Short Description	Free	Open Source	Link
Open Brain Consent	Consent	Ethics template oriented for neuroimaging data sharing	x	x	<a href="http://open-brain-consent.readthedocs.io">http://open-brain-consent.readthedocs.io</a>
OpenSesame	Paradigm software	Graphical experiment builder	x	x	<a href="http://osdoc.cogsci.nl">http://osdoc.cogsci.nl</a>
PsychoPy	Paradigm software	Psychophysics software in Python	x	x	<a href="http://www.psychopy.org">http://www.psychopy.org</a>
Psychtoolbox	Paradigm software	Psychophysics Toolbox	x	x	<a href="http://psychtoolbox.org/">http://psychtoolbox.org/</a>
aa	Pipeline	Automatic Analysis, Matlab-based workflow tool	x (Matlab)	x	<a href="http://automaticanalysis.org">http://automaticanalysis.org</a>
C-BRAIN	Pipeline	Web-based software for computationally intensive analyses	x	x	<a href="http://cbrain.mcgill.ca">http://cbrain.mcgill.ca</a>
CCS	Pipeline	Connectome Computation System, a pipeline primarily for resting data	x	x	<a href="http://github.com/zuoxinian/CCS">http://github.com/zuoxinian/CCS</a>
C-PAC	Pipeline	Configurable Pipeline for the Analysis of Connectomes	x	x	<a href="http://fcp-indi.github.io">http://fcp-indi.github.io</a>
DPARSF/DPABI	Pipeline	Data Processing & Analysis for Brain Imaging, including resting-state fMRI	x	x	<a href="http://rfmri.org/dpabi">http://rfmri.org/dpabi</a>
DTIPrep	Pipeline	Pipeline for diffusion weighted / diffusion tensor image data	x	x	<a href="http://www.nitrc.org/projects/dtiprep/">http://www.nitrc.org/projects/dtiprep/</a>
HCP Pipeline	Pipeline	Human Connectome Project Pipeline	x	x	<a href="http://github.com/Washington-University/Pipelines">http://github.com/Washington-University/Pipelines</a>
LONI Pipeline	Pipeline	Cross-platform workflow tool for neuroimaging, genomics, bioinformatics	NC		<a href="http://pipeline.loni.usc.edu">http://pipeline.loni.usc.edu</a>
LORIS	Pipeline	Web-based data and project management software for neuroimaging	x	x	<a href="http://loris.ca">http://loris.ca</a>
NIAC	Pipeline	Library of modules and pipelines for fMRI processing in Matlab/Octave	x	x	<a href="http://www.nitrc.org/projects/niac">http://www.nitrc.org/projects/niac</a>
NiDB	Pipeline	Neuroimaging database software that includes pipeline tools	x	x	<a href="http://github.com/gbook/nidb">http://github.com/gbook/nidb</a>
NiPype	Pipeline	Neuroimaging in Python Pipelines and Interfaces	x	x	<a href="http://nipy.org/nipype">http://nipy.org/nipype</a>
PANDA	Pipeline	Pipeline for Analyzing brain Diffusion images	x	x	<a href="http://www.nitrc.org/projects/panda">http://www.nitrc.org/projects/panda</a>
SimNIBS	Pipeline	Simulation of Non-invasive Brain Stimulation	x	x	<a href="http://simnibs.de">http://simnibs.de</a>
AFNI	Scriptable Analysis	Neuroimaging analysis software for functional MRI	x	x	<a href="http://afni.nimh.nih.gov/afni">http://afni.nimh.nih.gov/afni</a>
CONN	Scriptable Analysis	Functional connectivity toolbox, Matlab-based pipeline tool	x (Matlab)	x	<a href="http://www.nitrc.org/projects/conn">http://www.nitrc.org/projects/conn</a>
Connectir	Scriptable Analysis	Analysis software for Connectome-Wide Association Studies, based in R	x	x	<a href="http://czarrar.github.io/connectir">http://czarrar.github.io/connectir</a>
DiPy	Scriptable Analysis	Diffusion analysis pipeline using Python	x	x	<a href="http://nipy.org/dipy">http://nipy.org/dipy</a>
Freesurfer	Scriptable Analysis	Neuroimaging analysis software for MRI, emphasis on surface-based analysis	x	x	<a href="http://surfer.nmr.mgh.harvard.edu">http://surfer.nmr.mgh.harvard.edu</a>
FSL	Scriptable Analysis	Neuroimaging analysis software for MRI	NC	x	<a href="http://www.fmrib.ox.ac.uk/fsl">http://www.fmrib.ox.ac.uk/fsl</a>
MindBoggle	Scriptable Analysis	Automated labeling and shape analysis of brain images	x	x	<a href="http://www.mindboggle.info">http://www.mindboggle.info</a>
SPM	Scriptable Analysis	Neuroimaging analysis software based in Matlab, for MRI, M/EEG, PET.	x (Matlab)	x	<a href="http://www.fil.ion.ucl.ac.uk/spm">http://www.fil.ion.ucl.ac.uk/spm</a>
Voxel	Scriptable Analysis	Mass-Univariate Voxelwise Analysis of Medical Imaging Data, based in R	x	x	<a href="http://cran.r-project.org/web/packages/voxel">http://cran.r-project.org/web/packages/voxel</a>
BIDS	Data Sharing	Standard for organising MRI data and associated supporting data			<a href="http://bids.neuroimaging.io">http://bids.neuroimaging.io</a>
COINS	Data Sharing	Web-based data management and analysis tool			<a href="http://coins.mrn.org">http://coins.mrn.org</a>
FCP/INDI	Data Sharing	Repository for resting state fMRI data			<a href="http://fcon_1000.projects.nitrc.org">http://fcon_1000.projects.nitrc.org</a>
Figshare	Data Sharing	Generic data sharing repository			<a href="http://figshare.com">http://figshare.com</a>
LONI IDA	Data Sharing	Image data archive, repository for primarily neuroimaging data			<a href="http://ida.loni.usc.edu">http://ida.loni.usc.edu</a>
LORIS	Data Sharing	Database for longitudinal imaging studies			<a href="http://bigbrain.loris.ca">http://bigbrain.loris.ca</a>
NDA	Data Sharing	NIMH Data Archive, repository for data from NIMH-funded studies			<a href="http://data-archive.nimh.nih.gov">http://data-archive.nimh.nih.gov</a>
NITRC-IR	Data Sharing	Image repository for neuroimaging data			<a href="http://www.nitrc.org/ir">http://www.nitrc.org/ir</a>
OpenfMRI	Data Sharing	Repository for task fMRI data, including all image and task paradigm data			<a href="https://openfmri.org">https://openfmri.org</a>
PCP	Data Sharing	Preprocessed connectome project - pipelines for resting state data			<a href="http://preprocessed-connectomes-project.org">http://preprocessed-connectomes-project.org</a>
XNAT-Central	Data Sharing	Repository for raw MRI data			<a href="http://central.xnat.org">http://central.xnat.org</a>
BALSA	Results Sharing	Sharing of surface-based statistical results	x		<a href="http://balsa.wustl.edu">http://balsa.wustl.edu</a>
NeuroVault	Results Sharing	Sharing tool for statistical maps	x	x	<a href="http://neurovault.org">http://neurovault.org</a>
NIDM	Results Sharing	Standard for exporting statistical results independent of the analysis tool	x	x	<a href="http://nidm.nidash.org">http://nidm.nidash.org</a>
Docker	Reproducibility tool	Containerisation tool	x	x	<a href="http://www.docker.com">http://www.docker.com</a>
GitHub	Reproducibility tool	Version and issue tracking for software projects	x	x	<a href="http://github.org">http://github.org</a>

Resource	Type	Short Description	Free	Open Source	Link
NeuroDebian	Reproducibility tool	Archive of research software packages for use on workstations & VMs	x	x	<a href="http://neuro.debian.net">http://neuro.debian.net</a>