

Resource Summary Report

Generated by PRECISE-TBI on Jul 31, 2026

Automatic Registration Toolbox

RRID:SCR_005993

Type: Tool

Proper Citation

Automatic Registration Toolbox (RRID:SCR_005993)

Resource Information

URL: <http://www.nitrc.org/projects/art>

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Description: ART ""acpcdetect"" program for automatic detection of the AC and PC landmarks and the mid-sagittal plane on 3D structural MRI scans. ART ""brainwash"" program for automatic multi-atlas skull-stripping of 3D structural MRI scans. ART ""3dwarper"" program of non-linear inter-subject registration of 3D structural MRI scans. Software (art2) for linear rigid-body intra-subject inter-modality (MRI-PET) image registration. Data resource: The ART projects makes available corpus callosum segmentations of 316 normal subjects from the OASIS cross-sectional database. ART ""yuki"" program for fast, robust, and fully automatic segmentation of the corpus callosum on 3D structural MRI scans.

Abbreviations: ART

Resource Type: data processing software, software toolkit, image collection, software resource, image analysis software, data or information resource, software application, image processing software

Keywords: artifact removal, intermodal, intersubject, intramodal, intrasubject, image-to-template, nearest neighbor, spline interpolation, tri-linear, affine warp, nonlinear warp, image display, corpus callosum, segmentation, mri, registration, structural mri, image registration, pet, nifti

Related Condition: Normal

Availability: Free, Non-commercial

Resource Name: Automatic Registration Toolbox

Resource ID: SCR_005993

Alternate IDs: nlx_151368

Record Creation Time: 20220129T080233+0000

Record Last Update: 20260731T042717+0000

Ratings and Alerts

No rating or validation information has been found for Automatic Registration Toolbox.

No alerts have been found for Automatic Registration Toolbox.

Data and Source Information

Source: [SciCrunch Registry](#)

Usage and Citation Metrics

We found 23 mentions in open access literature.

Listed below are recent publications. The full list is available at [PRECISE-TBI](#) .

Da X, et al. (2024) Spectris??? treatment preserves corpus callosum structure in Alzheimer's disease. *Frontiers in neurology*, 15, 1452930.

Ardekani BA, et al. (2022) A new approach to symmetric registration of longitudinal structural MRI of the human brain. *Journal of neuroscience methods*, 373, 109563.

Shah NJ, et al. (2022) A novel MRI-based quantitative water content atlas of the human brain. *NeuroImage*, 252, 119014.

Thakran S, et al. (2022) Impact of deformable registration methods for prediction of recurrence free survival response to neoadjuvant chemotherapy in breast cancer: Results from the ISPY 1/ACRIN 6657 trial. *Translational oncology*, 20, 101411.

Zafarullah M, et al. (2021) Metabolomic Biomarkers Are Associated With Area of the Pons in Fragile X Premutation Carriers at Risk for Developing FXTAS. *Frontiers in psychiatry*, 12, 691717.

Wang JY, et al. (2020) Interaction between ventricular expansion and structural changes in the corpus callosum and putamen in males with FMR1 normal and premutation alleles. *Neurobiology of aging*, 86, 27.

Wang JY, et al. (2020) Cortical gyrification and its relationships with molecular measures and cognition in children with the FMR1 premutation. *Scientific reports*, 10(1), 16059.

Shelton AL, et al. (2018) Middle Cerebellar Peduncle Width-A Novel MRI Biomarker for FXTAS? *Frontiers in neuroscience*, 12, 379.

- Penner J, et al. (2018) Temporoparietal Junction Functional Connectivity in Early Schizophrenia and Major Depressive Disorder. *Chronic stress* (Thousand Oaks, Calif.), 2, 2470547018815232.
- Lee SH, et al. (2016) Predicting progression from mild cognitive impairment to Alzheimer's disease using longitudinal callosal atrophy. *Alzheimer's & dementia* (Amsterdam, Netherlands), 2, 68.
- Katuwal GJ, et al. (2016) Inter-Method Discrepancies in Brain Volume Estimation May Drive Inconsistent Findings in Autism. *Frontiers in neuroscience*, 10, 439.
- Serag A, et al. (2016) Accurate Learning with Few Atlases (ALFA): an algorithm for MRI neonatal brain extraction and comparison with 11 publicly available methods. *Scientific reports*, 6, 23470.
- Penner J, et al. (2016) Medial Prefrontal and Anterior Insular Connectivity in Early Schizophrenia and Major Depressive Disorder: A Resting Functional MRI Evaluation of Large-Scale Brain Network Models. *Frontiers in human neuroscience*, 10, 132.
- Smiley JF, et al. (2015) Selective reduction of cerebral cortex GABA neurons in a late gestation model of fetal alcohol spectrum disorder. *Alcohol* (Fayetteville, N.Y.), 49(6), 571.
- Lee SH, et al. (2014) Application of fused lasso logistic regression to the study of corpus callosum thickness in early Alzheimer's disease. *Journal of neuroscience methods*, 221, 78.
- Wang L, et al. (2013) Longitudinally guided level sets for consistent tissue segmentation of neonates. *Human brain mapping*, 34(4), 956.
- Deistung A, et al. (2013) Toward in vivo histology: a comparison of quantitative susceptibility mapping (QSM) with magnitude-, phase-, and R2*-imaging at ultra-high magnetic field strength. *NeuroImage*, 65, 299.
- Chang CW, et al. (2012) ADHD classification by a texture analysis of anatomical brain MRI data. *Frontiers in systems neuroscience*, 6, 66.
- Herron TJ, et al. (2012) Automated measurement of the human corpus callosum using MRI. *Frontiers in neuroinformatics*, 6, 25.
- Heckemann RA, et al. (2011) Automatic morphometry in Alzheimer's disease and mild cognitive impairment. *NeuroImage*, 56(4), 2024.