

Resource Summary Report

Generated by [kravitz2](#) on Jul 31, 2026

BrainSuite

RRID:SCR_006623

Type: Tool

Proper Citation

BrainSuite (RRID:SCR_006623)

Resource Information

URL: <http://users.loni.ucla.edu/~shattuck/brainsuite/>

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Description: Suite of image analysis tools designed to process magnetic resonance images (MRI) of the human head. BrainSuite provides an automatic sequence to extract genus-zero cortical surface mesh models from the MRI. It also provides a set of viewing tools for exploring image and surface data. The latest release includes graphical user interface and command line versions of the tools. BrainSuite was specifically designed to guide its users through the process of cortical surface extraction. NITRC has written the software to require minimal user interaction and with the goal of completing the entire process of extracting a topologically spherical cortical surface from a raw MR volume within several minutes on a modern workstation. The individual components of BrainSuite may also be used for soft tissue, skull and scalp segmentation and for surface analysis and visualization. BrainSuite was written in Microsoft Visual C using the Microsoft Foundation Classes for its graphical user interface and the OpenGL library for rendering. BrainSuite runs under the Windows 2000 and Windows XP Professional operating systems. BrainSuite features include: * Sophisticated visualization tools, such as MRI visualization in 3 orthogonal views (either separately or in 3D view), and overlaid surface visualization of cortex, skull, and scalp * Cortical surface extraction, using a multi-stage user friendly approach. * Tools including brain surface extraction, bias field correction, voxel classification, cerebellum removal, and surface generation * Topological correction of cortical surfaces, which uses a graph-based approach to remove topological defects (handles and holes) and ensure a tessellation with spherical topology * Parameterization of generated cortical surfaces, minimizing a harmonic energy functional in the p-norm * Skull and scalp surface extraction

Abbreviations: BrainSuite

Synonyms: Brain Suite

Resource Type: image analysis software, data visualization software, software application, software resource, data processing software

Defining Citation: [PMID:12045000](#)

Keywords: brain, magnetic resonance, image, analysis, human, topology, segmentation, visualization, cortex, cortical, mri, tissue classification, topological correction, rendering, edit, cortical surface

Funding: NIBIB R01 EB002010;
NCRR P41 RR013642;
NIMH RO1-MH53213

Resource Name: BrainSuite

Resource ID: SCR_006623

Alternate IDs: nif-0000-30214

Alternate URLs: <http://www.nitrc.org/projects/brainsuite>

Record Creation Time: 20220129T080237+0000

Record Last Update: 20260801T042619+0000

Ratings and Alerts

No rating or validation information has been found for BrainSuite.

No alerts have been found for BrainSuite.

Data and Source Information

Source: [SciCrunch Registry](#)

Usage and Citation Metrics

We found 93 mentions in open access literature.

Listed below are recent publications. The full list is available at [kravitz2](#) .

Li S, et al. (2025) Evaluating the temporal order of motor and auditory systems in speech production using intracranial EEG. Communications biology, 8(1), 1442.

Yin J, et al. (2025) A novel early onset spinocerebellar ataxia 13 BAC mouse model with cerebellar atrophy, tremor, and ataxic gait. Experimental animals, 74(3), 362.

Osman B, et al. (2025) A subject-specific reversible folding model reveals geometry-driven white-matter organization. bioRxiv : the preprint server for biology.

Dundar TT, et al. (2025) Comparison of surgical approaches to the hippocampal formation with artificial intelligence. *Neurosurgical review*, 48(1), 251.

Shokati A, et al. (2025) Cell therapy with placenta-derived mesenchymal stem cells for secondary progressive multiple sclerosis patients in a phase 1 clinical trial. *Scientific reports*, 15(1), 16005.

Vasilyeva MJ, et al. (2025) Neurophysiological evidence of single-shot semantic mapping in the developing brain. *Frontiers in human neuroscience*, 19, 1533833.

Ishizaki T, et al. (2025) Frequency-specific network changes in mesial temporal lobe epilepsy: Analysis of chronic and transient dysfunctions in the temporo-amygdala-orbitofrontal network using magnetoencephalography. *Epilepsia open*, 10(2), 557.

Manser P, et al. (2025) Structural brain improvements following individually tailored serious exergame-based training in mild neurocognitive disorders: exploratory randomized controlled trial. *Alzheimer's research & therapy*, 17(1), 190.

Nafziger T, et al. (2025) MRI-free targeting of deep brain regions using the 10-20 system. *Brain stimulation*, 18(6), 1871.

Kung HT, et al. (2024) Diffusion tensor brain imaging at 0.55T: A feasibility study. *Magnetic resonance in medicine*, 92(4), 1649.

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Iidaka T, et al. (2024) Hemodynamic and electrophysiological responses of the human amygdala during face imitation-a study using functional MRI and intracranial EEG. *Cerebral cortex (New York, N.Y. : 1991)*, 34(1).

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Kim Y, et al. (2024) Mouse Brain Extractor: Brain segmentation of mouse MRI using global positional encoding and SwinUNETR. *bioRxiv : the preprint server for biology*.

Komneni D, et al. (2024) Superficial white matter integrity in neuromyelitis optica spectrum disorder and multiple sclerosis. *Multiple sclerosis journal - experimental, translational and clinical*, 10(1), 20552173231226107.

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Li J, et al. (2024) Decoding MRI-informed brain age using mutual information. *Insights into imaging*, 15(1), 216.

Akrami H, et al. (2024) Prediction of Post Traumatic Epilepsy Using MR-Based Imaging Markers. *Human brain mapping*, 45(17), e70075.

Lu H, et al. (2023) Pinpointing the precise stimulation targets for brain rehabilitation in early-stage Parkinson's disease. BMC neuroscience, 24(1), 24.

Kim Y, et al. (2023) BrainSuite BIDS App: Containerized Workflows for MRI Analysis. bioRxiv : the preprint server for biology.