**BrainSuite**

**RRID:** SCR_006623  
**Type:** Tool

**Proper Citation**

BrainSuite (RRID:SCR_006623)

**Resource Information**

**URL:** [http://users.loni.ucla.edu/~shattuck/brainsuite/](http://users.loni.ucla.edu/~shattuck/brainsuite/)

**Proper Citation:** BrainSuite (RRID:SCR_006623)

**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 overlayed 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:** data processing software, software application, image analysis software, data visualization software, software resource

**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 Agency:** NIBIB, NCRR, NIMH

**Availability:** BrainSuite Software License, v2

**Resource Name:** BrainSuite

**Resource ID:** SCR_006623

**Alternate IDs:** nif-0000-30214

**Alternate URLs:** http://www.nitrc.org/projects/brainsuite

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**Ratings and Alerts**

No rating or validation information has been found for BrainSuite.

No alerts have been found for BrainSuite.

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**Data and Source Information**

**Source:** SciCrunch Registry

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**Usage and Citation Metrics**

We found 71 mentions in open access literature.

**Listed below are recent publications.** The full list is available at FDI Lab - SciCrunch.org.


Rahman N, et al. (2023) A longitudinal microstructural MRI dataset in healthy C57Bl/6 mice at 9.4 Tesla. Scientific data, 10(1), 94.

Lu H, et al. (2023) Pinpointing the precise stimulation targets for brain rehabilitation in early-


