Resource Summary Report

Generated by NIF on Apr 9, 2025

CBRAIN

RRID:SCR_005513
Type: Tool

Proper Citation

CBRAIN (RRID:SCR_005513)

Resource Information

URL: http://cbrain.mcgill.ca/

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Description: A flexible software platform for distributed processing, analysis, exchange and visualization of brain imaging data. The expected result is a middleware platform that will render the processing environment (hardware, operating systems, storage servers, etc...) transparent to a remote user. Interaction with a standard web browser allows application of complex algorithm pipelines to large datasets stored at remote locations using a mixture of network available resources such as small clusters, neuroimaging tools and databases as well as Compute Canada's High Performance Computing Centers (HPC). Though the focus of CBRAIN is providing tools for use by brain imaging researchers, the platform is generalizable to other imaging domains, such as radiology, surgical planning and heart imaging, with profound consequences for Canadian medical research. CBRAIN expanded its concept to include international partners in the US, Germany and Korea. As of December 2010, GBRAIN has made significant progress with the original three partners and has developed new partners in Singapore, China, India, and Latin America. CBRAIN is currently deployed on 6 Compute Canada HPC clusters, one German HPC cluster and 3 clusters local to McGill University Campus, totaling more than 80,000 potential CPU cores.

Abbreviations: CBRAIN

Resource Type: analysis service resource, data analysis service, storage service resource, production service resource, service resource, software resource

Keywords: brain, neuroimaging, imaging, middleware, platform, network, data sharing, web application, visualization

Funding:

Availability: Free

Resource Name: CBRAIN

Resource ID: SCR_005513

Alternate IDs: nlx_144612

Alternate URLs: http://www.nitrc.org/projects/cbrain

Record Creation Time: 20220129T080230+0000

Record Last Update: 20250407T215521+0000

Ratings and Alerts

No rating or validation information has been found for CBRAIN.

No alerts have been found for CBRAIN.

Data and Source Information

Source: SciCrunch Registry

Usage and Citation Metrics

We found 30 mentions in open access literature.

Listed below are recent publications. The full list is available at NIF.

Drudik K, et al. (2024) The superior frontal sulcus in the human brain: Morphology and probability maps. Human brain mapping, 45(5), e26635.

Lee J, et al. (2024) Social context modulates multibrain broadband dynamics and functional brain-to-brain coupling in the group of mice. Scientific reports, 14(1), 11439.

Cho S, et al. (2024) Mouse Escape Behaviors and mPFC-BLA Activity Dataset: Understanding Flexible Defensive Strategies Under Threat. Scientific data, 11(1), 861.

Metzen D, et al. (2024) Investigating robust associations between functional connectivity based on graph theory and general intelligence. Scientific reports, 14(1), 1368.

Han HB, et al. (2023) Dynamic switching of neural oscillations in the prefrontal-amygdala circuit for naturalistic freeze-or-flight. Proceedings of the National Academy of Sciences of the United States of America, 120(37), e2308762120.

Ding W, et al. (2023) The endocannabinoid N-arachidonoyl dopamine is critical for hyperalgesia induced by chronic sleep disruption. Nature communications, 14(1), 6696.

Khundrakpam B, et al. (2023) A critical role of brain network architecture in a continuum model of autism spectrum disorders spanning from healthy individuals with genetic liability to individuals with ASD. Molecular psychiatry, 28(3), 1210.

Poline JB, et al. (2023) Data and Tools Integration in the Canadian Open Neuroscience Platform. Scientific data, 10(1), 189.

Navarri X, et al. (2022) How do substance use disorders compare to other psychiatric conditions on structural brain abnormalities? A cross-disorder meta-analytic comparison using the ENIGMA consortium findings. Human brain mapping, 43(1), 399.

Cherkasova MV, et al. (2022) Cortical morphology predicts placebo response in multiple sclerosis. Scientific reports, 12(1), 732.

McLachlan K, et al. (2020) Current Socioeconomic Status Correlates With Brain Volumes in Healthy Children and Adolescents but Not in Children With Prenatal Alcohol Exposure. Frontiers in human neuroscience, 14, 223.

Kim J, et al. (2020) A bird's-eye view of brain activity in socially interacting mice through mobile edge computing (MEC). Science advances, 6(49).

Sanchez E, et al. (2020) Sleep spindles are resilient to extensive white matter deterioration. Brain communications, 2(2), fcaa071.

Albaugh MD, et al. (2019) Amygdalar reactivity is associated with prefrontal cortical thickness in a large population-based sample of adolescents. PloS one, 14(5), e0216152.

Das S, et al. (2018) Integration of "omics" Data and Phenotypic Data Within a Unified Extensible Multimodal Framework. Frontiers in neuroinformatics, 12, 91.

Lewis GJ, et al. (2018) Widespread associations between trait conscientiousness and thickness of brain cortical regions. NeuroImage, 176, 22.

Lajoie I, et al. (2017) The impact of inspired oxygen levels on calibrated fMRI measurements of M, OEF and resting CMRO2 using combined hypercapnia and hyperoxia. PloS one, 12(3), e0174932.

Jaworska N, et al. (2017) Is there a relation between novelty seeking, striatal dopamine release and frontal cortical thickness? PloS one, 12(3), e0174219.

Kiar G, et al. (2017) Science in the cloud (SIC): A use case in MRI connectomics. GigaScience, 6(5), 1.

Das S, et al. (2016) Cyberinfrastructure for Open Science at the Montreal Neurological Institute. Frontiers in neuroinformatics, 10, 53.