Resource Summary Report

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MIALAB - Medical Image Analysis Lab

RRID:SCR_006089
Type: Tool

Proper Citation

MIALAB - Medical Image Analysis Lab (RRID:SCR_006089)

Resource Information

URL: http://mialab.mrn.org/index.html

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Description: MIALAB, headed by Dr. Vince Calhoun, focuses on developing and optimizing methods and software for quantitative analysis of structure and function in medical images with particular focus on the study of psychiatric illness. We work with many types of data, including functional magnetic resonance imaging (fMRI), diffusion tensor imaging (DTI), electroencephalography (EEG), structural imaging and genetic data. Much of our time is spent working on new methods for flexible analysis of brain imaging data. The use of data driven approaches is very useful for extracting potentially unpredictable patterns within these data. However such methods can be further improved by incorporating additional prior information as constraints, in order to benefit from what we know. To this end, we draw heavily from the areas of image processing, adaptive signal processing, estimation theory, neural networks, statistical signal processing, and pattern recognition.

Abbreviations: MIALAB

Synonyms: Medical Image Analysis Lab, Medical Image Analysis Laboratory, MIA Laboratory, Medical Image Analysis (MIA) Laboratory

Resource Type: laboratory portal, organization portal, data or information resource, portal

Keywords: software, data, data visualization, medical image, image, neuroimaging, fmri, diffusion tensor imaging, electroencephalography, structural imaging, genetic data, brain, image processing, adaptive signal processing, estimation theory, neural network, statistical signal processing, pattern recognition, mri

Related Condition: Mental disease

Funding:

Resource Name: MIALAB - Medical Image Analysis Lab

Resource ID: SCR_006089

Alternate IDs: nlx_151551

Record Creation Time: 20220129T080234+0000

Record Last Update: 20250519T203432+0000

Ratings and Alerts

No rating or validation information has been found for MIALAB - Medical Image Analysis Lab.

No alerts have been found for MIALAB - Medical Image Analysis Lab.

Data and Source Information

Source: SciCrunch Registry

Usage and Citation Metrics

We found 25 mentions in open access literature.

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

Liu X, et al. (2023) Aberrant dynamic Functional-Structural connectivity coupling of Large-scale brain networks in poststroke motor dysfunction. NeuroImage. Clinical, 37, 103332.

Lee SW, et al. (2022) Alterations of Power Spectral Density in Salience Network during Thought-action Fusion Induction Paradigm in Obsessive-compulsive Disorder. Clinical psychopharmacology and neuroscience : the official scientific journal of the Korean College of Neuropsychopharmacology, 20(3), 415.

Bittencourt-Villalpando M, et al. (2021) Disentangling the effects of age and mild traumatic brain injury on brain network connectivity: A resting state fMRI study. NeuroImage. Clinical, 29, 102534.

Hu H, et al. (2021) Aberrant Resting-State Functional Connectivity of the Dorsal Attention Network in Tinnitus. Neural plasticity, 2021, 2804533.

Kwon SJ, et al. (2021) Comparison of early F-18 Florbetaben PET/CT to Tc-99m ECD

SPECT using voxel, regional, and network analysis. Scientific reports, 11(1), 16738.

Kyathanahally SP, et al. (2021) Microstructural plasticity in nociceptive pathways after spinal cord injury. Journal of neurology, neurosurgery, and psychiatry, 92(8), 863.

Rocca MA, et al. (2021) Network Damage Predicts Clinical Worsening in Multiple Sclerosis: A 6.4-Year Study. Neurology(R) neuroimmunology & neuroinflammation, 8(4).

Ahn J, et al. (2018) Group analysis data representing the effects of frontopolar transcranial direct current stimulation on the default mode network. Data in brief, 20, 1309.

Mantel T, et al. (2018) Network-specific resting-state connectivity changes in the premotor-parietal axis in writer's cramp. NeuroImage. Clinical, 17, 137.

Thompson GJ, et al. (2018) Spontaneous activity forms a foundation for odor-evoked activation maps in the rat olfactory bulb. NeuroImage, 172, 586.

Dalenberg JR, et al. (2017) Flavor pleasantness processing in the ventral emotion network. PloS one, 12(2), e0170310.

Parlar M, et al. (2017) Relation between patterns of intrinsic network connectivity, cognitive functioning, and symptom presentation in trauma-exposed patients with major depressive disorder. Brain and behavior, 7(5), e00664.

Vo A, et al. (2017) Parkinson's disease-related network topographies characterized with resting state functional MRI. Human brain mapping, 38(2), 617.

Grothe MJ, et al. (2016) Spatial patterns of atrophy, hypometabolism, and amyloid deposition in Alzheimer's disease correspond to dissociable functional brain networks. Human brain mapping, 37(1), 35.

Coppola G, et al. (2016) Thalamo-cortical network activity between migraine attacks: Insights from MRI-based microstructural and functional resting-state network correlation analysis. The journal of headache and pain, 17(1), 100.

Sizemore RJ, et al. (2016) Marked differences in the number and type of synapses innervating the somata and primary dendrites of midbrain dopaminergic neurons, striatal cholinergic interneurons, and striatal spiny projection neurons in the rat. The Journal of comparative neurology, 524(5), 1062.

Choi H, et al. (2015) Maturation of metabolic connectivity of the adolescent rat brain. eLife, 4.

Fujisawa TX, et al. (2015) Neural Basis of Psychological Growth following Adverse Experiences: A Resting-State Functional MRI Study. PloS one, 10(8), e0136427.

Vergara VM, et al. (2014) A three-way parallel ICA approach to analyze links among genetics, brain structure and brain function. NeuroImage, 98, 386.

Wirsich J, et al. (2014) Single-trial EEG-informed fMRI reveals spatial dependency of BOLD signal on early and late IC-ERP amplitudes during face recognition. NeuroImage, 100, 325.