Resource Summary Report

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TOADS-CRUISE Brain Segmentation Tools

RRID:SCR_005977
Type: Tool

Proper Citation

TOADS-CRUISE Brain Segmentation Tools (RRID:SCR_005977)

Resource Information

URL: http://www.nitrc.org/projects/toads-cruise/

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Description: A collection of software plug-ins developed for the automatic segmentation of magnetic resonance brain images. The tools include multiple published algorithms developed at Johns Hopkins University. The SPECTRE algorithm performs brain extraction. The TOADS algorithm generates a topology-preserving tissue classification into cortical, subcortical, and cerebellar structures. The CRUISE algorithm produces inner, central, and outer cortical surfaces suitable for computing thickness and other geometric measures. Tools are also included for performing gyral labeling, lesion segmentation, thickness computation, surface visualization, and surface file conversion. All tools are released as plug-ins for the MIPAV software package and were developed using the Java Image Science Toolkit (both available at NITRC: http://nitrc.org). They are therefore cross-platform and compatible with a wide variety of file formats.

Abbreviations: TOADS-CRUISE

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

Keywords: plug in, neuroanatomy, brain, magnetic resonance, algorithm

Funding:

Availability: Free

Resource Name: TOADS-CRUISE Brain Segmentation Tools

Resource ID: SCR_005977

Alternate IDs: nlx_151350

Record Creation Time: 20220129T080233+0000

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Ratings and Alerts

No rating or validation information has been found for TOADS-CRUISE Brain Segmentation Tools.

No alerts have been found for TOADS-CRUISE Brain Segmentation Tools.

Data and Source Information

Source: SciCrunch Registry

Usage and Citation Metrics

We found 13 mentions in open access literature.

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

Zikidi K, et al. (2020) Grey-matter abnormalities in clinical high-risk participants for psychosis. Schizophrenia research, 226, 120.

Valcarcel AM, et al. (2020) TAPAS: A Thresholding Approach for Probability Map Automatic Segmentation in Multiple Sclerosis. NeuroImage. Clinical, 27, 102256.

Rowley CD, et al. (2018) Altered Intracortical T1-Weighted/T2-Weighted Ratio Signal in Huntington's Disease. Frontiers in neuroscience, 12, 805.

Rowley CD, et al. (2017) Age-related mapping of intracortical myelin from late adolescence to middle adulthood using T1 -weighted MRI. Human brain mapping, 38(7), 3691.

Bowles C, et al. (2017) Brain lesion segmentation through image synthesis and outlier detection. NeuroImage. Clinical, 16, 643.

Rowley CD, et al. (2015) Assessing intracortical myelin in the living human brain using myelinated cortical thickness. Frontiers in neuroscience, 9, 396.

Sweeney EM, et al. (2014) A comparison of supervised machine learning algorithms and feature vectors for MS lesion segmentation using multimodal structural MRI. PloS one, 9(4), e95753.

Ranta ME, et al. (2014) Automated MRI parcellation of the frontal lobe. Human brain mapping, 35(5), 2009.

Shiee N, et al. (2014) Reconstruction of the human cerebral cortex robust to white matter lesions: method and validation. Human brain mapping, 35(7), 3385.

Sweeney EM, et al. (2013) OASIS is Automated Statistical Inference for Segmentation, with applications to multiple sclerosis lesion segmentation in MRI. NeuroImage. Clinical, 2, 402.

Vrenken H, et al. (2013) Recommendations to improve imaging and analysis of brain lesion load and atrophy in longitudinal studies of multiple sclerosis. Journal of neurology, 260(10), 2458.

Strotmann B, et al. (2013) Mapping of the internal structure of human habenula with ex vivo MRI at 7T. Frontiers in human neuroscience, 7, 878.

Shiee N, et al. (2012) Revisiting brain atrophy and its relationship to disability in multiple sclerosis. PloS one, 7(5), e37049.