

Resource Summary Report

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Topographica

RRID:SCR_014174

Type: Tool

Proper Citation

Topographica (RRID:SCR_014174)

Resource Information

URL: <http://www.nitrc.org/projects/topographica/>

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Description: A software package for computational modeling of neural maps developed as part of the NIMH Human Brain Project. Topographica focuses on the large-scale structure and function that is visible only when many thousands of such neurons are connected into topographic maps containing millions of connections. The software package provides a general-purpose framework for building models at this level, at an appropriate level of detail and complexity, as determined by the available computing power, phenomena of interest, and amount of biological data available for validation. It is intended to complement low-level neuron simulators that are available, such as General Neural Simulation System and NEURON.

Resource Type: simulation software, software application, software resource

Keywords: computational modeling, neural map, simulation software, neuron

Funding: NIMH Human Brain Project 1R01-MH66991

Resource Name: Topographica

Resource ID: SCR_014174

License: BSD License

Record Creation Time: 20220129T080319+0000

Record Last Update: 20260905T132743+0000

Ratings and Alerts

No rating or validation information has been found for Topographica.

No alerts have been found for Topographica.

Data and Source Information

Source: [SciCrunch Registry](#)

Usage and Citation Metrics

We found 5 mentions in open access literature.

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

Philips RT, et al. (2017) The influence of astrocytes on the width of orientation hypercolumns in visual cortex: A computational perspective. PLoS computational biology, 13(10), e1005785.

Rao HM, et al. (2016) Neural Network Evidence for the Coupling of Presaccadic Visual Remapping to Predictive Eye Position Updating. Frontiers in computational neuroscience, 10, 52.

Antolík J, et al. (2011) Development of maps of simple and complex cells in the primary visual cortex. Frontiers in computational neuroscience, 5, 17.

Wilson SP, et al. (2010) Modeling the emergence of whisker direction maps in rat barrel cortex. PloS one, 5(1), e8778.

Bednar JA, et al. (2009) Topographica: Building and Analyzing Map-Level Simulations from Python, C/C++, MATLAB, NEST, or NEURON Components. Frontiers in neuroinformatics, 3, 8.