

Resource Summary Report

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SpikeNET

RRID:SCR_010686

Type: Tool

Proper Citation

SpikeNET (RRID:SCR_010686)

Resource Information

URL: <http://sccn.ucsd.edu/~arno/spikenet/index.html>

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Description: SpikeNET is a program designed for simulating very large networks of asynchronous spiking neurons. Neurons are simulated with a limited number of parameters that includes classic properties like the post-synaptic potential and threshold, but also more novel features like dendritic sensitivity. SpikeNET can be used to simulate networks with millions of neurons and hundreds of millions of synaptic weights. Optimization of computation time and the aim of real time computation has been one of the driving forces behind the development of SpikeNET. It works on Unix. What SpikeNET can do

- * Perform image processing using biologically plausible network of neurons.
- * Simulate millions of integrate-and-fire neurons organized in retinotopical maps.
- * Connect these neuronal maps using projection files, and regroup common synaptic weights to save memory in order to be able to declare several hundreds of billions of synaptic connections.
- * Convert gray level images into lists of spikes (also SpikeNET can perform a variety of preprocessing on the input images).
- * Implement a complex mechanism for projection between neuronal maps of different sizes.
- * Implement supervised learning.
- * Implement the efficient neuronal Rank-Order-Coding scheme (optional)

Synonyms: SpikeNET software

Resource Type: software resource

Defining Citation: [PMID:14653495](#)

Keywords: face recognition, digit recognition, rank order coding

Resource Name: SpikeNET

Resource ID: SCR_010686

Alternate IDs: nlx_79222

Record Creation Time: 20220129T080300+0000

Record Last Update: 20260829T182345+0000

Ratings and Alerts

No rating or validation information has been found for SpikeNET.

No alerts have been found for SpikeNET.

Data and Source Information

Source: [SciCrunch Registry](#)

Usage and Citation Metrics

We found 2 mentions in open access literature.

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

Hussain H, et al. (2024) Acute and Long COVID Intestinal Changes in an Experimental Model of Coronavirus in Mice. *Viruses*, 16(6).

Amorim E, et al. (2023) The International Cardiac Arrest Research (I-CARE) Consortium Electroencephalography Database. *medRxiv* : the preprint server for health sciences.