Resource Summary Report

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Neural Decoding Toolbox

RRID:SCR_009012
Type: Tool

Proper Citation

Neural Decoding Toolbox (RRID:SCR_009012)

Resource Information

URL: http://www.readout.info

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Description: Matlab toolbox that makes it easy to apply decoding analyses to neural data. The design of the toolbox revolves around four abstract object classes which enables users to interchange particular modules in order to try different analyses while keeping the rest of the processing stream intact. The toolbox is capable of analyzing data from many different types of recording modalities, and examples are given on how it can be used to decode basic visual information from neural spiking activity and how it can be used to examine how invariant the activity of a neural population is to stimulus transformations.

Abbreviations: NDT

Resource Type: software application, software toolkit, data analysis software, data processing software, software resource

Defining Citation: PMID:23734125

Keywords: population decoding, neuron, analysis, matlab, data analysis, machine learning, multivariate pattern analysis, neural decoding

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Availability: Acknowledgement requested, Account required

Resource Name: Neural Decoding Toolbox

Resource ID: SCR_009012

Alternate IDs: nlx_152729

Record Creation Time: 20220129T080250+0000

Record Last Update: 20250517T055920+0000

Ratings and Alerts

No rating or validation information has been found for Neural Decoding Toolbox.

No alerts have been found for Neural Decoding Toolbox.

Data and Source Information

Source: SciCrunch Registry

Usage and Citation Metrics

We found 16 mentions in open access literature.

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

Nougaret S, et al. (2024) Neurons in the monkey frontopolar cortex encode learning stage and goal during a fast learning task. PLoS biology, 22(2), e3002500.

A Dehaqani A, et al. (2024) A mechanosensory feedback that uncouples external and self-generated sensory responses in the olfactory cortex. Cell reports, 43(4), 114013.

Ceccarelli F, et al. (2023) Static and dynamic coding in distinct cell types during associative learning in the prefrontal cortex. Nature communications, 14(1), 8325.

Alexander AS, et al. (2022) Adaptive integration of self-motion and goals in posterior parietal cortex. Cell reports, 38(10), 110504.

Sharif F, et al. (2021) Subcircuits of Deep and Superficial CA1 Place Cells Support Efficient Spatial Coding across Heterogeneous Environments. Neuron, 109(2), 363.

Rosenthal IA, et al. (2021) Color Space Geometry Uncovered with Magnetoencephalography. Current biology : CB, 31(3), 515.

Gadziola MA, et al. (2020) A Neural System that Represents the Association of Odors with Rewarded Outcomes and Promotes Behavioral Engagement. Cell reports, 32(3), 107919.

Tingley D, et al. (2020) Routing of Hippocampal Ripples to Subcortical Structures via the Lateral Septum. Neuron, 105(1), 138.

Vincis R, et al. (2020) Dynamic Representation of Taste-Related Decisions in the Gustatory Insular Cortex of Mice. Current biology : CB, 30(10), 1834.

Nakajima M, et al. (2019) Combinatorial Targeting of Distributed Forebrain Networks Reverses Noise Hypersensitivity in a Model of Autism Spectrum Disorder. Neuron, 104(3), 488.

Stalnaker TA, et al. (2019) Dopamine neuron ensembles signal the content of sensory prediction errors. eLife, 8.

Villavicencio M, et al. (2018) Encoding of Sucrose's Palatability in the Nucleus Accumbens Shell and Its Modulation by Exteroceptive Auditory Cues. Frontiers in neuroscience, 12, 265.

Fahrenfort JJ, et al. (2018) From ERPs to MVPA Using the Amsterdam Decoding and Modeling Toolbox (ADAM). Frontiers in neuroscience, 12, 368.

Fonseca E, et al. (2018) Sucrose intensity coding and decision-making in rat gustatory cortices. eLife, 7.

Alizadeh AM, et al. (2018) Caudal Intraparietal Sulcus and three-dimensional vision: A combined functional magnetic resonance imaging and single-cell study. NeuroImage, 166, 46.

Meyers EM, et al. (2013) The neural decoding toolbox. Frontiers in neuroinformatics, 7, 8.