Resource Summary Report

Generated by NIF on Apr 27, 2025

Emergent

RRID:SCR_008500
Type: Tool

Proper Citation

Emergent (RRID:SCR_008500)

Resource Information

URL: http://grey.colorado.edu/emergent

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Description: emergent is a comprehensive, full-featured neural network simulator that allows for the creation and analysis of complex, sophisticated models of the brain in the world. With an emphasis on qualitative analysis and teaching, it also supports the workflow of professional neural network researchers. Its high level drag-and-drop programming interface, built on top of a scripting language that has full introspective access to all aspects of networks and the software itself, allows one to write programs that seamlessly weave together the training of a network and evolution of its environment without ever typing out a line of code. Networks and all of their state variables are visually inspected in 3d, allowing for a quick visual regression of network dynamics and robot behavior. This same 3d world sports a highly accurate Newtonian physics simulation, allowing you to create rich robotics simulations (for example, a car). As a direct descendant of PDP (1986) and PDP (1999), emergent has been in development for decades. In the most recent versions available strive to distill it down to its essential elements. Those that take the time to learn the best practices will be rewarded with the ability to create and understand the most complicated neural models ever published.

Abbreviations: Emergent

Synonyms: Emergent Neural Network Simulation System, PDP++

Resource Type: data or information resource, simulation software, wiki, software resource, narrative resource, software application

Keywords: neural, simulator, network, analysis, software, simulation, physics, newtonian

Funding: NIMH R01 MH069597-01;
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Resource Name: Emergent

Resource ID: SCR_008500

Alternate IDs: nif-0000-30515

Record Creation Time: 20220129T080247+0000

Record Last Update: 20250426T060033+0000

Ratings and Alerts

No rating or validation information has been found for Emergent.

No alerts have been found for Emergent.

Data and Source Information

Source: SciCrunch Registry

Usage and Citation Metrics

We found 4 mentions in open access literature.

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

Edwards DJ, et al. (2021) Associations Between Mental Health, Interoception, Psychological Flexibility, and Self-as-Context, as Predictors for Alexithymia: A Deep Artificial Neural Network Approach. Frontiers in psychology, 12, 637802.

Parekh R, et al. (2013) Neuronal morphology goes digital: a research hub for cellular and system neuroscience. Neuron, 77(6), 1017.

Steinhauser M, et al. (2012) Error-preceding brain activity reflects (mal-)adaptive adjustments of cognitive control: a modeling study. Frontiers in human neuroscience, 6, 97.

Chatham CH, et al. (2012) Cognitive control reflects context monitoring, not motoric stopping, in response inhibition. PloS one, 7(2), e31546.