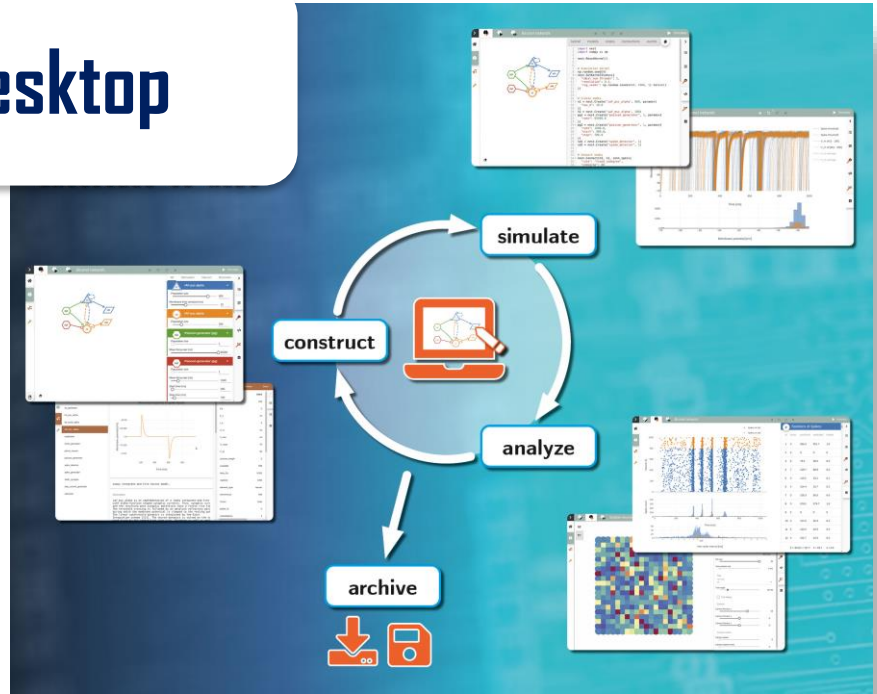


NEST Desktop

WEB-BASED EDUCATIONAL
TOOL FOR NEST SIMULATOR



TECHNOLOGY DESCRIPTION

NEST Desktop is a web-based GUI application for NEST Simulator, an advanced simulation tool for the computational neuroscience. NEST Desktop enables the rapid construction, parametrization, and instrumentation of neuronal network models. It is suitable for the application in educational context of computational neuroscience as it is easy-to-use, simple to install (using Docker or the online version in EBRAINS with no need for installation) and offers a comprehensive toolset for modeling, executing and analyzing spiking neural networks.



WEB-BASED EASY TO INSTALL
APPLICATION FOR MODELING, RUNNING
AND ANALYZING NEURAL NETWORK
MODELS, TESTED IN VARIOUS COURSES
ON COMPUTATION NEUROSCIENCE



OPEN-SOURCE, COMMUNITY DRIVEN
DEVELOPMENT, DOCKER-RIZED, INTEGRATED
INTO EBRAINS

AREAS

Education | Computational Neuroscience | Visual Interface



COMPETITIVE ADVANTAGES

Various simulators, such as NEST, come with a programming interface, which are highly versatile, and which give full control of the simulation to the scientist. However, programming interface tend to add an additional barrier when it comes to study computation neuroscience: basic courses need to first focus on learning programming before learning modeling spiking neural network. NEST Desktop reduces this barrier by offering easy-to-use visual interfaces for modeling, running and analysis of spiking neural networks simulated with NEST. Thus, NEST Desktop enables a very easy entry to computation neuroscience and its applications. Furthermore, it is suitable for fast prototyping and iterative development of neural network models in early stages of a research process. Thus, NEST Desktop perfectly complements NEST with a graphical user interface enabling a broad variety of users to engage with top of the edge simulation technology.



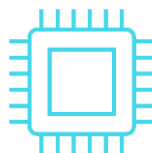
EASY ACCESS TO COMPUTATION NEUROSCIENCE
FOR NOVICE AND BEGINNERS



APPLICATION & MARKET POTENTIAL

Education

NEST Desktop enables teaching computational neuroscience with very low effort and a high level of usability



All tools in one web application

NEST Desktop offers modeling, simulation, and analysis tools in one web-based application

Research

NEST Desktop offers suitable tools for early testing and fast prototyping

Access to high-end simulation technology

NEST Desktop gives easy access and low-level entry to the high-end simulation engine NEST



REFERENCES

- EBRAINS Installation: <https://ebrains.eu/service/nest-desktop>
- Documentation: <https://nest-desktop.readthedocs.io/en/latest/>
- Code Repository: <https://github.com/nest-desktop/vue-app>
- Docker Hub: <https://hub.docker.com/r/babsey/nest-desktop>



CONTACT

Weyers, Benjamin
University of Trier
Trier | Germany
weyers@uni-trier.de

TECHNOLOGY READINESS LEVEL



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