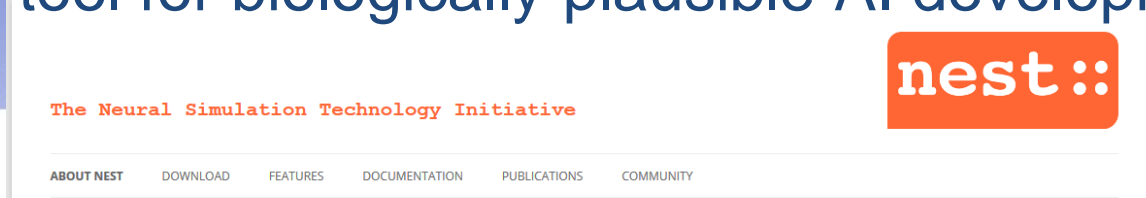


Part II: Tutorial on
NEST simulator as a
tool for spiking
neural network
models
development



NEST simulator

A tool for biologically plausible AI development



1. NEST provides over 50 neuron models many of which have been published. Choose from simple integrate-and-fire neurons with current or conductance based synapses, over the Izhikevich or AdEx models, to Hodgkin-Huxley models.
2. NEST provides over 10 synapse models, including short-term plasticity (Tsodyks & Markram) and different variants of spike-timing dependent plasticity (STDP).
3. NEST provides many examples that help you getting started with your own simulation project.
4. NEST offers convenient and efficient commands to define and connect large networks, ranging from algorithmically determined connections to data-driven connectivity.
5. NEST lets you inspect and modify the state of each neuron and each connection at any time during a simulation.
6. NEST is fast and memory efficient. It makes best use of your multi-core computer and compute clusters with minimal user intervention.
7. NEST runs on a wide range of UNIX-like systems, from MacBooks to BlueGene supercomputers.
8. NEST has minimal dependencies. All it really needs is a C++ compiler. Everything else is optional.
9. NEST developers are using agile [continuous integration](#)-based workflows in order to maintain high code quality standards for correct and reproducible simulations.
10. NEST has one of the largest and most experienced developer communities of all neural simulators. NEST was first released in 1994 under the name SYNOD and has been extended and improved ever since.
11. NEST is open source software and is licensed under the [GNU General Public License v2 or later](#).