Computational Neuroscience Virtual Machine

Initial Release: 4/1/2019 | Updates: 9/6/2019

Installation:

- 1. Download and install VirtualBox: (Windows, Mac OS and Linux installers available) https://www.virtualbox.org/wiki/Downloads
- Download the CompNeuro Virtual Appliance provided by the Mizzou Neural Engineering Lab: <u>https://drive.google.com/uc?id=1-9tUHcFvi5LpnII8Zdzsfv8ZObdEwAUI</u> This file is 8.6GB and will take some time to download. The file may also be available via USB.
- 3. Import the appliance in VirtualBox



4. Select the downloaded NeuroVM ova file.

ý	Oracle VM V			1			\times
<u>F</u> ile	le Machine - Import Virtual Appliance						
	Appliance to import						
64	WirtualBox currently supports importing appliances saved in the Open Virtualization Format (OVF). To continue, select the file to import below.						
	Please choose a virtual appliance file to import						×
	← → ✓ ↑ 📜 > This PC > Desktop > NeuroVM		✓ Ŭ	Search NeuroVN	1		R
	Organize 🔻 New folder				-		?
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	👃 possible sources						

5. Change settings if needed (increase memory, etc.). This process may take several minutes.

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←	Import Virtual Appliance						
,	Appliance settings						
	These are the virtual machines contained in the appliance and the suggested settings of the imported VirtualBox machines. You can change many of the properties shown by double-clicking on the items and disable others using the check boxes below.						
	Virtual System 1			^			
	😽 Name	NeuroVM 1					
	ቓ Vendor	Mizzou Neural Engineering Lab (TB)					
	Description	Ubuntu with Neuron and other tools installed.					
	🧮 Guest OS Type	🚰 Ubuntu (64-bit)					
	📒 CPU	2					
	RAM	2048 MB					
		\checkmark		~			
	You can modify the base folder which will host all the virtual machines. Home folders can also be individually (per virtual machine) modified.						
	E:\Users\Tyler\VirtualBox VMs v						
	MAC Address Policy: Include only NAT network adapter MAC addresses						
	Additional Options: 🔽 Import hard drives as VDI						
	Appliance is not signed						
		Restore Defaults Import	Car	ncel			

6. Start the VM and you're ready to go!



Usage

Ubuntu 18.04LTS is installed

Username: mizzou

Password: mizzou

The system should automatically log you in, password will only be required when installing additional software. VirtualBox tools are available, transferring files from the host system can be done through drag and drop.

Software provided:

Neuron 7.7 (with IV and MPI) <u>https://www.neuron.yale.edu/neuron/</u> Anaconda 3 <u>https://www.anaconda.com/distribution/</u> Nest <u>http://www.nest-simulator.org/</u> BMTK (Sept '19 updates) <u>https://github.com/Alleninstitute/bmtk</u> SimAgentMPI <u>https://tylerbanks.net/SimAgentMPI/</u> BMTools <u>https://github.com/tjbanks/bmtools</u> VSCode <u>https://code.visualstudio.com/</u>

Running Neuron

nrniv, nrngui, nrnivmodl are all available from the terminal.

Navigate to the directory with your model and run from there.