

PyCARL Installation and User Guide

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1 Installation - for pyCARL users

1.1 Install pyNN

1.1.1 Installation Command:

```
$ pip install pyNN
```

or, follow the installation instructions at

<http://neuralensemble.org/docs/PyNN/installation.html>

1.2 Install pyCARL

1.2.1 Clone CARLsim5

```
$ git clone <CARLsim5 github repo>
```

Move into the PyCARL directory in the CARLsim5 root

```
$ cd CARLsim5/pyCARL
```

1.2.2 Copy the /carlsim folder to pyNN

```
$ cp -r CARLsim5/pyCARL/carlsim <pyNN installation location>
```

2 Installation - for pyCARL developers

2.1 Install pyNN

2.1.1 Installation Command:

```
$ pip install pyNN
```

or, follow the installation instructions at

<http://neuralensemble.org/docs/PyNN/installation.html>

2.2 Compile and Install pyCARL

2.2.1 Clone CARLsim5

```
$ git clone <CARLsim5 github repo>
```

Move into the PyCARL directory in the CARLsim5 root

```
$ cd CARLsim5/pyCARL
```

2.2.2 Install SWIG

```
$ sudo apt update
```

```
$ sudo apt install swig
```

2.2.3 Compile and generate the pyNN \rightarrow CARLsim interface file (carlsim.py)

Navigate to the pyCARL directory in CARLsim5

```
$ cd CARLsim5/pyCARL
```

Move to the source folder in pyCARL.

```
$ cd source
```

Edit the **build.sh** file to update **CARLsim** installation directory and the **CUDA** installation directory.

2.2.4 Run the build.sh script

```
$ source build.sh
```

This creates a static library `_carlsim.so` and a pyNN \rightarrow CARLsim interface (`carlsim.py`)

2.2.5 Copy the generated `_carlsim.so` and `carlsim.py` file to `<pyNN-installation-path>/carlsim`