**DEEPLABCUT GPU WINDOWS 10 SETUP & USE GUIDE SEPTEMBER 2019**

**Run: Conda Activate nbkGPU to use the environment I already set up (skip to step 4)**

1. Install conda using the Anoconda installer from the web
2. Download the conda environment configuration file provided by deeplabcut for windows using GPUs
   1. <http://www.mousemotorlab.org/s/dlc-windowsGPU-x2rt.yaml>
   2. run in the directory the file installed to:
      1. conda env create –n *envname* –f dlc-windowsGPU.yaml
      2. conda activate *envname*
3. Unfortunately, deeplabcut is not available as a conda package. Therefore, pip package manger is used to install it. This inadvertently overwrites the conda installed dependencies on windows (eg. Numpy, Tensorflow, Jupyter console, ect), leading to errors finding certain modules. To fix this, we must delete the pip installed dependencies and repair the conda ones.
   1. To ensure you’re using the correct pip do the following
      1. MAKE SURE YOUR PROPER ENV IS ACTIVATED
      2. where pip
      3. copy the path to the pip version within your conda env, including the .exe
      4. whenever pip is used use this path to pip as the root command instead of just pip. This ensures local environment and not global packages are effected, which can be a problem on windows systems with multiple users. I’ll refer to the path as *pathToPip*
   2. Uninstall the pip dependencies
      1. *pathToPip* uninstall numpy
      2. conda install numpy==1.14.5
      3. *pathToPip* uninstall scipy
      4. conda install scipy==1.1.0
      5. *pathToPip* uninstall tensorflow
      6. conda install tensorflow-gpu==1.14.0
      7. *pathToPip* uninstall prompt\_toolkit
      8. conda install prompt\_toolkit==1.0.15
      9. *pathToPip* uninstall jupyter
      10. conda install jupyter==1.0.0
      11. DO NOT run pip install deeplabcut, as all changes will be overwritten
   3. DeepLabCut should now work properly
4. Create your DLC project. All DLC code will be run in a jupyter notebook. This allows code to be run in separate cells, with independent output from each one.
   1. Navigate to the directory that contains this guide in command prompt
   2. Run:
      1. jupyter notebook
   3. Your default browser should automatically open and go to the jupyter console in the current directory
      1. If not copy the output link into the browser
   4. Open the createDLCproject.ipynb notebook
      1. If he jupyter console fails to start its possible you have to play with the version (likely downgrade) jupyter console or prompt\_tookit.
5. Further instructions on the actual DLC implementation in the notebook itself.