***Following process is tested and works as of 01/11/2023 - DK***

# Install Kilosort:

1. Delete all NVidia programs using control panel (leave HD audio driver and display driver if already installed)
2. Install MATLAB (i think any version >=R2022b works)
3. Install Visual Studio Community 2019 (<https://visualstudio.microsoft.com/vs/older-downloads/>)
4. Install CUDA toolkit 11.7 **WITHOUT** GeForce Experience (<https://developer.nvidia.com/cuda-11-7-0-download-archive>)
5. Run on MATLAB command window the line **>>mex -setup C++**
6. Get the line for **Visual Studio Compiler 2019** and run it in the command window
7. Clone/download Kilosort repo/release (<https://github.com/dragonflyneuro/Kilosort_NBits>)
8. Go to *Kilosort/CUDA* and run **mexGPUall.m**
9. Clone npy-matlab to save sorting to a format suitable for phy gui (<https://github.com/kwikteam/npy-matlab>)
10. Install phy gui environment using Miniconda 3 (<https://github.com/cortex-lab/phy>)
    * Install Miniconda 3
    * Open Anaconda prompt and run:

conda create -n phy2 -y cython dask h5py joblib matplotlib numpy pillow pip pyopengl pyqt pyqtwebengine pytest python qtconsole requests responses scikit-learn scipy traitlets

* + Then run: conda activate phy2
  + Then run: conda install -c anaconda git
  + pip install git+<https://github.com/cortex-lab/phy.git>

# Test CUDA installation:

1. Get the 11.6 release from cuda-samples repo (<https://github.com/NVIDIA/cuda-samples/releases/tag/v11.6>)
2. Make a **.py** script with following code:

import os

def replace\_in\_file(file\_path, search\_string, replace\_string):

with open(file\_path, 'r', encoding='utf-8') as file:

file\_contents = file.read()

file\_contents = file\_contents.replace(search\_string, replace\_string)

with open(file\_path, 'w', encoding='utf-8') as file:

file.write(file\_contents)

def main():

root\_dir = input("Enter the root directory path to search for .vcxproj files: ")

# Loop through root and subdirectories

for dirpath, dirnames, filenames in os.walk(root\_dir):

for filename in filenames:

if filename.endswith('.vcxproj'):

full\_path = os.path.join(dirpath, filename)

print(f"Processing: {full\_path}")

replace\_in\_file(full\_path, '11.6', '11.7')

print("Replacement complete.")

if \_\_name\_\_ == "\_\_main\_\_":

main()

1. Run script using python 3 in the cuda-samples directory
2. Open cuda-samples solutions in Visual Studio Community 2019 and build and see if it works