Installation Instructions for using HARE

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Requirements

- Numpy
- Scipy
- Matplotlib
- pyflann

Installation

We will utilizes the anaconda libraries in `Sawtooth` to demonstrates the installation process. The first steps requires the user to load in the internal anaconda modules using the following commands or downloading it offline by navigating to `https://www.anaconda.com/products/individual`.

```
module load python/3.7-anaconda-2019.10
```

This will load the module in the libraries, you can view the currently loaded libraries using the following command, as well as other basic commands to be using

```
# List current loaded modules
module list
# Purge all currently loaded modules
module purge all
# List available modules using current compiler
module avail
# List all available modules
module spider
```

More commands can be found in this cheat sheet. `https://www.lcrc.anl.gov/for-users/software/cheat-sheet/` Afterward we can create a new environment which contains all the requirements:

```
conda create hare python=3.7
```

We can then activate this environment:

```
    conda activate hare
```

Note: if you encounter a error regarding the inproper configure shell:

```
CommandNotFoundError: Your shell has not been properly configured to use 'conda
    activate'.
To initialize your shell, run

    $ conda init <SHELL_NAME>

Currently supported shells are:
  - bash
  - fish
  - tcsh
  - xonsh
  - zsh
  - powershell

See 'conda init --help' for more information and options.

IMPORTANT: You may need to close and restart your shell after running 'conda init'.
```

Run the following command:

```
    conda init bash
```

and then exit and re-login back into `Sawtooth`. Afterward you should observe `hare` in the prompt of the terminal after you activate it. We can now install the packages.

```
    conda install numpy scipy matplotlib
```

This covers all of the basic requirements that can be grabbed using conda. The next steps requires us to manually install `pyflann`. I have a version of the `pyflann` with the fixes applied to work with python 3.7. This code is already located in `/projects/USU/HARE/pyflann`. To install it to the conda environment, simply navigate to it the folder and then:

```
    cd /projects/USU/HARE/
    git clone https://github.com/laumiulun/pyflann.git
    cd pyflann
    python setup.py install
```

This should fulfill all the requirements. Let me know if you still have questions.