

1. Clone the modified Uerf code

```
(base) islingr@LAPTOP-PBRLAABP:~$ git clone git@github.com:ShumingXu/SPORF.git
Cloning into 'SPORF'...
remote: Enumerating objects: 23, done.
remote: Counting objects: 100% (23/23), done.
remote: Compressing objects: 100% (23/23), done.
remote: Total 8333 (delta 12), reused 0 (delta 0), pack-reused 8310
Receiving objects: 100% (8333/8333), 51.60 MiB | 5.35 MiB/s, done.
Resolving deltas: 100% (4732/4732), done.
Checking out files: 100% (2124/2124), done.
```

2. Install virtualenv to create a virtual environment where the modified version can be installed

```
(base) islingr@LAPTOP-PBRLAABP:~$ pip install virtualenv
Collecting virtualenv
  Downloading https://files.pythonhosted.org/packages/c5/97/00dd42a0fc41e9016b23f07ec7f657f636cb672fad9cf72b80f8f65c6a46/virtualenv-16.7.7-py2.py3-none-any.whl (3.4MB)
    |#####| 3.4MB 2.4MB/s
Installing collected packages: virtualenv
Successfully installed virtualenv-16.7.7
(base) islingr@LAPTOP-PBRLAABP:~$ pip install virtualenvwrapper
Collecting virtualenvwrapper
  Downloading https://files.pythonhosted.org/packages/c1/6b/2f05d73b2d2f2410b48b90d3783a0034c26afa534a4a95ad5f1178d61191/virtualenvwrapper-4.8.4.tar.gz (334kB)
    |#####| 337kB 2.1MB/s
Requirement already satisfied: virtualenv in ./Codes/anaconda3/lib/python3.7/site-packages (from virtualenvwrapper) (16.7.7)
Collecting virtualenv-clone (from virtualenvwrapper)
  Downloading https://files.pythonhosted.org/packages/ba/f8/50c2b7dbc99e05fce5e5b9d9a31f37c988c99acd4e8dedd720b7b8d4011d/virtualenv_clone-0.5.3-py2.py3-none-any.whl
Collecting stevedore (from virtualenvwrapper)
  Downloading https://files.pythonhosted.org/packages/b1/e1/f5ddb83f60b03f522f173c03e406c1bfff8343f0232a292ac96aa633b47a/stevedore-1.31.0-py2.py3-none-any.whl (43kB)
    |#####| 51kB 6.3MB/s
Requirement already satisfied: six>=1.10.0 in ./Codes/anaconda3/lib/python3.7/site-packages (from stevedore->virtualenvwrapper) (1.12.0)
Collecting pbr!=2.1.0,>=2.0.0 (from stevedore->virtualenvwrapper)
  Downloading https://files.pythonhosted.org/packages/46/a4/d5c83831a3452713e4b4f126149bc4fbda170f7cb16a86a00ce57ce0e9ad/pbr-5.4.3-py2.py3-none-any.whl (110kB)
    |#####| 112kB 20.1MB/s
Building wheels for collected packages: virtualenvwrapper
  Building wheel for virtualenvwrapper (setup.py) ... done
  Created wheel for virtualenvwrapper: filename=virtualenvwrapper-4.8.4-py2.py3-none-any.whl size=24848 sha256=3f6662bedf232848e8e442b50b367a0080fc56816f72643b2d0b65b20705c239
  Stored in directory: /home/islingr/.cache/pip/wheels/70/d7/39/a522e494b0e145a1bec42f45a6e542f097c20d0be3ec26866e
Successfully built virtualenvwrapper
Installing collected packages: virtualenv-clone, pbr, stevedore, virtualenvwrapper
Successfully installed pbr-5.4.3 stevedore-1.31.0 virtualenv-clone-0.5.3 virtualenvwrapper-4.8.4
```

3. Create the virtual environment

```

(base) islingr@LAPTOP-PBRLAABP:~$ whereis virtualenvwrapper.sh
virtualenvwrapper: /home/islingr/Codes/anaconda3/bin/virtualenvwrapper.sh
(base) islingr@LAPTOP-PBRLAABP:~$ source /home/islingr/Codes/anaconda3/bin/virtualenvwrapper.sh
virtualenvwrapper.user_scripts creating /home/islingr/.virtualenvs/premkproject
virtualenvwrapper.user_scripts creating /home/islingr/.virtualenvs/postmkproject
virtualenvwrapper.user_scripts creating /home/islingr/.virtualenvs/initialize
virtualenvwrapper.user_scripts creating /home/islingr/.virtualenvs/premkvirtualenv
virtualenvwrapper.user_scripts creating /home/islingr/.virtualenvs/postmkvirtualenv
virtualenvwrapper.user_scripts creating /home/islingr/.virtualenvs/prermvirtualenv
virtualenvwrapper.user_scripts creating /home/islingr/.virtualenvs/postrmvirtualenv
virtualenvwrapper.user_scripts creating /home/islingr/.virtualenvs/predeactivate
virtualenvwrapper.user_scripts creating /home/islingr/.virtualenvs/postdeactivate
virtualenvwrapper.user_scripts creating /home/islingr/.virtualenvs/preactivate
virtualenvwrapper.user_scripts creating /home/islingr/.virtualenvs/postactivate
virtualenvwrapper.user_scripts creating /home/islingr/.virtualenvs/get_env_details
(base) islingr@LAPTOP-PBRLAABP:~$ source ~/.bashrc
(base) islingr@LAPTOP-PBRLAABP:~$ mkvirtualenv modifiedSPORF -p python3
Running virtualenv with interpreter /home/islingr/Codes/anaconda3/bin/python3
Already using interpreter /home/islingr/Codes/anaconda3/bin/python3
Using base prefix '/home/islingr/Codes/anaconda3'
New python executable in /home/islingr/.virtualenvs/modifiedSPORF/bin/python3
Also creating executable in /home/islingr/.virtualenvs/modifiedSPORF/bin/python
Installing setuptools, pip, wheel...
done.
virtualenvwrapper.user_scripts creating /home/islingr/.virtualenvs/modifiedSPORF/bin/predeactivate
virtualenvwrapper.user_scripts creating /home/islingr/.virtualenvs/modifiedSPORF/bin/postdeactivate
virtualenvwrapper.user_scripts creating /home/islingr/.virtualenvs/modifiedSPORF/bin/preactivate
virtualenvwrapper.user_scripts creating /home/islingr/.virtualenvs/modifiedSPORF/bin/postactivate
virtualenvwrapper.user_scripts creating /home/islingr/.virtualenvs/modifiedSPORF/bin/get_env_details
(modifiedSPORF) (base) islingr@LAPTOP-PBRLAABP:~$ pip freeze
(modifiedSPORF) (base) islingr@LAPTOP-PBRLAABP:~$ jupyter notebook

```

4. Install modified SPORF

```

(modifiedSPORF) (base) islingr@LAPTOP-PBRLAABP:~/SPORF/Python$ pip install -e .
Obtaining file:///home/islingr/SPORF/Python
Requirement already satisfied: pybind11>=2.2.4 in /home/islingr/.virtualenvs/modifiedSPORF/lib/python3.7/site-packages (from
erf==2.0.5) (2.4.3)
Requirement already satisfied: numpy>=1.16.3 in /home/islingr/.virtualenvs/modifiedSPORF/lib/python3.7/site-packages (from r
erf==2.0.5) (1.17.3)
Requirement already satisfied: scikit-learn>=0.21.0 in /home/islingr/.virtualenvs/modifiedSPORF/lib/python3.7/site-packages
(from erf==2.0.5) (0.21.3)
Requirement already satisfied: requests>=2.22.0 in /home/islingr/.virtualenvs/modifiedSPORF/lib/python3.7/site-packages (fro
m erf==2.0.5) (2.22.0)
Requirement already satisfied: scipy>=0.17.0 in /home/islingr/.virtualenvs/modifiedSPORF/lib/python3.7/site-packages (from s
cikit-learn>=0.21.0->rerf==2.0.5) (1.3.1)
Requirement already satisfied: joblib>=0.11 in /home/islingr/.virtualenvs/modifiedSPORF/lib/python3.7/site-packages (from sc
ikit-learn>=0.21.0->rerf==2.0.5) (0.14.0)

```