Anaconda-2021.05 Installation

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Intended audience

ICT Staff -- Werkplekbeheer, Digital Exam environment, Anaconda admins

Overview

This procedure describes how to install the TU Delft software portal Anaconda version;

- the Anaconda base versions is the Anaconda Individual Edition 2021.05. See menu option *Products*
- the installation assumes **MULTIPLE users** (referred to as: *"system installation"*)
- as per recommendation by Anaconda, Anaconda users sharing a system installation are grouped and granted read and write permissions for the root folder and folders below
- a single `base` environment (a.k.a. environment `anaconda3`), as created and configured in the official installation procedure by Anaconda, residing in `C:\ProgramData\Anaconda3`
- the installation has to be **multi platform**;
  - for Windows (X86_64)
  - for MacOS
  - for Linux
- the TU Delft stylesheet `tudelft.css` will not be installed in the system install, but distributed separately
- this installation includes, among others, `Spyder` , `VS Code` , `Jupyter Notebook` , `JupyterLab` , and `RStudio`
- this installation includes `scikit-learn` , `TensorFlow` , and `PyTorch` , for Machine Learning
- the Individual Edition is an **all-open-source** installation (no licenses required). This includes the installation of PyCharm Professional with Anaconda Plugin offered and promoted as part of the official installation, and **free-for-academic** use, a free Community Edition of the JetBrains Datalore for online editing and execution of Jupyter notebooks, and a trial version of IBM Watson Studio for Anaconda users, that lets you run IBM Notebooks on IBM's Watson Studio for AI and data science, in the cloud.

After this installation, and after adding a few extra packages as per demand by various users in the Faculties, the packaging can commence and the final packaged version can be transferred to the TU Delft Software Portal.

Remark
Students or Staff requiring an installation under *their own user account* can download and installer from the Anaconda site, install, and activate or install the additional packages themselves. If for a minimum installation or just for a Python interpreter, they may want to install `miniconda` .

Resources

1. Anaconda Individual Edition 2021.05
2. Introduction Anaconda Individual Edition
3. Installation procedure for multiple users -- system installation
4. PyCharm Professional with Anaconda plugin
5. Packages
6. Miniconda resources
7. Hashes

Installation -- what steps need to be undertaken?

- Stage 1: install Anaconda Individual Edition
- Stage 2: post-install the extra packages as specified by Faculties during the Consultation Round
    - Stage 3: verify and validate installation

Details of all these stages are given below.

Stage 1: Install Anaconda Individual Edition

1. download the **installer** from the download site, for Windows, MacOs, or Linux (see below)
2. install the software as it comes; select **multiple** users (all users) for a system install
3. make a user group `Anaconda-Users` and adjust the file access rights for this group as specified in the installation procedure
4. verify that the installation has been successful (see below)

Documentation Windows installation procedure

1. single user
2. multiple user

MacOS installation procedure

1. single user
2. command line install

Linux installation procedure

1. single user
2. multiple users

Verification the Installation

See here how to verify the installation. Also, see here. This page also gives some pointers.

Troubleshooting

Problems and troubleshooting

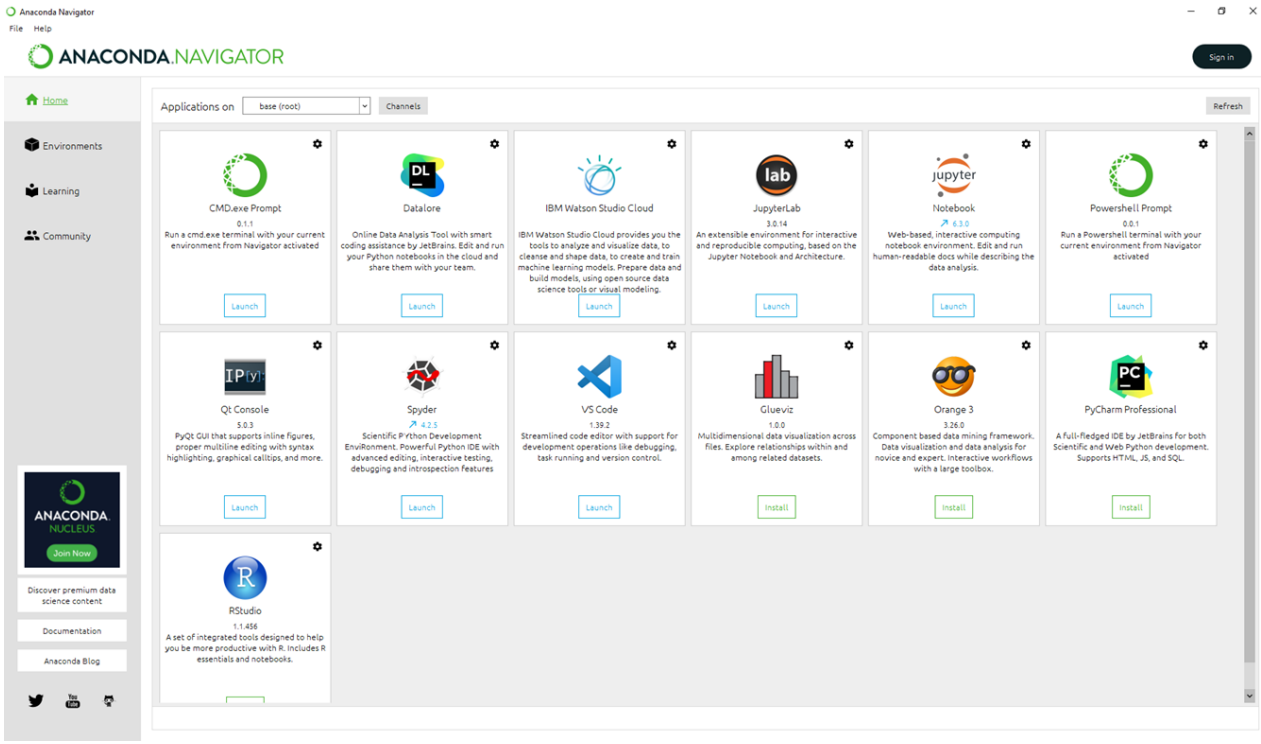
FAQ

Frequently asked questions

Stage 2:

1. add (post-install) the extra packages to complete the installation as desired by the participants in the Consultation round (see specifications below)

Start by opening **Anaconda-Navigator** (from the Windows Start Menu) and from that environment launch PowerShell-Prompt (see image below).



In the PowerShell thus provided, check if the *base environment* `anaconda3` is selected (as reflected in the prompt; here: `anaconda3`, which is good) and check if `python` and `conda` are in the path, by prompting their versions. The output should show something like:

```
(anaconda3) PS C:\Users\bhmgerritsen> python --version
Python 3.8.8
(anaconda3) PS C:\Users\bhmgerritsen> conda --version
conda 4.10.1
(anaconda3) PS C:\Users\bhmgerritsen>
```

We are now good to go installing the extra packages using `conda` commands on the command line. To install, issue the command in the rightmost column, in the table below, one-by-one:

package name	channel	command
slycot	conda-forge	`conda install -c conda-forge slycot`
control	conda-forge	`conda install -c conda-forge control`
nidaqmx-python	conda-forge	`conda install -c conda-forge nidaqmx-python`
pulp	conda-forge	`conda install -c conda-forge pulp`

Finally, still in the PowerShell like above, use `pip` to install packages that cannot be installed by `conda`. Usually, `conda` figures out for each of the packages to be installed, which *version* is needed to keep the entire environment sane. Generally, `pip` does not do that. To that end, Anaconda has its own pip, to overcome this lack of *version control*:

```
conda list pip
pip                       21.1.2                   pypi_0    pypi
```

Use it to install the remaining packages that insist on `pip`, like so:

```
python -m pip install salabim
python -m pip install coolprop
```

and:

```
python -m pip install opencv-python
```

and:

```
python -m pip install tsp
```

Stage 3: verify and validate

It is generally not so easy to provide general guidelines how to verify the installation. Below, a few issues will be addressed and a few hints will be given to check individual modules that show difficulties.

Where are the modules installed?

Find out as follows:

Open a shell from the Anaconda Navigator. Then start the `Python` interpreter, check its version and do the same with `conda` (see above). Then, in this interactive shell:

```
Python 3.8.8 (default, Apr 13 2021, 15:08:03) [MSC v.1916 64 bit (AMD64)] :: Anaconda, Inc. on win32
Type "help", "copyright", "credits" or "license" for more information.
>>> from distutils.sysconfig import get_python_lib
>>> print(f'{get_python_lib()}')
C:\Users\bhmgerritsen\anaconda3\Lib\site-packages
>>>
```

this give the installation `site-packages` directory (here: `C:\Users\bhmgerritsen\anaconda3\Lib\site-packages`; apparently this is a `--user` single user installation)

Which modules have been loaded?

In the interactive shell:

```
>>> import sys
>>> sys.modules
{'sys': <module 'sys' (built-in)>, 'builtins': <module 'builtins' (built-in)>, '_frozen_importlib': <module 'importlib.
```

The are the modules that were loaded (check the python docs for details.

Checking an individual module

```
>>> import marshal
dir(marshal)
>>> import marshal
>>> dir(marshal)
['__doc__', '__loader__', '__name__', '__package__', '__spec__', 'dump', 'dumps', 'load', 'loads', 'version']
>>> dir(marshal.__package__)
```

```
['__add__', '__class__', '__contains__', '__delattr__', '__dir__', '__doc__', '__eq__', '__format__', '__ge__', '__geta
>>> dir(marshal.version)
['__abs__', '__add__', '__and__', '__bool__', '__ceil__', '__class__', '__delattr__', '__dir__', '__divmod__', '__doc__
```

This way, further inspection can be carried out as to the content of the installed package. After a first inspection, a test program may reveal and assess correct operations.

Installation done.

Appendix I

Looking for additional packages (for Stage 2) proceeds as follows. Open a PowerShell Prompt from the Anaconda-Navigator, as shown above. Next:

1. to check if a package is installed, use `conda list <package name>`
2. to search for info on a package on the web, in a specfic *channel*, use
   `conda search -c <channel-name> --info <package name>`

Example: see if `numpy` has already been installed on our system installation:

```
conda list numpy
```

yields the output:

```
(Anaconda3) PS C:\Users\bhmgerritsen> conda list numpy
# packages in environment at C:\Users\bhmgerritsen\anaconda3:
#
# Name                    Version                   Build  Channel
numpy                     1.20.1           py38h34a8a5c_0
numpy-base                1.20.1           py38haf7ebc8_0
numpydoc                  1.1.0              pyhd3eb1b0_1
```

informing us that `numpy 1.20.1` has already been installed in environment `C:\ProgramData\Anaconda3` (i.e. the `base` environment for all users), along with its dependencies.

If not installed, search the web for a package can be done as follows.

Example: search the web (channel Conda-Forge) for an additional package, by the name `slycot`:

```
conda search -c conda-forge --info slycot
```

yielding a long list of output:

```
...
...
...
...
...
slycot 0.4.0.0 py39he12218f_4
-----------------------------
file name   : slycot-0.4.0.0-py39he12218f_4.tar.bz2
name        : slycot
version     : 0.4.0.0
```

```
build       : py39he12218f_4
build number: 4
size        : 1.2 MB
license     : GPL-2.0-only
subdir      : win-64
url         : https://conda.anaconda.org/conda-forge/win-64/slycot-0.4.0.0-py39he12218f_4.tar.bz2
md5         : 8cf28be61e4902a72f3cb01aa13b2189
timestamp   : 2020-11-01 08:41:31 UTC
dependencies:
  - libblas >=3.8.0,<4.0a0
  - libcblas >=3.8.0,<4.0a0
  - libflang >=5.0.0
  - liblapack >=3.8.0,<4.0a0
  - numpy >=1.19.2,<2.0a0
  - python >=3.9,<3.10.0a0
  - python_abi 3.9.* *_cp39
  - vc >=14.1,<15.0a0
  - vs2015_runtime >=14.16.27012
  - libflang <6.0.0.a0
...
...
...
```

informing us that the Microsoft VisualStudio 2015 runtime needs to be installed, and that this version requires at least Python 3.9 .

Appendix II

List of packages installed in the base environment (`anaconda3`).

```
(anaconda3) PS C:\Users\bhmgerritsen> conda list --show-channel-urls
# packages in environment at C:\Users\bhmgerritsen\anaconda3:
#
# Name                    Version                   Build  Channel
_ipyw_jlab_nb_ext_conf    0.1.0                     py38_0    defaults
alabaster                 0.7.12             pyhd3eb1b0_0    defaults
alembic                   1.6.4              pyhd8ed1ab_0    conda-forge
anaconda                  2021.05                   py38_0    defaults
anaconda-client           1.7.2                     py38_0    defaults
anaconda-navigator        2.0.3                     py38_0    defaults
anaconda-project          0.9.1              pyhd3eb1b0_1    defaults
anyio                     2.2.0             py38haa95532_2    defaults
appdirs                   1.4.4                     py_0    defaults
argh                      0.26.2                    py38_0    defaults
argon2-cffi               20.1.0            py38h2bbff1b_1    defaults
asn1crypto                1.4.0                     py_0    defaults
astroid                   2.5               py38haa95532_1    defaults
astropy                   4.2.1             py38h2bbff1b_1    defaults
async_generator           1.10               pyhd3eb1b0_0    defaults
atomicwrites              1.4.0                     py_0    defaults
attrs                     20.3.0             pyhd3eb1b0_0    defaults
autopep8                  1.5.6              pyhd3eb1b0_0    defaults
babel                     2.9.0              pyhd3eb1b0_0    defaults
backcall                  0.2.0              pyhd3eb1b0_0    defaults
backports                 1.0                pyhd3eb1b0_2    defaults
backports.functools_lru_cache 1.6.4              pyhd3eb1b0_0    defaults
backports.shutil_get_terminal_size 1.0.0              pyhd3eb1b0_3    defaults
backports.tempfile        1.0                pyhd3eb1b0_1    defaults
backports.weakref         1.0.post1                 py_1    defaults
bcrypt                    3.2.0             py38he774522_0    defaults
beautifulsoup4            4.9.3              pyha847dfd_0    defaults
bitarray                  1.9.2             py38h2bbff1b_1    defaults
bkcharts                  0.2                       py38_0    defaults
black                     19.10b0                   py_0    defaults
blas                      1.0                        mkl    defaults
bleach                    3.3.0              pyhd3eb1b0_0    defaults
blosc                     1.21.0               h19a0ad4_0    defaults
```

```
bokeh                     2.3.2            py38haa95532_0    defaults
boto                      2.49.0                   py38_0    defaults
bottleneck                1.3.2            py38h2a96729_1    defaults
brotli                    1.0.9                ha925a31_2    defaults
brotlipy                  0.7.0           py38h2bbff1b_1003    defaults
bzip2                     1.0.8                he774522_0    defaults
ca-certificates           2021.4.13            haa95532_1    defaults
cairo                     1.16.0            h63a05c6_1001    conda-forge
certifi                   2020.12.5        py38haa95532_0    defaults
cffi                      1.14.5           py38hcd4344a_0    defaults
chardet                   4.0.0           py38haa95532_1003    defaults
charls                    2.2.0                h6c2663c_0    defaults
click                     7.1.2              pyhd3eb1b0_0    defaults
cloudpickle               1.6.0                    py_0    defaults
clyent                    1.2.2                   py38_1    defaults
colorama                  0.4.4              pyhd3eb1b0_0    defaults
comtypes                  1.1.9           py38haa95532_1002    defaults
conda                     4.10.1           py38haa244fe_0    conda-forge
conda-build               3.21.4           py38haa95532_0    defaults
conda-content-trust       0.1.1              pyhd3eb1b0_0    defaults
conda-env                 2.6.0                        1    defaults
conda-package-handling    1.7.3            py38h8cc25b3_1    defaults
conda-repo-cli            1.0.4              pyhd3eb1b0_0    defaults
conda-token               0.3.0              pyhd3eb1b0_0    defaults
conda-verify              3.4.2                    py_1    defaults
console_shortcut          0.1.1                        4    defaults
contextlib2               0.6.0.post1              py_0    defaults
cryptography              3.4.7            py38h71e12ea_0    defaults
curl                      7.71.1               h2a8f88b_1    defaults
cycler                    0.10.0                  py38_0    defaults
cython                    0.29.23          py38hd77b12b_0    defaults
cytoolz                   0.11.0           py38he774522_0    defaults
dask                      2021.4.0           pyhd3eb1b0_0    defaults
dask-core                 2021.4.0           pyhd3eb1b0_0    defaults
decorator                 5.0.6              pyhd3eb1b0_0    defaults
defusedxml                0.7.1              pyhd3eb1b0_0    defaults
diff-match-patch          20200713                 py_0    defaults
distributed               2021.4.0         py38haa95532_0    defaults
docutils                  0.17             py38haa95532_1    defaults
entrypoints               0.3                     py38_0    defaults
et_xmlfile                1.0.1                  py_1001    defaults
fastcache                 1.1.0            py38he774522_0    defaults
filelock                  3.0.12             pyhd3eb1b0_1    defaults
flake8                    3.9.0              pyhd3eb1b0_0    defaults
flask                     1.1.2              pyhd3eb1b0_0    defaults
freetype                  2.10.4               hd328e21_0    defaults
fsspec                    0.9.0              pyhd3eb1b0_0    defaults
future                    0.18.2                  py38_1    defaults
fuzzywuzzy                0.18.0             pyhd8ed1ab_0    conda-forge
get_terminal_size         1.0.0                h38e98db_0    defaults
gevent                    21.1.2           py38h2bbff1b_1    defaults
giflib                    5.2.1                h62dcd97_0    defaults
glob2                     0.7                pyhd3eb1b0_0    defaults
glpk                      4.65              h8ffe710_1004    conda-forge
greenlet                  1.0.0            py38hd77b12b_2    defaults
h5py                      2.10.0           py38h5e291fa_0    defaults
hdf5                      1.10.4               h7ebc959_0    defaults
heapdict                  1.0.1                    py_0    defaults
html5lib                  1.1                      py_0    defaults
icc_rt                    2019.0.0             h0cc432a_1    defaults
icu                       58.2                 ha925a31_3    defaults
idna                      2.10               pyhd3eb1b0_0    defaults
igraph                    0.9.2                h29cbd77_0    conda-forge
imagecodecs               2021.3.31        py38h5da4933_0    defaults
imageio                   2.9.0              pyhd3eb1b0_0    defaults
imagesize                 1.2.0              pyhd3eb1b0_0    defaults
importlib-metadata        3.10.0           py38haa95532_0    defaults
importlib_metadata        3.10.0               hd3eb1b0_0    defaults
iniconfig                 1.1.1              pyhd3eb1b0_0    defaults
intel-openmp              2021.2.0           haa95532_616    defaults
intervaltree              3.1.0                    py_0    defaults
ipykernel                 5.3.4            py38h5ca1d4c_0    defaults
ipython                   7.22.0           py38hd4e2768_0    defaults
ipython_genutils          0.2.0              pyhd3eb1b0_1    defaults
```

```
ipywidgets                7.6.3              pyhd3eb1b0_1    defaults
isort                     5.8.0              pyhd3eb1b0_0    defaults
itsdangerous              1.1.0              pyhd3eb1b0_0    defaults
jdcal                     1.4.1                      py_0    defaults
jedi                      0.17.2           py38haa95532_1    defaults
jinja2                    2.11.3             pyhd3eb1b0_0    defaults
joblib                    1.0.1              pyhd3eb1b0_0    defaults
jpeg                      9b                   hb83a4c4_2    defaults
json5                     0.9.5                      py_0    defaults
jsonschema                3.2.0                      py_2    defaults
jupyter                   1.0.0                    py38_7    defaults
jupyter-packaging         0.7.12             pyhd3eb1b0_0    defaults
jupyter_client            6.1.12             pyhd3eb1b0_0    defaults
jupyter_console           6.4.0              pyhd3eb1b0_0    defaults
jupyter_contrib_core      0.3.3                      py_2    conda-forge
jupyter_contrib_nbextensions 0.5.1             pyhd8ed1ab_2    conda-forge
jupyter_core              4.7.1            py38haa95532_0    defaults
jupyter_highlight_selected_word 0.2.0          py38haa244fe_1002    conda-forge
jupyter_latex_envs        1.4.6            pyhd8ed1ab_1002    conda-forge
jupyter_nbextensions_configurator 0.4.1          py38haa244fe_2    conda-forge
jupyter_server            1.4.1            py38haa95532_0    defaults
jupyterlab                3.0.14             pyhd3eb1b0_1    defaults
jupyterlab_pygments       0.1.2                      py_0    defaults
jupyterlab_server         2.4.0              pyhd3eb1b0_0    defaults
jupyterlab_widgets        1.0.0              pyhd3eb1b0_1    defaults
keyring                   22.3.0           py38haa95532_0    defaults
kiwisolver                1.3.1            py38hd77b12b_0    defaults
krb5                      1.18.2               hc04afaa_0    defaults
lazy-object-proxy         1.6.0            py38h2bbff1b_0    defaults
lcms2                     2.12                 h83e58a3_0    defaults
lerc                      2.2.1                hd77b12b_0    defaults
libaec                    1.0.4                h33f27b4_1    defaults
libarchive                3.4.2                h5e25573_0    defaults
libblas                   3.9.0           1_h8933c1f_netlib    conda-forge
libcblas                  3.9.0           5_hd5c7e75_netlib    conda-forge
libcurl                   7.71.1               h2a8f88b_1    defaults
libdeflate                1.7                  h2bbff1b_5    defaults
libiconv                  1.15                 h1df5818_7    defaults
liblapack                 3.9.0           5_hd5c7e75_netlib    conda-forge
liblapacke                3.9.0           5_hd5c7e75_netlib    conda-forge
liblief                   0.10.1               ha925a31_0    defaults
libpng                    1.6.37               h2a8f88b_0    defaults
libsodium                 1.0.18               h62dcd97_0    defaults
libspatialindex           1.9.3                h6c2663c_0    defaults
libssh2                   1.9.0                h7a1dbc1_1    defaults
libtiff                   4.2.0                hd0e1b90_0    defaults
libxml2                   2.9.10               hb89e7f3_3    defaults
libxslt                   1.1.34               he774522_0    defaults
libzopfli                 1.0.3                ha925a31_0    defaults
llvmlite                  0.36.0           py38h34b8924_4    defaults
locket                    0.2.1            py38haa95532_1    defaults
lxml                      4.6.3            py38h9b66d53_0    defaults
lz4-c                     1.9.3                h2bbff1b_0    defaults
lzo                       2.10                 he774522_2    defaults
m2w64-gcc-libgfortran     5.3.0                         6    defaults
m2w64-gcc-libs            5.3.0                         7    defaults
m2w64-gcc-libs-core       5.3.0                         7    defaults
m2w64-gmp                 6.1.0                         2    defaults
m2w64-libwinpthread-git   5.0.0.4634.697f757                2    defaults
mako                      1.1.4              pyh44b312d_0    conda-forge
markupsafe                1.1.1            py38he774522_0    defaults
matplotlib                3.3.4            py38haa95532_0    defaults
matplotlib-base           3.3.4            py38h49ac443_0    defaults
mccabe                    0.6.1                    py38_1    defaults
menuinst                  1.4.16           py38he774522_1    defaults
mistune                   0.8.4           py38he774522_1000    defaults
mkl                       2021.2.0           haa95532_296    defaults
mkl-service               2.3.0            py38h2bbff1b_1    defaults
mkl_fft                   1.3.0            py38h277e83a_2    defaults
mkl_random                1.2.1            py38hf11a4ad_2    defaults
mock                      4.0.3              pyhd3eb1b0_0    defaults
more-itertools            8.7.0              pyhd3eb1b0_0    defaults
mpir                      3.0.0             he025d50_1002    conda-forge
mpmath                    1.2.1            py38haa95532_0    defaults
```

```
msgpack-python            1.0.2           py38h59b6b97_1    defaults
msys2-conda-epoch         20160418                 1    defaults
multipledispatch          0.6.0                 py38_0    defaults
mypy_extensions           0.4.3                 py38_0    defaults
navigator-updater         0.2.1                 py38_0    defaults
nbclassic                 0.2.6           pyhd3eb1b0_0    defaults
nbclient                  0.5.3           pyhd3eb1b0_0    defaults
nbconvert                 6.0.7                 py38_0    defaults
nbformat                  5.1.3           pyhd3eb1b0_0    defaults
nbgrader                  0.6.1           py38haa244fe_1    conda-forge
nest-asyncio              1.5.1           pyhd3eb1b0_0    defaults
networkx                  2.5                     py_0    defaults
nltk                      3.6.1           pyhd3eb1b0_0    defaults
nose                      1.3.7          pyhd3eb1b0_1006    defaults
notebook                  6.3.0           py38haa95532_0    defaults
numba                     0.53.1          py38hf11a4ad_0    defaults
numexpr                   2.7.3           py38hb80d3ca_1    defaults
numpy                     1.20.1          py38h34a8a5c_0    defaults
numpy-base                1.20.1          py38haf7ebc8_0    defaults
numpydoc                  1.1.0           pyhd3eb1b0_1    defaults
olefile                   0.46                    py_0    defaults
openjpeg                  2.3.0              h5ec785f_1    defaults
openpyxl                  3.0.7           pyhd3eb1b0_0    defaults
openssl                   1.1.1k             h2bbff1b_0    defaults
orderedset                2.0.3           py38h294d835_4    conda-forge
packaging                 20.9            pyhd3eb1b0_0    defaults
pandas                    1.2.4           py38hd77b12b_0    defaults
pandoc                    2.12               haa95532_0    defaults
pandocfilters             1.4.3           py38haa95532_1    defaults
paramiko                  2.7.2                   py_0    defaults
parso                     0.7.0                   py_0    defaults
partd                     1.2.0           pyhd3eb1b0_0    defaults
path                      15.1.2          py38haa95532_0    defaults
path.py                   12.5.0                   0    defaults
pathlib2                  2.3.5           py38haa95532_2    defaults
pathspec                  0.7.0                   py_0    defaults
patsy                     0.5.1                 py38_0    defaults
pep8                      1.7.1                 py38_0    defaults
pexpect                   4.8.0           pyhd3eb1b0_3    defaults
pickleshare               0.7.5          pyhd3eb1b0_1003    defaults
pillow                    8.2.0           py38h4fa10fc_0    defaults
pip                       21.1.2                pypi_0    pypi
pixman                    0.38.0            hfa6e2cd_1003    conda-forge
pkginfo                   1.7.0           py38haa95532_0    defaults
pluggy                    0.13.1          py38haa95532_0    defaults
ply                       3.11                  py38_0    defaults
powershell_shortcut       0.0.1                    3    defaults
prometheus_client         0.10.1          pyhd3eb1b0_0    defaults
prompt-toolkit            3.0.17          pyh06a4308_0    defaults
prompt_toolkit            3.0.17             hd3eb1b0_0    defaults
psutil                    5.8.0           py38h2bbff1b_1    defaults
ptyprocess                0.7.0           pyhd3eb1b0_2    defaults
py                        1.10.0          pyhd3eb1b0_0    defaults
py-lief                   0.10.1          py38ha925a31_0    defaults
pycairo                   1.20.0          py38h979ce04_1    conda-forge
pycodestyle               2.6.0           pyhd3eb1b0_0    defaults
pycosat                   0.6.3           py38h2bbff1b_0    defaults
pycparser                 2.20                    py_2    defaults
pycurl                    7.43.0.6        py38h7a1dbc1_0    defaults
pydocstyle                6.0.0           pyhd3eb1b0_0    defaults
pyerfa                    1.7.3           py38h2bbff1b_0    defaults
pyflakes                  2.2.0           pyhd3eb1b0_0    defaults
pygments                  2.8.1           pyhd3eb1b0_0    defaults
pylint                    2.7.4           py38haa95532_1    defaults
pyls-black                0.4.6              hd3eb1b0_0    defaults
pyls-spyder               0.3.2           pyhd3eb1b0_0    defaults
pynacl                    1.4.0           py38h62dcd97_1    defaults
pyodbc                    4.0.30          py38ha925a31_0    defaults
pyopenssl                 20.0.1          pyhd3eb1b0_1    defaults
pyparsing                 2.4.7           pyhd3eb1b0_0    defaults
pyqt                      5.9.2           py38ha925a31_4    defaults
pyreadline                2.1                   py38_1    defaults
pyrsistent                0.17.3          py38he774522_0    defaults
pysocks                   1.7.1           py38haa95532_0    defaults
```

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pytables                  3.6.1            py38ha5be198_0    defaults
pytest                    6.2.3            py38haa95532_2    defaults
python                    3.8.8                hdbf39b2_5    defaults
python-dateutil           2.8.1              pyhd3eb1b0_0    defaults
python-editor             1.0.4                      py_0    conda-forge
python-igraph             0.9.1            py38hc48d4f8_0    conda-forge
python-jsonrpc-server     0.4.0                      py_0    defaults
python-language-server    0.36.2             pyhd3eb1b0_0    defaults
python-levenshtein        0.12.2           py38h294d835_0    conda-forge
python-libarchive-c       2.9                pyhd3eb1b0_1    defaults
python_abi                3.8                      1_cp38    conda-forge
pytz                      2021.1             pyhd3eb1b0_0    defaults
pywavelets                1.1.1            py38he774522_2    defaults
pywin32                   227              py38he774522_1    defaults
pywin32-ctypes            0.2.0                 py38_1000    defaults
pywinpty                  0.5.7                    py38_0    defaults
pyyaml                    5.4.1            py38h2bbff1b_1    defaults
pyzmq                     20.0.0           py38hd77b12b_1    defaults
qdarkstyle                2.8.1                      py_0    defaults
qt                        5.9.7            vc14h73c81de_0    defaults
qtawesome                 1.0.2              pyhd3eb1b0_0    defaults
qtconsole                 5.0.3              pyhd3eb1b0_0    defaults
qtpy                      1.9.0                      py_0    defaults
qutip                     4.6.1            py38h2f20550_0    conda-forge
regex                     2021.4.4         py38h2bbff1b_0    defaults
requests                  2.25.1             pyhd3eb1b0_0    defaults
rope                      0.18.0                     py_0    defaults
rtree                     0.9.7            py38h2eaa2aa_1    defaults
ruamel_yaml               0.15.100         py38h2bbff1b_0    defaults
scikit-image              0.18.1           py38hf11a4ad_0    defaults
scikit-learn              0.24.1           py38hf11a4ad_0    defaults
scipy                     1.6.2            py38h66253e8_1    defaults
seaborn                   0.11.1             pyhd3eb1b0_0    defaults
send2trash                1.5.0              pyhd3eb1b0_1    defaults
setuptools                52.0.0           py38haa95532_0    defaults
simplegeneric             0.8.1                    py38_2    defaults
singledispatch            3.6.1           pyhd3eb1b0_1001    defaults
sip                       4.19.13          py38ha925a31_0    defaults
six                       1.15.0           py38haa95532_0    defaults
snappy                    1.1.8                h33f27b4_0    defaults
sniffio                   1.2.0            py38haa95532_1    defaults
snowballstemmer           2.1.0              pyhd3eb1b0_0    defaults
sortedcollections         2.1.0              pyhd3eb1b0_0    defaults
sortedcontainers          2.3.0              pyhd3eb1b0_0    defaults
soupsieve                 2.2.1              pyhd3eb1b0_0    defaults
sphinx                    4.0.1              pyhd3eb1b0_0    defaults
sphinxcontrib             1.0                      py38_1    defaults
sphinxcontrib-applehelp   1.0.2              pyhd3eb1b0_0    defaults
sphinxcontrib-devhelp     1.0.2              pyhd3eb1b0_0    defaults
sphinxcontrib-htmlhelp    1.0.3              pyhd3eb1b0_0    defaults
sphinxcontrib-jsmath      1.0.1              pyhd3eb1b0_0    defaults
sphinxcontrib-qthelp      1.0.3              pyhd3eb1b0_0    defaults
sphinxcontrib-serializinghtml 1.1.4              pyhd3eb1b0_0    defaults
sphinxcontrib-websupport  1.2.4                      py_0    defaults
spyder                    4.2.5            py38haa95532_0    defaults
spyder-kernels            1.10.2           py38haa95532_0    defaults
sqlalchemy                1.4.7            py38h2bbff1b_0    defaults
sqlite                    3.35.4               h2bbff1b_0    defaults
statsmodels               0.12.2           py38h2bbff1b_0    defaults
suitesparse               5.4.0                h5d0cbe0_1    conda-forge
sympy                     1.8              py38haa95532_0    defaults
tbb                       2020.3               h74a9793_0    defaults
tblib                     1.7.0                      py_0    defaults
terminado                 0.9.4            py38haa95532_0    defaults
testpath                  0.4.4              pyhd3eb1b0_0    defaults
textdistance              4.2.1              pyhd3eb1b0_0    defaults
texttable                 1.6.3              pyh9f0ad1d_0    conda-forge
threadpoolctl             2.1.0              pyh5ca1d4c_0    defaults
three-merge               0.1.1              pyhd3eb1b0_0    defaults
tifffile                  2021.4.8           pyhd3eb1b0_2    defaults
tk                        8.6.10               he774522_0    defaults
toml                      0.10.2             pyhd3eb1b0_0    defaults
toolz                     0.11.1             pyhd3eb1b0_0    defaults
tornado                   6.1              py38h2bbff1b_0    defaults
```

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tqdm                      4.59.0             pyhd3eb1b0_1    defaults
traitlets                 5.0.5              pyhd3eb1b0_0    defaults
typed-ast                 1.4.2            py38h2bbff1b_1    defaults
typing_extensions         3.7.4.3            pyha847dfd_0    defaults
ujson                     4.0.2            py38hd77b12b_0    defaults
unicodecsv                0.14.1                  py38_0    defaults
urllib3                   1.26.4             pyhd3eb1b0_0    defaults
vc                        14.2                 h21ff451_1    defaults
vs2015_runtime            14.27.29016          h5e58377_2    defaults
watchdog                  1.0.2            py38haa95532_1    defaults
wcwidth                   0.2.5                    py_0    defaults
webencodings              0.5.1                   py38_1    defaults
werkzeug                  1.0.1              pyhd3eb1b0_0    defaults
wheel                     0.36.2             pyhd3eb1b0_0    defaults
widgetsnbextension        3.5.1                   py38_0    defaults
win_inet_pton             1.1.0            py38haa95532_0    defaults
win_unicode_console       0.5                     py38_0    defaults
wincertstore              0.2                     py38_0    defaults
winpty                    0.4.3                        4    defaults
wrapt                     1.12.1           py38he774522_1    defaults
xlrd                      2.0.1              pyhd3eb1b0_0    defaults
xlsxwriter                1.3.8              pyhd3eb1b0_0    defaults
xlwings                   0.23.0           py38haa95532_0    defaults
xlwt                      1.3.0                   py38_0    defaults
xmltodict                 0.12.0                   py_0    defaults
xz                        5.2.5                h62dcd97_0    defaults
yaml                      0.2.5                he774522_0    defaults
yapf                      0.31.0             pyhd3eb1b0_0    defaults
zeromq                    4.3.3                ha925a31_3    defaults
zfp                       0.5.5                hd77b12b_6    defaults
zict                      2.0.0              pyhd3eb1b0_0    defaults
zipp                      3.4.1              pyhd3eb1b0_0    defaults
zlib                      1.2.11               h62dcd97_4    defaults
zope                      1.0                     py38_1    defaults
zope.event                4.5.0                   py38_0    defaults
zope.interface            5.3.0            py38h2bbff1b_0    defaults
zstd                      1.4.5                h04227a9_0    defaults
```