

Test Visualization

Test Environment

```
(base) apple@appledeMacBook-Pro demo testVis % conda activate new
```

```
(new) apple@appledeMacBook-Pro demo testVis % conda list
```

```
# packages in environment at /Users/apple/opt/anaconda3/envs/new:
```

```
#  
# Name                Version             Build Channel  
blas                  1.0                 openblas  
bottleneck            1.3.5              py39heec5a64_0  
brotli                1.0.9              h1a28f6b_7  
brotli-bin            1.0.9              h1a28f6b_7  
ca-certificates       2023.08.22         hca03da5_0  
contourpy             1.0.5              py39h525c30c_0  
cycler                0.11.0             pyhd3eb1b0_0  
cyrus-sasl            2.1.28             h9131b1a_1  
exceptiongroup        1.1.3              pypi_0 pypi  
fonttools             4.25.0             pyhd3eb1b0_0  
freetype              2.12.1             h1192e45_0  
gettext              0.21.0             h13f89a0_1  
giflib                5.2.1              h80987f9_3  
glib                  2.69.1             h514c7bf_2  
gst-plugins-base      1.14.1             h313beb8_1  
gstreamer             1.14.1             h80987f9_1  
icu                   68.1               hc377ac9_0  
imageio               2.31.4             py39hca03da5_0  
importlib_resources   5.2.0              pyhd3eb1b0_1  
iniconfig             2.0.0              pypi_0 pypi  
jpeg                  9e                 h80987f9_1  
kiwisolver            1.4.4              py39h313beb8_0  
krb5                  1.20.1             hf3e1bf2_1  
lcms2                 2.12               hba8e193_0  
lerc                  3.0                hc377ac9_0  
libbrotlicommon       1.0.9              h1a28f6b_7  
libbrotlidec          1.0.9              h1a28f6b_7  
libbrotlienc          1.0.9              h1a28f6b_7  
libclang              14.0.6             default_h1b80db6_1  
libclang13            14.0.6             default_h24352ff_1  
libcxx                14.0.6             h848a8c0_0  
libdeflate            1.17               h80987f9_1  
libedit               3.1.20221030       h80987f9_0  
libffi                3.4.4              hca03da5_0  
libgfortran           5.0.0              11_3_0_hca03da5_28  
libgfortran5          11.3.0             h009349e_28  
libiconv              1.16               h1a28f6b_2  
libllvm14             14.0.6             h7ec7a93_3  
libopenblas           0.3.21             h269037a_0  
libpng                1.6.39             h80987f9_0  
libpq                 12.15              h02f6b3c_1  
libtiff               4.5.1              h313beb8_0  
libwebp               1.3.2              ha3663a8_0  
libwebp-base          1.3.2              h80987f9_0  
libxml2               2.10.4             h372ba2a_0  
libxslt               1.1.37             habca612_0  
llvm-openmp           14.0.6             hc6e5704_0  
lz4-c                 1.9.4              h313beb8_0  
matplotlib            3.7.2              py39hca03da5_0  
matplotlib-base       3.7.2              py39h46d7db6_0  
munkres               1.1.4              py_0
```

mysql	5.7.24	ha71a6ea_2
ncurses	6.4	h313beb8_0
numexpr	2.8.4	py39h79ee842_1
numpy	1.26.0	py39h3b2db8e_0
numpy-base	1.26.0	py39ha9811e2_0
openssl	3.0.11	h1a28f6b_2
packaging	23.1	py39hca03da5_0
pandas	2.0.3	py39h46d7db6_0
pcre	8.45	hc377ac9_0
pillow	9.4.0	py39h313beb8_1
pip	23.2.1	py39hca03da5_0
pluggy	1.3.0	pypi_0 pypi
ply	3.11	py39hca03da5_0
pyparsing	3.0.9	py39hca03da5_0
pyqt	5.15.7	py39hc377ac9_0
pyqt5-sip	12.11.0	py39hc377ac9_0
pytest	7.4.2	pypi_0 pypi
pytest-mock	3.11.1	pypi_0 pypi
python	3.9.18	hb885b13_0
python-dateutil	2.8.2	pyhd3eb1b0_0
python-tzdata	2023.3	pyhd3eb1b0_0
pytz	2023.3.post1	py39hca03da5_0
qt-main	5.15.2	h9b4df51_9
qt-webengine	5.15.9	h2903aaf_7
qtwebkit	5.212	h19f419d_5
readline	8.2	h1a28f6b_0
setuptools	68.0.0	py39hca03da5_0
sip	6.6.2	py39hc377ac9_0
six	1.16.0	pyhd3eb1b0_1
sqlite	3.41.2	h80987f9_0
tk	8.6.12	hb8d0fd4_0
toml	0.10.2	pyhd3eb1b0_0
tomli	2.0.1	pypi_0 pypi
tornado	6.3.2	py39h80987f9_0
tzdata	2023c	h04d1e81_0
wheel	0.41.2	py39hca03da5_0
xz	5.4.2	h80987f9_0
zipp	3.11.0	py39hca03da5_0
zlib	1.2.13	h5a0b063_0
zstd	1.5.5	hd90d995_0

Function Test 1

Unit test for the custom function ``apply_Vis_Res_Ani()``.

When this function is called, it will select multiple images based on the date information in their filenames, sort them in chronological order, and create a time-lapse animation. Play the animation and save it as a GIF file with the creation time as the filename.

```
(new) apple@appledeMacBook-Pro demo testVis % pytest -v test_UnitTesting_apply_Vis_Res_Ani.py
===== test session starts =====
platform darwin -- Python 3.9.18, pytest-7.4.2, pluggy-1.3.0 -- /Users/apple/opt/anaconda3/envs/new/bin/python
cachedir: .pytest_cache
rootdir: /Users/apple/Documents/demo testVis
plugins: mock-3.11.1
collected 1 item

test_UnitTesting_apply_Vis_Res_Ani.py::test_apply_Vis_Res_Ani PASSED [100%]

===== 1 passed in 2.22s =====
(new) apple@appledeMacBook-Pro demo testVis %
```

```
(new) apple@appledeMacBook-Pro demo testVis % pytest -v
test_UnitTesting_apply_Vis_Res_Ani.py
===== test session starts
=====
platform darwin -- Python 3.9.18, pytest-7.4.2, pluggy-1.3.0 -- /Users/apple/opt/anaconda3/envs/
new/bin/python
cachedir: .pytest_cache
rootdir: /Users/apple/Documents/demo testVis
plugins: mock-3.11.1
collected 1 item

test_UnitTesting_apply_Vis_Res_Ani.py::test_apply_Vis_Res_Ani PASSED
[100%]

===== 1 passed in 2.22s
=====
(new) apple@appledeMacBook-Pro demo testVis %
```

Feature Test 2

Unit test for the custom function `vis_res_load_local_images()`.

The functionality of this function is as follows: when called, it refreshes the list of files inside the current file selection box and displays all the jpg files within folders that end with "_res," which are the resistivity images.

```
(new) apple@appledeMacBook-Pro demo testVis % pytest -v
test_UnitTesting_vis_res_load_local_images.py
===== test session starts
=====
platform darwin -- Python 3.9.18, pytest-7.4.2, pluggy-1.3.0 -- /Users/apple/opt/anaconda3/envs/
new/bin/python
cachedir: .pytest_cache
rootdir: /Users/apple/Documents/demo testVis
plugins: mock-3.11.1
collected 1 item

test_UnitTesting_vis_res_load_local_images.py::test_vis_res_load_local_images PASSED
[100%]

===== 1 passed in 0.97s
=====
(new) apple@appledeMacBook-Pro demo testVis %
```

```
(new) apple@appledeMacBook-Pro demo testVis % pytest -v test_UnitTesting_vis_res_load_local_images.py
===== test session starts =====
platform darwin -- Python 3.9.18, pytest-7.4.2, pluggy-1.3.0 -- /Users/apple/opt/anaconda3/envs/new/bin/python
cachedir: .pytest_cache
rootdir: /Users/apple/Documents/demo testVis
plugins: mock-3.11.1
collected 1 item

test_UnitTesting_vis_res_load_local_images.py::test_vis_res_load_local_images PASSED [100%]

===== 1 passed in 0.97s =====
(new) apple@appledeMacBook-Pro demo testVis %
```

