1. Install and run ODM first so that the extra files needed can be copied from the ODM into the ODM in the IntegratedOrtho
2. Run git clone:

```
git clone https://github.com/rudrakshkapil/Integrated-RGB-Thermal-Orthomosaicing.git IntegratedOrtho
```

3. Copy your photos (or the example photos) into a custom folder that is formatted as follows in the IntegratedOrthoFolder that has just been cloned:

IntegratedOrtho>"create a folder name it anything">mapping_data>"folder containing photos"

4. Download and run ODM (https://github.com/OpenDroneMap/ODM/releases) so that the files from this can be copied for use in the next steps. You need to run ODM by running run.py to get the venv folder.
5. Copy the venv folder from the separately downloaded ODM into IntegratedOrtho>ODM
6. Copy all .pyd files from ODM>python38 into the IntegratedOrtho>ODM>python38
7. Copy the following files from ODM\SuperBuild\install\bin\opensfm\opensfm to IntegratedOrtho\ODM\SuperBuild\install\bin\opensfm\opensfm:

Pybundle.cp38-win_amd64.pyd

pydense.cp38-win_amd64.pyd

pyfeatures.cp38-win_amd64.pyd

pygeo.cp38-win_amd64.pyd

pygeometry.cp38-win_amd64.pyd

pymap.cp38-win_amd64.pyd

pyrobust.cp38-win_amd64.pyd

pysfm.cp38-win_amd64.pyd

8. Remove ', multichannel=False' from lines 320 and 321 in transform_NGF.py in the IntegratedOrtho folder
9. Use the integrated_rgb_thermal_ortho_env.yml to create an Anaconda environment and then activate that environment;

```
conda env create --name integrated_rgb_thermal_ortho --file integrated_rgb_thermal_ortho.yml
```

```
conda activate integrated_rgb_thermal_ortho
```

10. Run pipeline_tool.py with the included environment in Anaconda to open the GUI

```
python pipeline_tool.py
```

11. Press ‘Restore Default Settings’

12. Go to the IntegratedOrtho>configs and select the .yaml file that matches the method you are using (Combined, rgb_only, thermal_only) and open the file and manually change the DIR: section to look like this:

```
DIR:
  H20T_DATA: 'auto'
  PROJECT: ‘name of the project folder created above’
  RGB: ‘’
  THERMAL: ‘’
…
```

RGB and Thermal need to be empty quotes and Project needs to be the name of the project folder created previously.

13. Run the program by pressing the “Start Processing” button