Automating Agisoft Metashape Model Building

This is a tutorial for setting up and running multiple models in sequence on the command line through Agisoft Metashape.

Setting up photos for automated model building

1. Ensure all photos for a single model has been put into its own subdirectory

Main/Photo\_Set1

Main/Photo\_Set2

Main/Photo\_Set3

1. Create a list of absolute file paths to each of the subdirectories in the Main directory

ls -d -1 $PWD/\*\* > FragDirs.txt

* 1. Check that FragDirs.txt is in Main/ and that it contains absolute file paths to subdirectories

Creating unique Python scripts for run each group of photos

1. Change working directory to location of Metashape software
   1. This is the directory created when you unzipped Metashape when installing i.e. metashape-pro\_1\_5\_4
2. Create a base script that will run Metashape with given settings for each of your groups of photos.
   1. This script will act as a template with place holders that will be filled in using the absolute file paths of your groups of photos. You can change model building settings in this base script that you want all models to run on.
   2. See metashapeBase.py and metashapeBaseDepthMaps.py as examples
3. Generate unique python scripts that will run Metashape for each group of photos included in FragDirs.txt

./Meta\_expand.sh ~/Main/FragDirs.txt

* 1. Check to see if new .py scripts were created in metashape-pro\_1\_5\_4 directory
  2. Make new scripts executable

chmod +x \*.py

You can also change Metashape settings on each of these new scripts manually. This is useful when you know one or two models will require higher quality camera alignment or depth map.

Build multiple models in Metashape without further user input

1. Use a bash script to call photosets to be automatically submitted in sequence to Metashape
   1. Use wildcards in metashapeLoop.sh to specific which groups of photos will be run with each job

metashapeLoop.sh > output.txt