Creating Labels on an orthomosaic.

Step 1 – Open the orthomosaic into ArcGIS by adding the tiff file.

Step 2 – Select the orthomosaic, go to the imagery tab, choose the classification tools dropdown and select label objects for deep learning.

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Description automatically generatedStep 4 – With a schema chosen, labelling can begin, select a tool in the top, then select a class, and start labelling.

Step 5 – Midway through labelling or when complete, the objects can be saved as a shapefile for later use. Select save as for the first time above the list of objects. Press save to save while labelling (note that this may take time). One can resume their work by opening shapefiles saved in a previous session by pressing load training samples.

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Step 6 – When finished and checked, the imagery can be exported for training. After inputting the location, the size of the tile and stride and other parameters as below, click run. Note that the x & y values change for each orthomosaic.

Ideally, the export image’s tile sizes and stride sizes are the same size x & y as the particular orthomosaic, in order to produce one resultant label image. If this is not possible due to hardware limitations (this is indicated by multiple errors when trying to export), a solution would be to input the x & y values for size and stride as half those of the ortho. In case of the ortho having either an odd x or y or both, divide the size by two, round to next whole number, and add one to the stride. Note table below for examples.

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A table for example export size & stride values:

|  |  |  |  |
| --- | --- | --- | --- |
| Ortho X & Y | Size X & Y | Stride X & Y | Result |
| 20000x15000 | 20000x15000 | 20000x15000 | Success, 1 image |
| 30000x40000 | 30000x40000 | 30000x40000 | Fail, error, so: |
| 30000x40000 | 15000x20000 | 15000x20000 | Success, 4 images |
| 26497x34020 | 13249x17010 | 13250x17010 | Success, 4 images |
| 26497x34021 | 13249x17011 | 13250x17012 | Success, delete all images & labels apart from first 4 (the rest are not needed) (keep those ending 0 to 3) |