





/Volumes/One Touch/CustomDroneVideo_mp4/IMG_4305_frames/MODEL_efficientdet1_VisDrone_efficientdet1_100epochs-1tpus-VisDrone_edgetpu

1.a
Annotations dir

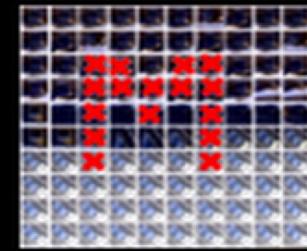
/Volumes/One Touch/CustomDroneVideo_mp4/IMG_4305_frames/MODEL_efficientdet1_VisDrone_efficientdet1_100epochs-1tpus-VisDrone_edgetpu

1.b
JPEGImages dir

2. Create Pandas DataFrame of those Annotation & JPEG Images.

3.
Load df

Save Settings

**MOSAIC Chip Sorter**



/Volumes/One Touch/CustomDroneVideo_mp4/IMG_4305_frames/MODEL_efficientdet1_VisDrone_efficientdet1_100epochs-1tpus-VisDrone_edgetpu

1.a
Annotations dir

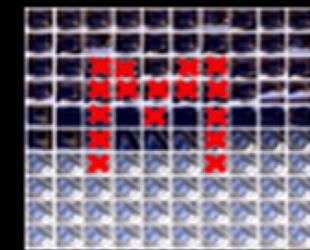
/Volumes/One Touch/CustomDroneVideo_mp4/IMG_4305_frames/MODEL_efficientdet1_VisDrone_efficientdet1_100epochs-1tpus-VisDrone_edgetpu

1.b
JPEGImages dir2.
Create df3.
Load df

3. Load Pandas DataFrame of those Annotation & JPEG Images.



Save Settings

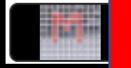
**MOSAIC Chip Sorter**



/Volumes/One Touch/CustomDroneVideo_mp4/IMG_4305_frames/MODEL_efficientdet1_VisDrone_efficientdet1_100epochs-1tpus-VisDrone_edgetpu

1.a
Annotations dir

/Volumes/One Touch/CustomDroneVideo_mp4/IMG_4305_frames/MODEL_efficientdet1_VisDrone_efficientdet1_100epochs-1tpus-VisDrone_edgetpu

1.b
JPEGImages dir2.
Create df3.
Load df4.
Analyze Mosa5.
Move F6.
Fix w/ labelImg.py7.
Merge Fix8.
Clear Fix9.
Clear Checked

Save Settings

4.a Select target id to create MOSAICs.

Not Checked Total = 254

Checked Good = 0

Checked Bad = 0

Not Checked 'car' Total = 225

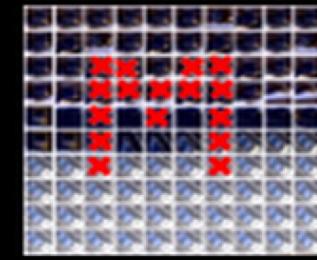
Checked 'car' Good = 0

Checked 'car' Bad = 0

Annos to fix = 0

JPEGS to fix = 0

JPEGS to fix bbox = 0

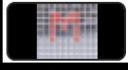
**MOSAIC Chip Sorter**



/Volumes/One Touch/CustomDroneVideo_mp4/IMG_4305_frames/MODEL_efficientdet1_VisDrone_efficientdet1_100epochs-1tpus-VisDrone_edgetpu

1.a
Annotations dir

/Volumes/One Touch/CustomDroneVideo_mp4/IMG_4305_frames/MODEL_efficientdet1_VisDrone_efficientdet1_100epochs-1tpus-VisDrone_edgetpu

1.b
JPEGImages dir2.
Create df3.
Load df

car

 MOSAIC_NUM

Not Checked Total = 254

Checked Good = 0

Checked Bad = 0

Not Checked 'car' Total = 225

Checked 'car' Good = 0

Checked 'car' Bad = 0

Annos to fix = 0

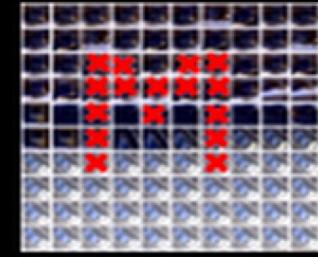
JPEGS to fix = 0

JPEGS to fix bbox = 0

4.
Analyze Mosaic5.
Move Fix6.
Fix w/ labelImg.py7.
Merge Fix8.
Clear Fix9.
Clear Checked

Save Settings

4.b Enter number of chips per MOSAIC.



MOSAIC Chip Sorter



/Volumes/One Touch/CustomDroneVideo_mp4/IMG_4305_frames/MODEL_efficientdet1_VisDrone_efficientdet1_100epochs-1tpus-VisDrone_edgetpu

1.a
Annotations dir

/Volumes/One Touch/CustomDroneVideo_mp4/IMG_4305_frames/MODEL_efficientdet1_VisDrone_efficientdet1_100epochs-1tpus-VisDrone_edgetpu

1.b
JPEGImages dir2.
Create df3.
Load df

4.c Analyze MOSAIC.

Not Checked Total = 254

Checked Good = 0

Checked Bad = 0



50

MOSAIC_NUM

Not Checked 'car' Total = 225

Checked 'car' Good = 0

Checked 'car' Bad = 0

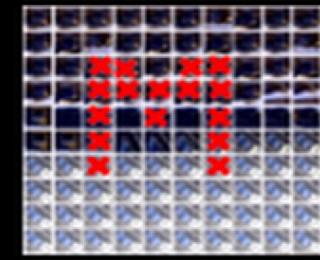
Annos to fix = 0

JPEGS to fix = 0

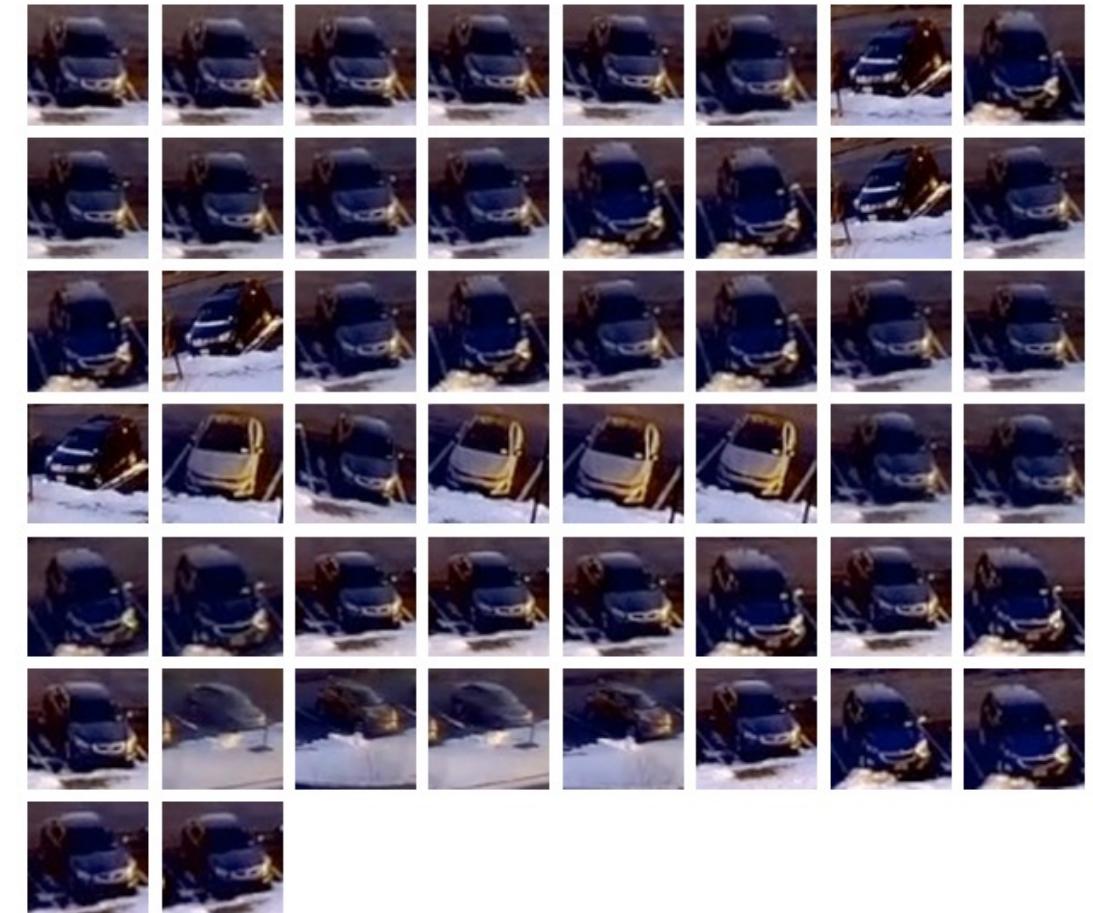
JPEGS to fix bbox = 0

5.
Move Fix6.
Fix w/ labelImg.py7.
Merge Fix8.
Clear Fix9.
Clear Checked

Save Settings



MOSAIC Chip Sorter



4.d Press “n” if all looks good per MOSAIC PAGE.

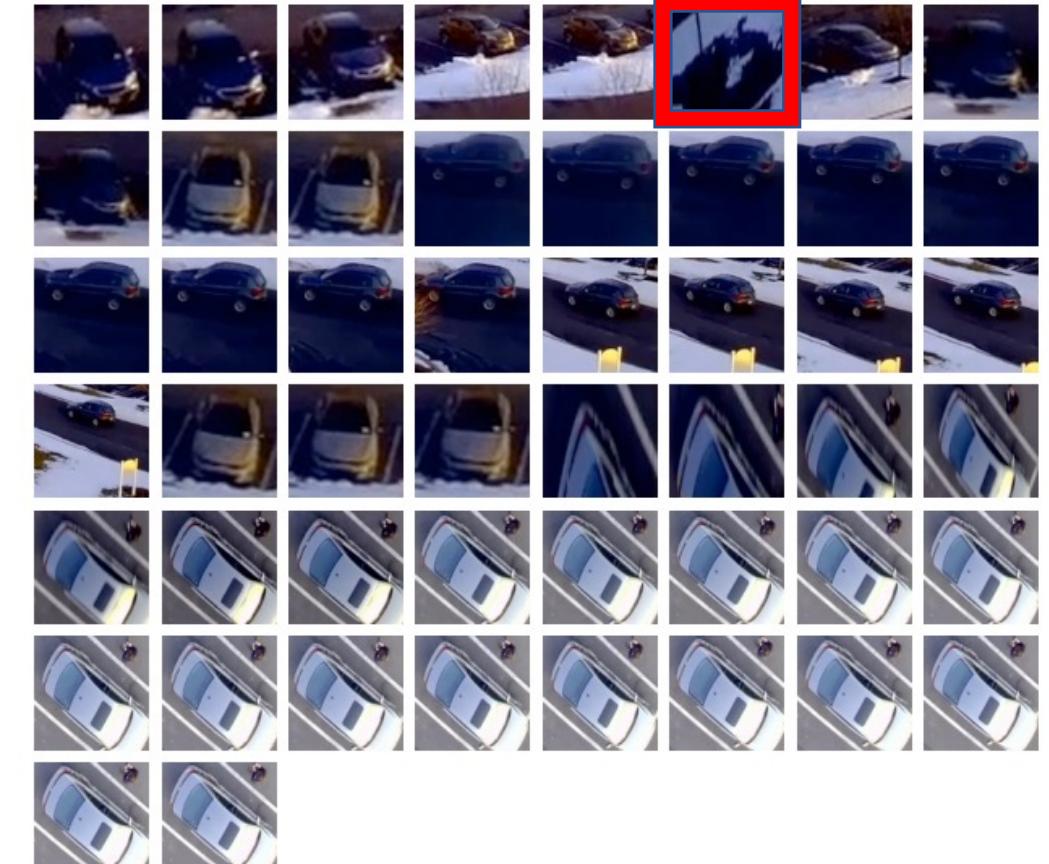
MOSAIC Chip Sorter

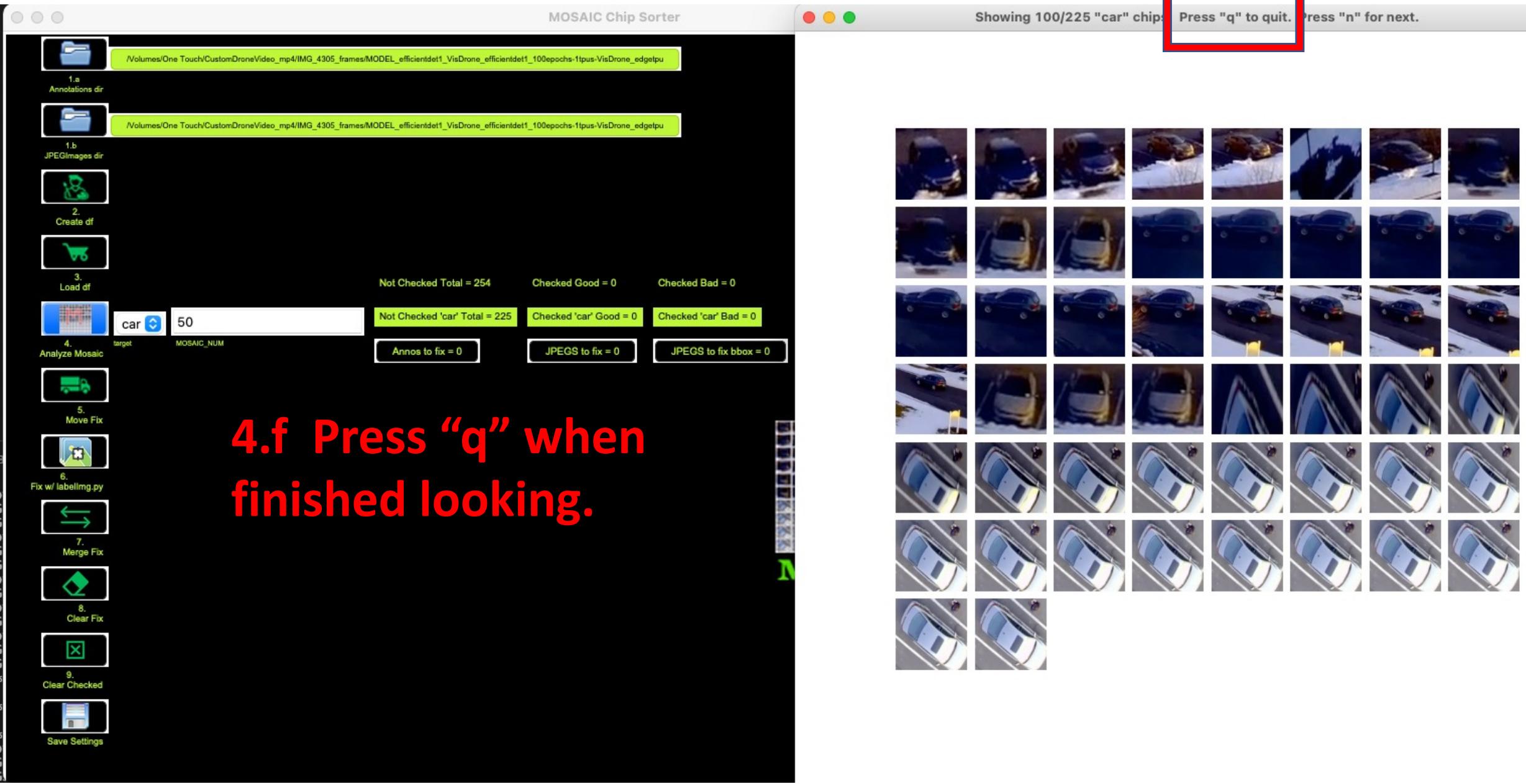
Showing 100/225 "car" chips. Press "q" to quit. Press "n" for next.

1.a Annotations dir
1.b JPEGImages dir
2. Create df
3. Load df
4. Analyze Mosaic target car 50 MOSAIC_NUM
Not Checked Total = 254 Checked Good = 0 Checked Bad = 0
Not Checked 'car' Total = 225 Checked 'car' Good = 0 Checked 'car' Bad = 0
Anno's to fix = 0 JPEG's to fix = 0 JPEG's to fix bbox = 0

5. Move Fix
6. Fix w/ labelling.py
7. Merge Fix
8. Clear Fix
9. Clear Checked
Save Settings

4.e Single click on chip that looks "bad". If the wrong chip is selected, double click it.







MOSAIC Chip Sorter

1.a
Annotations dir

/Volumes/One Touch/CustomDroneVideo_mp4/IMG_4305_frames/MODEL_efficient/det1_VisDrone_efficient/det1_100epochs-1tpus-VisDrone_edgetpu

1.b
JPEGImages dir

/Volumes/One Touch/CustomDroneVideo_mp4/IMG_4305_frames/MODEL_efficient/det1_VisDrone_efficient/det1_100epochs-1tpus-VisDrone_edgetpu

2.
Create df3.
Load df4. Analyze Mosaic
target car MOSAIC_NUM

Not Checked Total = 154 Checked Good = 99 Checked Bad = 1

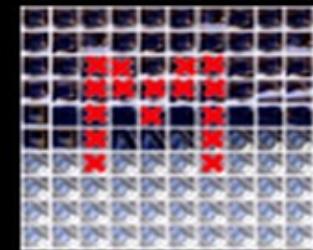
Not Checked 'car' Total = 125 Checked 'car' Good = 99 Checked 'car' Bad = 1

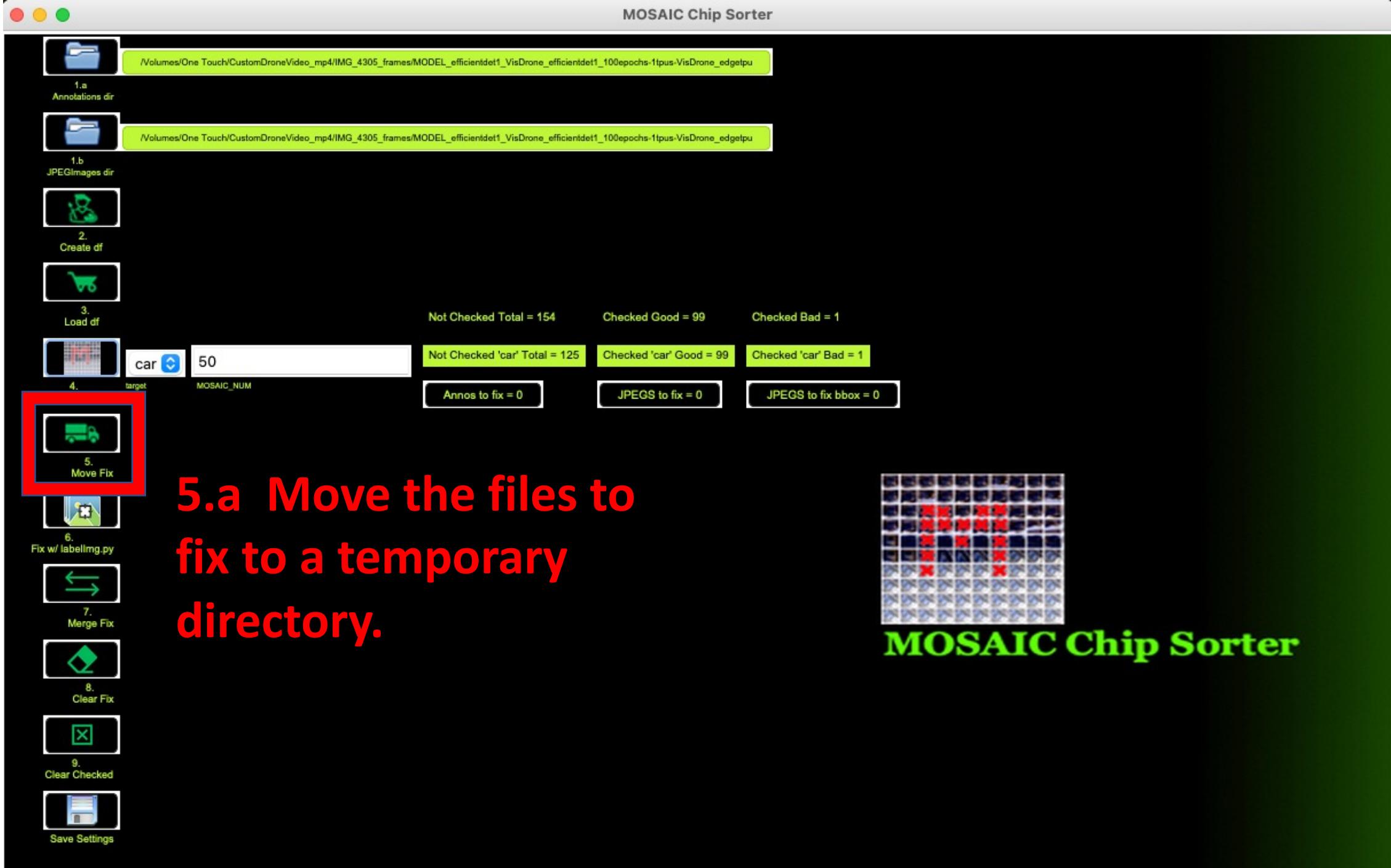
Annos to fix = 0 JPEGS to fix = 0 JPEGS to fix bbox = 0

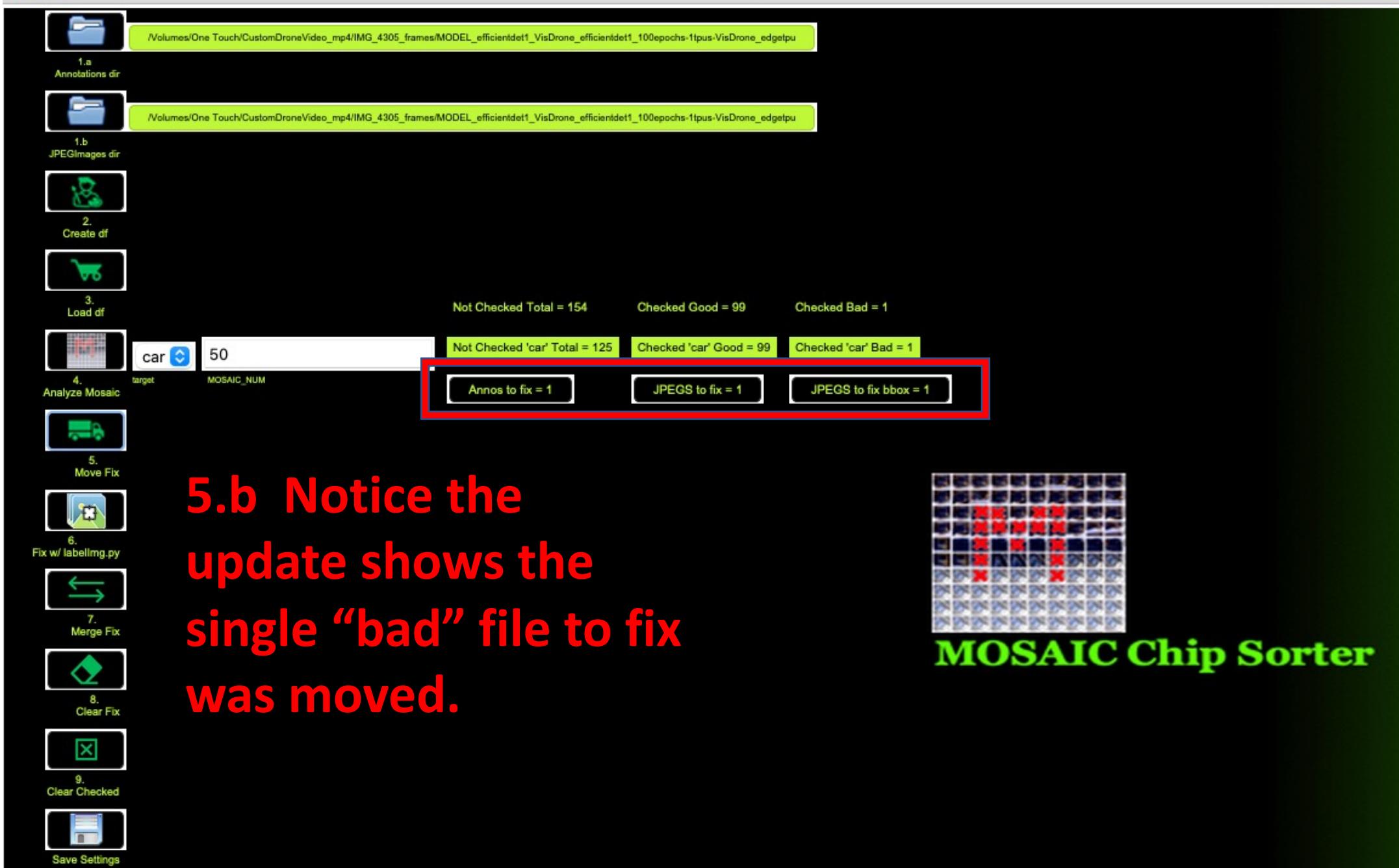
5.
Move Fix6.
Fix w/ labelling.py7.
Merge Fix8.
Clear Fix9.
Clear Checked

Save Settings

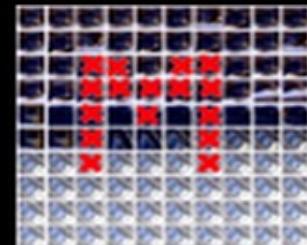
**4.g Verify the
number you checked
and have left.**

**MOSAIC Chip Sorter**

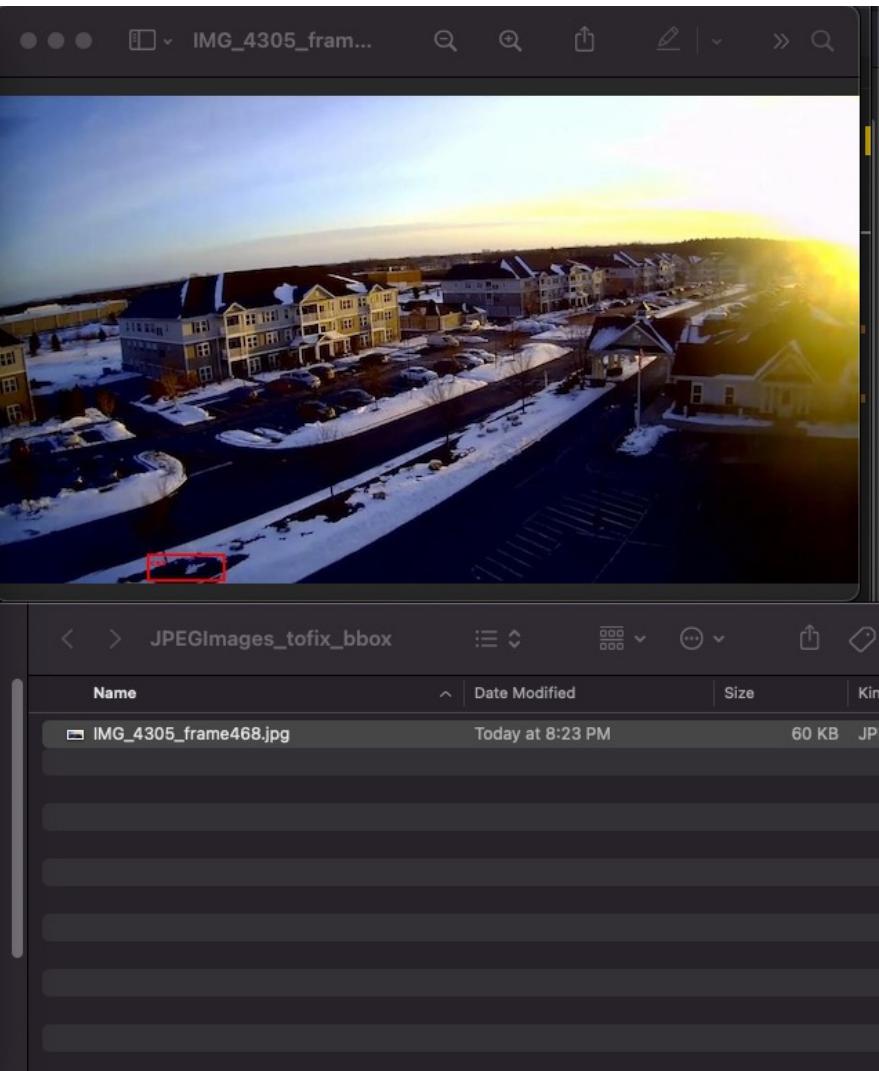
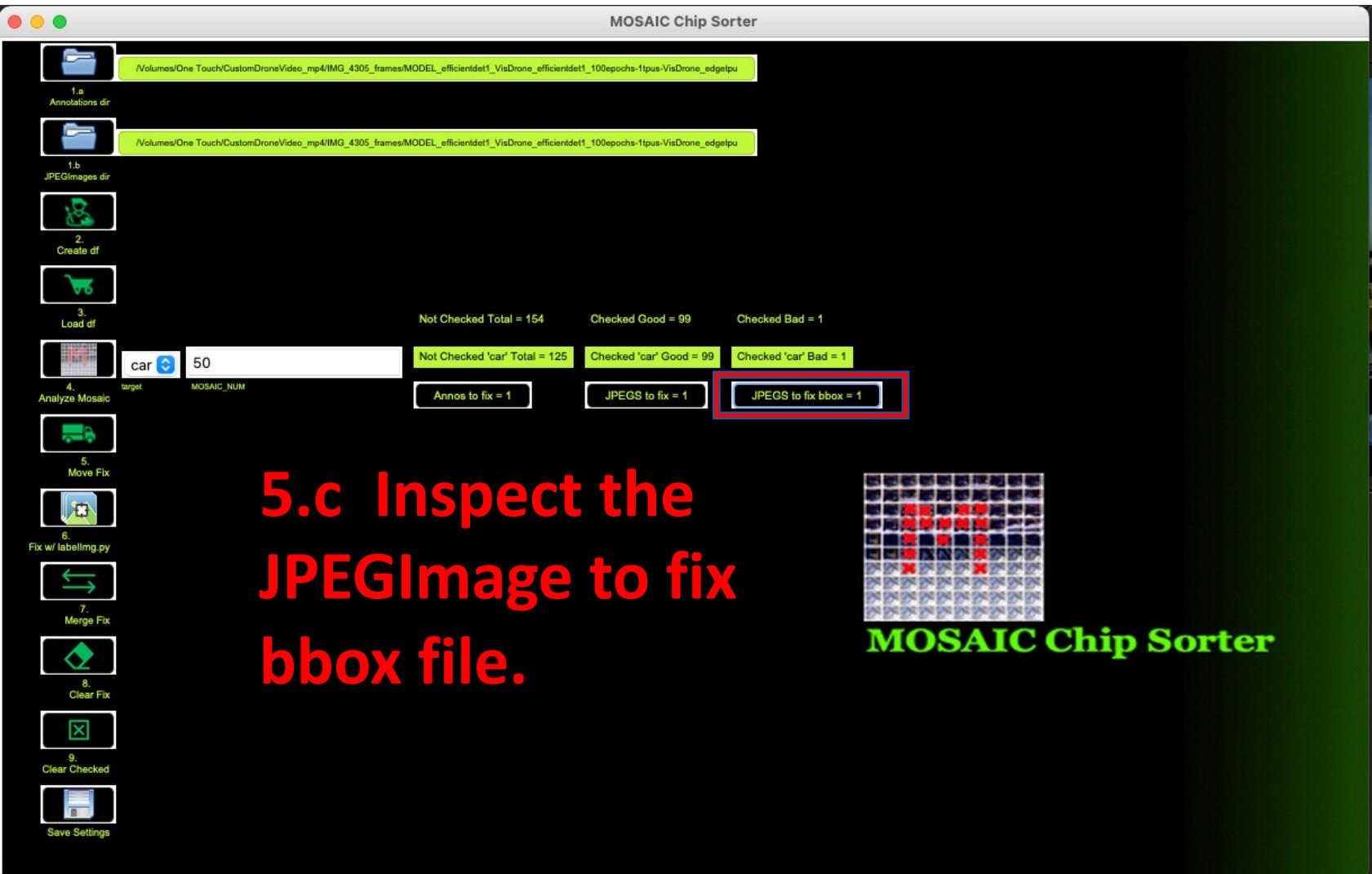




5.b Notice the update shows the single “bad” file to fix was moved.



MOSAIC Chip Sorter



MOSAIC Chip Sorter

1.a Annotations dir
1.b JPEGImages dir
2. Create df
3. Load df
4. Analyze Mosaic target MOSAIC_NUM car 50 Anno's to fix = 1 JPEGs to fix = 1 Checked 'car' Good = 99 Not Checked 'car' Total = 125 Checked 'car' Bad = 1 Not Checked Total = 154 Checked Bad = 1
5. Move Fix
6. Fix w/ labelling.py
7. Merge Fix
8. Clear Fix
9. Clear Checked Save Settings

Not Checked Total = 154 Checked Good = 99 Checked Bad = 1

Not Checked 'car' Total = 125 Checked 'car' Good = 99 Checked 'car' Bad = 1

Anno's to fix = 1 JPEGs to fix = 1 JPEGs to fix bbox = 1

5.d Inspect the JPEGImage.

MOSAIC Chip Sorter

The application interface includes a sidebar with numbered steps from 1 to 9, each with a corresponding icon. Step 4 is highlighted with a red box around the 'Anno's to fix = 1' button. Below the steps is a summary of counts: Not Checked Total = 154, Checked Good = 99, Checked Bad = 1, and Not Checked 'car' Total = 125, Checked 'car' Good = 99, Checked 'car' Bad = 1. At the bottom are buttons for 'Anno's to fix = 1', 'JPEGs to fix = 1', and 'JPEGs to fix bbox = 1'. The main area shows a 4x4 grid of small images, some with red crosses, representing the mosaic. A large green banner at the bottom reads '5.d Inspect the JPEGImage.' and 'MOSAIC Chip Sorter'.

IMG_4305_frame468.jpg

IMG_4305_frame468.jpg

IMG_4305_frame468.jpg

JPEGImages_tofix

JPEGImages_tofix_bbox

Name	Date Modified	Size	Kind
IMG_4305_frame468.jpg	Today at 8:23 PM	140 KB	JPG

MOSAIC Chip Sorter

Annotations dir: /Volumes/One Touch/CustomDroneVideo_mp4/IMG_4305_frames/Annotations_tofix/IMG_4305_frame468.xml

JPEGImages dir: /Volumes/One Touch/CustomDroneVideo_mp4/IMG_4305_frames/MODEL_efficientdet1_VisDrone_efficientdet1_100epochs-1tpus-VisDrone_edgelgpu

2. Create df

3. Load df

4. Analyze Mosaic

target: MOSAIC_NUM: 50

Not Checked Total = 154 Checked Good = 99 Checked Bad = 1

Not Checked 'car' Total = 125 Checked 'car' Good = 99 Checked 'car' Bad = 1

Annos to fix = 1 JPEGs to fix = 1 JPEGs to fix bbox = 1

Annotations verified="yes"

<annotation verified="yes">

<folder>MODEL_efficientdet1_VisDrone_efficientdet1_100epochs-1tpus-VisDrone_edgelgpu</folder>

<filename>IMG_4305_frame468.jpg</filename>

<path>/home/pi/mount_mac/CustomDroneVideo_mp4/IMG_4305_frames/MODEL_efficientdet1_VisDrone_efficientdet1_100epochs-1tpus-VisDrone_edgelgpu</path>

<source>

<database>Unknown</database>

</source>

<size>

<width>960</width>

<height>540</height>

<depth>3</depth>

</size>

<segmented>0</segmented>

<object>

<name>car</name>

<pose>Unspecified</pose>

<truncated>0</truncated>

<difficult>1</difficult>

<bndbox>

<xmin>171</xmin>

<ymin>507</ymin>

<xmax>257</xmax>

<ymax>537</ymax>

</bndbox>

</object>

L: 1 C: 1 XML Unicode (UTF-8) Unix (LF) Saved: 8:23:45 PM 730 / 70 / 27 100%

Annotations_tofix.XML Annotations_tofix.JPEGImages_tofix Annotations_tofix.Annotations_tofix

Name	Date Modified	Size	Kin
IMG_4305_frame468.xml	Today at 8:23 PM	730 bytes	X

5.e Inspect the Annotation file to fix.

MOSAIC Chip Sorter

MOSAIC Chip Sorter

Annotations dir: /Volumes/One Touch/CustomDroneVideo_mp4/IMG_4305_frames/MODEL_efficientdet1_VisDrone_efficientdet1_100epochs-1tpus-VisDrone_edgelgpu

JPEGImages dir: /Volumes/One Touch/CustomDroneVideo_mp4/IMG_4305_frames/MODEL_efficientdet1_VisDrone_efficientdet1_100epochs-1tpus-VisDrone_edgelgpu

2. Create df

3. Load df

4. Analyze Mosaic

target: car

MOSAIC_NUM: 50

Not Checked Total = 154 Checked Good = 99 Checked Bad = 1

Not Checked 'car' Total = 125 Checked 'car' Good = 99 Checked 'car' Bad = 1

Annos to fix = 1 JPEGs to fix = 1 JPEGs to fix bbox = 1

5. Move Fix

6. Fix w/ labellmg.py

7. Merge Fix

8. Clear Fix

9. Clear Checked

Save Settings

Annotations verified="yes"

<annotation>

<folder>MODEL_efficientdet1_VisDrone_efficientdet1_100epochs-1tpus-VisDrone_edgelgpu</folder>

<filename>IMG_4305_frame468.jpg</filename>

<path>/home/pi/mount_mac/CustomDroneVideo_mp4/IMG_4305_frames/MODEL_efficientdet1_VisDrone_efficientdet1_100epochs-1tpus-VisDrone_edgelgpu</path>

<source>

<database>Unknown</database>

</source>

<size>

<width>960</width>

<height>540</height>

<depth>3</depth>

</size>

<segmented>0</segmented>

<object>

<name>car</name>

<pose>Unspecified</pose>

<truncated>0</truncated>

<difficult>1</difficult>

<bndbox>

<xmin>171</xmin>

<ymin>507</ymin>

<xmax>257</xmax>

<ymax>537</ymax>

</bndbox>

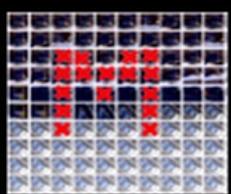
</object>

L: 1 C: 1 XML Unicode (UTF-8) Unix (LF) Saved: 8:23:45 PM 730/70/27 Annotations_tofix

JPEGImages_tofix_bbox JPEGImages_tofix Annotations_tofix

Name	Date Modified	Size	Kind
IMG_4305_frame468.xml	Today at 8:23 PM	730 bytes	XML

6.a Open the files to fix with labellmg.py.



MOSAIC Chip Sorter



Box Labels



Image

 Edit Label difficult useSort Use default label car

File List

/Volumes/One Touch/CustomDroneVideo_mp4/IMG_4305_frames/JPEGImages_tofix/IMG_4305_frame468.jpg

6.c Delete the bad box in this case.

Box Labels

 Edit Label difficult useSort Use default label

Image

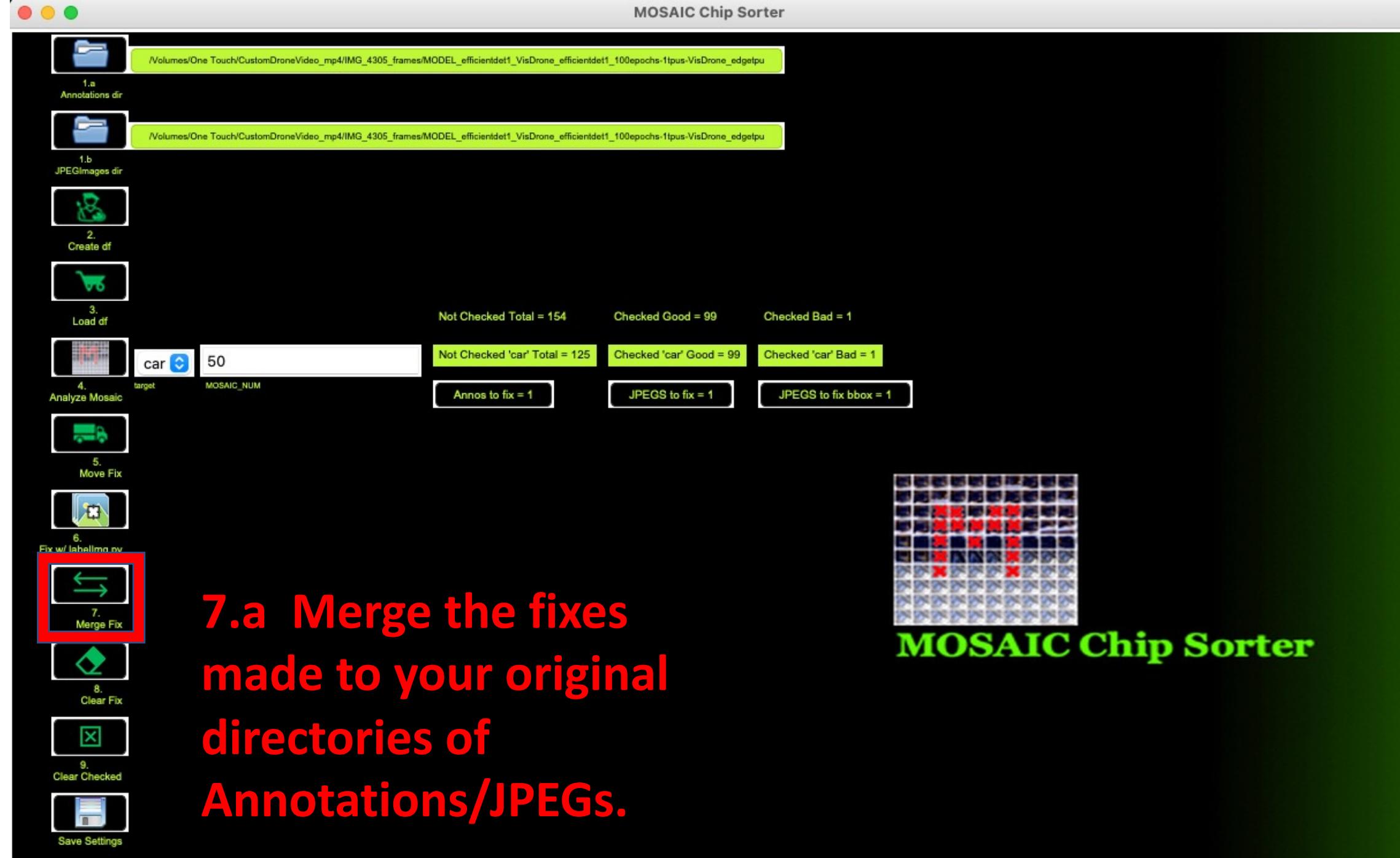
6.d Save.

- Open
- Open Dir
- Change Save Dir
- Next Image
- Prev Image
- Verify Image
- Save**
- </>
- Create RectBox
- Duplicate RectBox
- Delete RectBox
- Zoom In
- 60 %
- Zoom Out
- Fit Window
- Fit Width

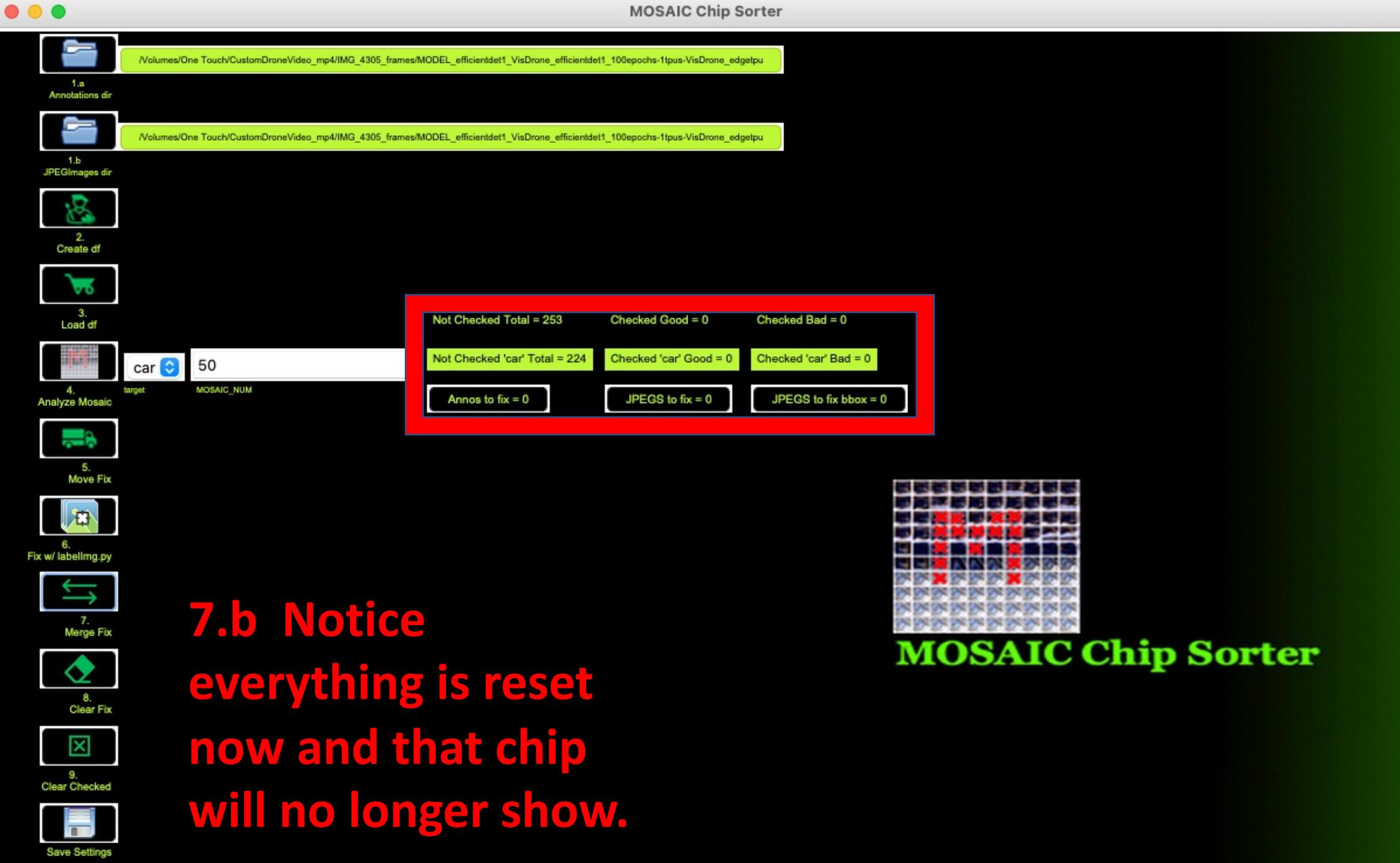


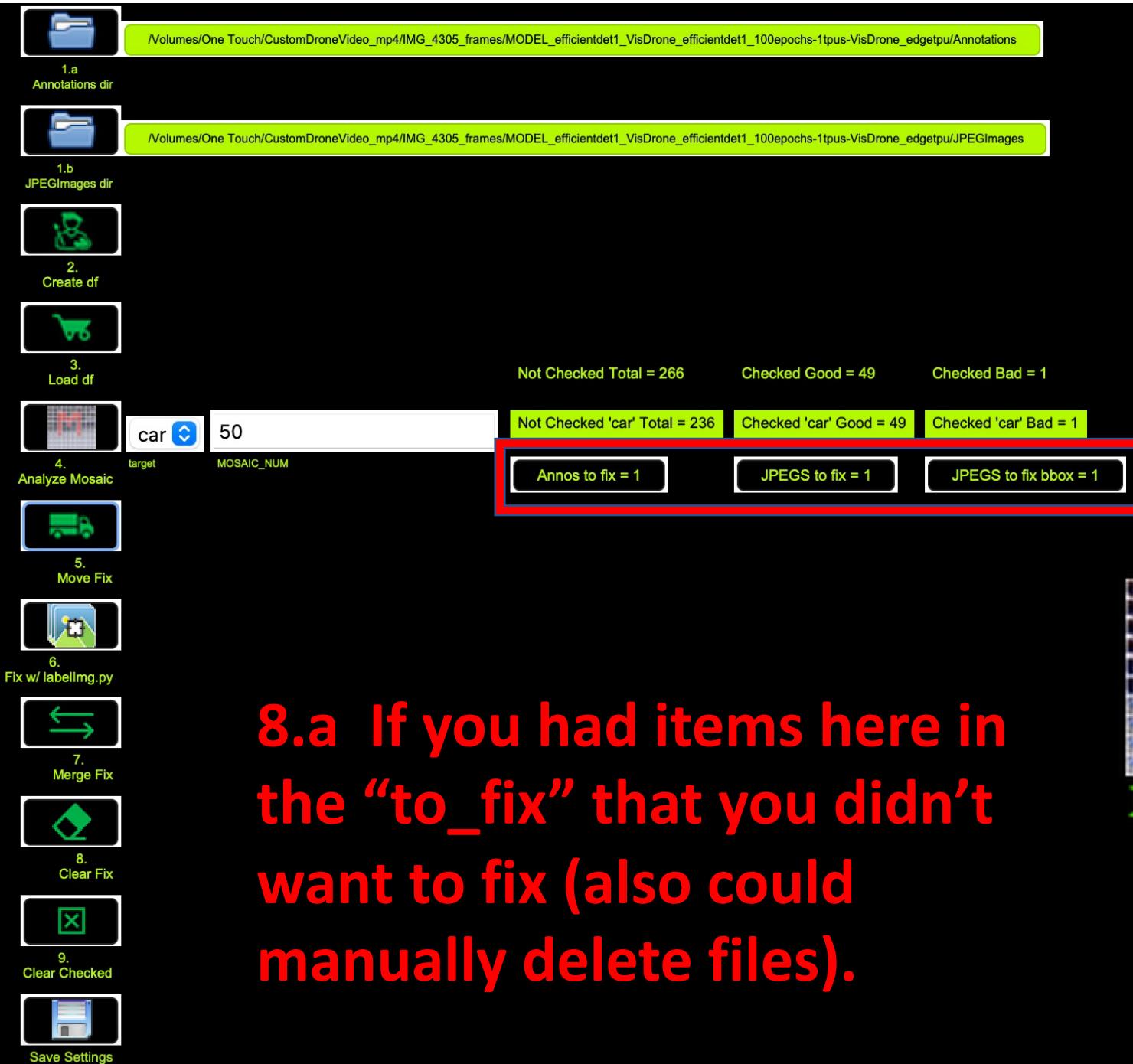
File List

/Volumes/One Touch/CustomDroneVideo_mp4/IMG_4305_frames/JPEGImages_tofix/IMG_4305_frame468.jpg

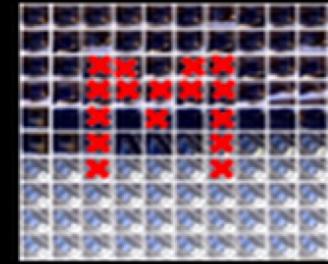


**7.a Merge the fixes
made to your original
directories of
Annotations/JPEGs.**





8.a If you had items here in the “to_fix” that you didn’t want to fix (also could manually delete files).



MOSAIC Chip Sorter

1.a Annotations dir
 /Volumes/One Touch/CustomDroneVideo_mp4/IMG_4305_frames/MODEL_efficientdet1_VisDrone_efficientdet1_100epochs-1tpus-VisDrone_edgetpu/Annotations

1.b JPEGImages dir
 /Volumes/One Touch/CustomDroneVideo_mp4/IMG_4305_frames/MODEL_efficientdet1_VisDrone_efficientdet1_100epochs-1tpus-VisDrone_edgetpu/JPEGImages

2. Create df

3. Load df

Not Checked Total = 266 Checked Good = 49 Checked Bad = 1

4. Analyze Mosaic
 target car MOSAIC_NUM 50
 Not Checked 'car' Total = 236 Checked 'car' Good = 49 Checked 'car' Bad = 1
 Anno's to fix = 1 JPEGS to fix = 1 JPEGS to fix bbox = 1

5. Move Fix

6. Fix w/ labelling.py

7. Merge Fix

8. Clear Fix

9. Clear Checked

Save Settings

10. Breakup df

11. UMAP

MOSAIC Chip Sorter

1.a Annotations dir
1.b JPEGImages dir
2. Create df
3. Load df

Not Checked Total = 266 Checked Good = 49 Checked Bad = 1

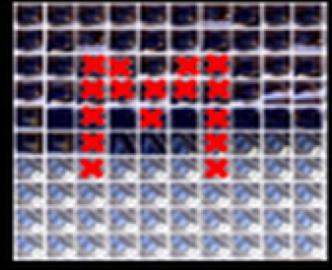
4. Analyze Mosaic target MOSAIC_NUM car 50

Not Checked 'car' Total = 236 Checked 'car' Good = 49 Checked 'car' Bad = 1

Annos to fix = 0 JPEGS to fix = 0 JPEGS to fix bbox = 0

5. Move Fix
6. Fix w/ labelImg.py
7. Merge Fix
8. Clear Fix
9. Clear Checked
Save Settings

8.c Notice the “to_fix” is clear.


MOSAIC Chip Sorter

10. Breakup df 11. UMAP

1.a Annotations dir

1.b JPEGImages dir

2. Create df

3. Load df

4. Analyze Mosaic target MOSAIC_NUM

Not Checked Total = 266	Checked Good = 49	Checked Bad = 1
Not Checked 'car' Total = 236	Checked 'car' Good = 49	Checked 'car' Bad = 1

Annos to fix = 0 JPEGS to fix = 0 JPEGS to fix bbox = 0

5. Move Fix

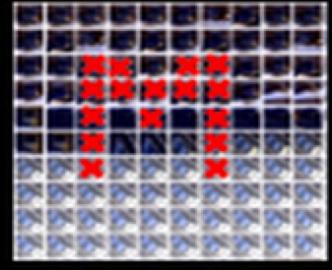
6. Fix w/ labelImg.py

7. Merge Fix

8. Clear Fix

9. Clear Checked

Save Settings



MOSAIC Chip Sorter

10. Breakup df

11. UMAP



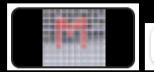
/Volumes/One Touch/CustomDroneVideo_mp4/IMG_4305_frames/MODEL_efficientdet1_VisDrone_efficientdet1_100epochs-1tpus-VisDrone_edgetpu/Annotations

1.a
Annotations dir

/Volumes/One Touch/CustomDroneVideo_mp4/IMG_4305_frames/MODEL_efficientdet1_VisDrone_efficientdet1_100epochs-1tpus-VisDrone_edgetpu/JPEGImages

1.b
JPEGImages dir2.
Create df3.
Load df

Not Checked Total = 266 Checked Good = 49 Checked Bad = 1



car



50

4.
Analyze Mosaic

target

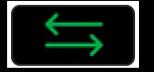
MOSAIC_NUM

Not Checked 'car' Total = 236 Checked 'car' Good = 49 Checked 'car' Bad = 1

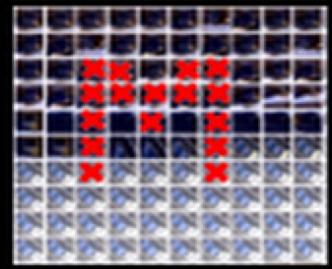
Annos to fix = 0

JPEGS to fix = 0

JPEGS to fix bbox = 0

5.
Move Fix6.
Fix w/ labelImg.py7.
Merge Fix8.
Clear Fix**9.b Click “Clear Checked”.**9.
Clear Checked

Save Settings

**MOSAIC Chip Sorter**10.
Breakup df11.
UMAP

1.a Annotations dir
 /Volumes/One Touch/CustomDroneVideo_mp4/IMG_4305_frames/MODEL_efficientdet1_VisDrone_efficientdet1_100epochs-1tpus-VisDrone_edgetpu/Annotations

1.b JPEGImages dir
 /Volumes/One Touch/CustomDroneVideo_mp4/IMG_4305_frames/MODEL_efficientdet1_VisDrone_efficientdet1_100epochs-1tpus-VisDrone_edgetpu/JPEGImages

2. Create df

3. Load df

4. Analyze Mosaic
 target car 50 MOSAIC_NUM
 Not Checked Total = 316 Checked Good = 0 Checked Bad = 0
 Not Checked 'car' Total = 286 Checked 'car' Good = 0 Checked 'car' Bad = 0
 Anno's to fix = 0 JPEGS to fix = 0 JPEGS to fix bbox = 0

5. Move Fix

6. Fix w/ labellng.py

7. Merge Fix

8. Clear Fix

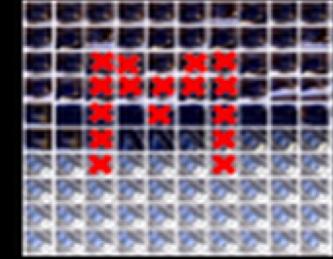
9. Clear Checked

Save Settings

Not Checked Total = 316 Checked Good = 0 Checked Bad = 0

Not Checked 'car' Total = 286 Checked 'car' Good = 0 Checked 'car' Bad = 0

Anno's to fix = 0 JPEGS to fix = 0 JPEGS to fix bbox = 0



MOSAIC Chip Sorter

10. Breakup df 11. UMAP

1.a Annotations dir
 /Volumes/One Touch/Images_gdrive/Drone_Images/Training/Annotations

1.b JPEGImages dir
 /Volumes/One Touch/Images_gdrive/Drone_Images/Training/JPEGImages

2. Create df

3. Load df

Not Checked Total = 353377
 Checked Good = 120
 Checked Bad = 0

4. Analyze Mosaic
 target ignored_regions 50 MOSAIC_NUM
 Not Checked 'ignored_regions' Total = 8791
 Checked 'ignored_regions' Good = 20
 Checked 'ignored_regions' Bad = 0
 Anno's to fix = 0
 JPEG's to fix = 0
 JPEG's to fix bbox = 0

5. Move Fix

6. Fix w/ labellng.py

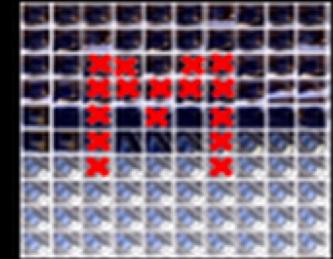
7. Merge Fix

8. Clear Fix

9. Clear Checked

Save Settings

10.a If you want to breakup the Pandas DataFrame to smaller chunks to work with. Click “Breakup df.”



MOSAIC Chip Sorter

10. Breakup df
 11. UMAP

1.a Annotations

1.b JPEGImages

2. Create df

3. Load df

4. Analyze Mosaic

5. Move Fix

6. Fix w/ labelling.py

7. Merge Fix

8. Clear Fix

9. Clear Checked

Save Settings

/Volumes/One Touch/Images_gdrive/Drone_Images/Training__SPLIT_NUM_1000/0_999/Annotations

/Volumes/One Touch/Images_gdrive/Drone_Images/Training__SPLIT_NUM_1000/0_999/JPEGImages

Not Checked Total = 1086

Checked Good = 0

Checked Bad = 0

Not Checked 'ignored_regions' Total = 49

Checked 'ignored_regions' Good = 0

Checked 'ignored_regions' Bad = 0

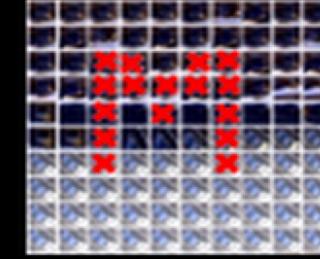
Annos to fix = 0

JPEGs to fix = 0

JPEGs to fix bbox = 0

50

MOSAIC_NUM



MOSAIC Chip Sorter

10.b Chunked up into ~1000 annotation chunks.

10. Breakup df

11. UMAP



/Volumes/One Touch/Images_gdrive/Drone_Images/Training__SPLIT_NUM_1000/0_999/Annotations

1.a
Annotations dir

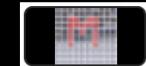
/Volumes/One Touch/Images_gdrive/Drone_Images/Training__SPLIT_NUM_1000/0_999/JPEGImages

1.b
JPEGImages dir2.
Create df3.
Load df

Not Checked Total = 1086

Checked Good = 0

Checked Bad = 0



ignored_regions

50

Not Checked 'ignored_regions' Total = 49

Checked 'ignored_regions' Good = 0

Checked 'ignored_regions' Bad = 0

4.
Analyze Mosaic

target

MOSAIC_NUM

Annos to fix = 0

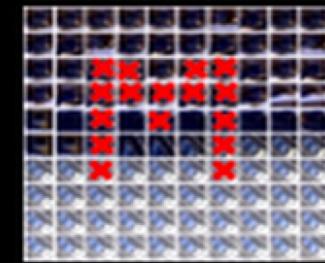
JPEGS to fix = 0

JPEGS to fix bbox = 0

5.
Move Fix6.
Fix w/ labelling.py7.
Merge Fix8.
Clear Fix9.
Clear Checked

Save Settings

11.a Use UMAP for clustering chips.

**MOSAIC Chip Sorter**10.
Breakup d11.
UMAP

11.b "Double Click" on UMAP plot of a point of interest to inspect. Press "f" to fix.

