MOMO

ML-BASED
ALPHA TRACK ANALYZER
BY: PANNATHAD

HANDBOOK

Software Details:	**MODEL:** Ultralytics YOLOv8 **Detecting speed:** 275.44 -350 ms per tilted image. 5.5088 - 7 second per image. (For image with resolution 2992x2000)	**Measured properties** Total counts (**unit**: count) Area (**unit**: pixel and µm2) Equivalent_diameter (**unit**: pixel and µm2) Mean_intensity* (**unit**: none) solidity* (**unit**: none)
Output Type:	.CSV .TXT .JPEG	**Default Setting** **iou = 0.1** **confident level = 0.21** **scale = 0.6 micron/pixel** **tiled image size = 640x640**
Version:	Alpha v2.0.1 (2023 OCT 24)	
Contact:	peak.panthanuwong@gmail.com	

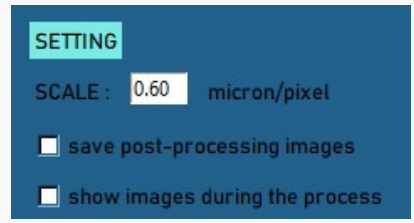
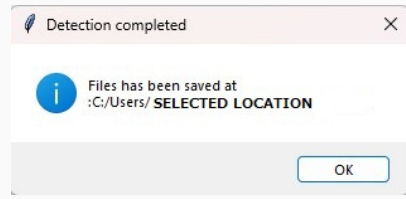
- This software is in the development process; any error or stability issue might occur. If there are problems or errors, please send the details to: peak.panthanuwong@gmail.com.

USER-INTERFACE

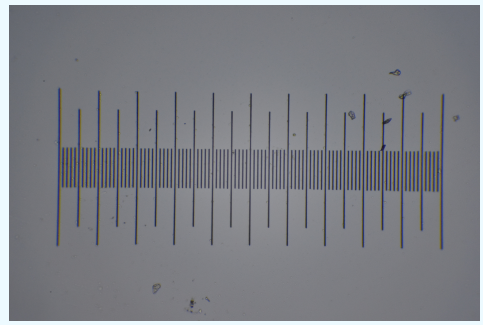
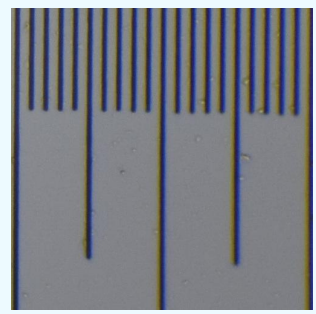
- Indicate whether they have been resolved or are still pending action


MOMO AI-BASED Alpha Track Analyser version 2.0.1 by: Pan...
SETTING
SCALE :
0.60
micron/pixel
save post-processing images
show images during the process
SELECT SAVE FOLDER
DETECT

HOW TO USE

STEPS		Status	Notes
1: Select your scale ratio and additional settings (optional).		OPTIONAL	How to find a scale ratio guide is located below in the next section.
2: Choose where you want to save your result.		MANDATORY	The result will be saved in the format 'date-time.csv'.
3: Locate the image's location and start the detection process.		START	The selected folder should contain only .JPEG file
4: Wait until the program finishes analyzing.		COMPLETED	The result will be saved at the location you selected in the first step.

FINDING SCALE RATIO

STEPS	Task Owner
	1.Take a scale image through the microscope.
	2.Run a program and use this image as the one you want to detect.
 sized: 640x640 pixels	3. After the program has run completely, go to the tiled images folder and pick the image in full scale.
	4.Measure the length (micron) of the image and divide by 640.

RESULT FILE

- **Date-Time.csv**

  Show the properties of each detected track.

	A	B	C	D	E	F	G	H
1	Name	Count	area	equivalent_diameter	mean_intensity	solidity	area_sq_microns	equivalent_diameter_microns
2	DSC_0051_0_0.JPG	1	895	33.75721245	237.0502793	0.983516484	322.2	20.25432747
3	DSC_0051_0_1000.JPG	3	2105	51.77035099	242.7648456	0.986872949	757.8	31.06221059
4	DSC_0051_0_1000.JPG	3	1805	47.93951792	241.5789474	0.987958402	649.8	28.76371075
5	DSC_0051_0_1000.JPG	3	1062	36.77200561	237.2316384	0.985157699	382.32	22.06320337
6	DSC_0051_0_1500.JPG	2	1305	40.76245338	239.3678161	0.988636364	469.8	24.45747203
7	DSC_0051_0_1500.JPG	2	198	15.87770229	216.3636364	0.975369458	71.28	9.526621371
8	DSC_0051_0_2000.JPG	2	685	29.53250901	234.5255474	0.981375358	246.6	17.7195054
9	DSC_0051_0_2000.JPG	2	966	35.07063444	239.1614907	0.991786448	347.76	21.04238067
10	DSC_0051_0_500.JPG	3	796	31.83549399	235.138191	0.987593052	286.56	19.10129639
11	DSC_0051_0_500.JPG	3	2080	51.46200786	242.7403846	0.99047619	748.8	30.87720472
12	DSC_0051_0_500.JPG	3	2063	51.25127492	242.886573	0.991826923	742.68	30.75076495
13	DSC_0051_1000_1000.JPG	2	581	27.19838553	232.1772806	0.976470588	209.16	16.31903132
14	DSC_0051_1000_1000.JPG	2	1539	44.26641683	240.4191033	0.983386581	554.04	26.5598501
15	DSC_0051_1000_1500.JPG	3	1716	46.7426899	241.7744755	0.984509466	617.76	28.04561394
16	DSC_0051_1000_1500.JPG	3	1738	47.04136827	243.1156502	0.988623436	625.68	28.22482096
17	DSC_0051_1000_1500.JPG	3	322	20.24804024	223.3229814	0.981707317	115.92	12.14882414
18	DSC_0051_1000_2000.JPG	6	2080	51.46200786	242.6177885	0.989533777	748.8	30.87720472
19	DSC_0051_1000_2000.JPG	6	1299	40.66863864	239.8845266	0.9878327	467.64	24.40118318
20	DSC_0051_1000_2000.JPG	6	418	23.06976657	226.3277512	0.976635514	150.48	13.84185994
21	DSC_0051_1000_2000.JPG	6	1243	39.78236738	237.767498	0.987291501	447.48	23.86942043
22	DSC_0051_1000_2000.JPG	6	1103	37.47510131	239.5104261	0.977836879	397.08	22.48506078

- **Date-Time_result.csv**

  Show total counts and average values for each image

	A	B	C	D	E	F	G	H
1	Name	Total_count	Avr Area	Avr diameter	Avr intensity	Avr solidity	Avr area in micron	Avr diameter in micron
2	DSC_0055.JPG	44	1372.568182	40.71026682	239.3105922	0.983846625	494.1245455	24.42616009
3	Name	Total_count	Avr Area	Avr diameter	Avr intensity	Avr solidity	Avr area in micron	Avr diameter in micron
4	DSC_0056.JPG	50	1222.84	38.33991619	238.2002796	0.985062078	440.2224	23.00394971
5	Name	Total_count	Avr Area	Avr diameter	Avr intensity	Avr solidity	Avr area in micron	Avr diameter in micron
6	DSC_0057.JPG	42	1210.785714	38.34002398	238.2985947	0.985296445	435.8828571	23.00401439
7	Name	Total_count	Avr Area	Avr diameter	Avr intensity	Avr solidity	Avr area in micron	Avr diameter in micron
8	DSC_0058.JPG	52	1494.403846	42.51343038	239.4202603	0.984639986	537.9853846	25.50805823
9	Name	Total_count	Avr Area	Avr diameter	Avr intensity	Avr solidity	Avr area in micron	Avr diameter in micron
10	DSC_0059.JPG	51	1332.392157	40.2971705	239.9719434	0.983343718	479.6611765	24.1783023
11	Name	Total_count	Avr Area	Avr diameter	Avr intensity	Avr solidity	Avr area in micron	Avr diameter in micron
12	DSC_0060.JPG	58	1372.258621	41.03589551	240.1124479	0.985884918	494.0131034	24.62153731
13								

- **Predict images (.JPEG)**

  Located in “MOMOAnalyzer\runs\segment\predict“

  Show images with detected tracks highlighted in colors.

- **.txt**

  Show track type and coordinate of segmented area in tensor format.

  Located in “MOMOAnalyzer\runs\segment\predict\labels“

Pannathad Panthanuwong