

StoManager1: Automated, High-throughput Tool to Measure Leaf Stomata Using Convolutional Neural Networks

Step1 Select or type in image input & output path

Step2 Define image size and magnification e.g. pixels in 0.1 mm, the default are 2048, 1536, 476.

Step3 Press start process

Step4 Do Statistical analysis

Step5 View the table and image output

1	2	3	4	5
File Name	WST_Number	WST_Area_Ratio	WST_Density	
1 American.ets.01	11	0.157543702732770	79.2262770162294	
2 American.ets.03	9	0.0964399530577912	64.62391357421875	
3 American.ets.04	11	0.1607199180817465	79.2262770162294	
4 American.ets.06	6	0.1018920198129124	57.63212651041664	
5 American.ets.14	10	0.15044796301635	72.0265706382063	
6 American.ets.16	12	0.1547168867793636	86.431884705625	
7 American.ets.22	15	0.2568704145414283	129.6476271484375	
8 American.ets.23	19	0.2583491344272593	136.854642122366	
9 American.ets.29	13	0.2212253400110883	83.63454162942709	
10 Cheerybank.leaf.01	33	0.3180765760318911	237.6876831054688	
11 Cheerybank.leaf.03	37	0.363123150071603	266.486313608771	
12 Cheerybank.leaf.05	36	0.3381416851265435	259.356554968075	
13 Nuttall.leaf.03	13	0.1825418246108078	93.63454162942709	
14 Nuttall.leaf.06	13	0.213581626746595	93.63454162942709	
15 Nuttall.leaf.08	10	0.1432051940581356	72.0265706382063	
16 Shagbark.hickory.07	14	0.087779494852842	100.8371688932292	
17 Shagbark.hickory.08	13	0.086142100432561	93.63454162942709	
18 Shagbark.hickory.18	13	0.1001846462261461	93.63454162942709	
19 Shumard.leaf.02	24	0.1920468215159626	172.86378963125	
20 Shumard.leaf.03	23	0.1820240445027312	155.661124674479	
21 Shumard.leaf.10	24	0.2227136298873883	172.86378963125	
22 Shumard.leaf.18	26	0.242347913505335	187.369683050541	
23 Shumard.leaf.19	24	0.2118659473895175	172.86378963125	
24 Shumard.leaf.20	29	0.2543681637168768	206.877554852084	
25 Swamp.cheatleaf.leaf.01	27	0.1754850233888927	194.471473272562	
26 Swamp.cheatleaf.leaf.02	28	0.182553473496866	201.6743877846463	
27 Swamp.cheatleaf.leaf.15	25	0.1918958614891719	180.864265846521	
28 Water.leaf.02	24	0.2768836520728167	172.86378963125	
29 Water.leaf.10	16	0.223030805892719	115.242513026333	
30 Water.leaf.15	23	0.2674712903137542	155.661124674479	
31 Water.leaf.18	24	0.2811789210032724	172.86378963125	
32 Water.leaf.26	27	0.2452555840001280	194.471473272562	
33 Water.leaf.29	35	0.361482086810086	252.8928723073	
34 Water.leaf.45	17	0.181868481888143	122.445170084034	
35 Water.leaf.47	21	0.1820852188657237	151.255765336438	
36 Willow.leaf.01	32	0.2887882127674487	230.485026041665	
37 Willow.leaf.02	26	0.2987646843281853	187.369683050541	
38 Willow.leaf.22	21	0.202194291910524	151.255765336438	

Schematic diagram of model training processes (a) and detection workflow (b). Green color in workflow charts represents the functions that can be completed by StoManager1, orange color represents the steps requiring input from the users, and the blue color represents the function or steps can be interacted by the users and StoManager1.

