

Context

Main motivation

- Segment disease patches
- Individual leaves
- Speed / Robustness
- Good embedded performance

Datasets

- PlantVillage[7]
- Abdelghafour et al. [1]
- Alessandrini et al. [2]
- S3CavVineyardDataset [4]
- Own, at Cluj-Napoca, Romania, USAMV
- Own, at Apoldu de Sus, Romania, USAMV



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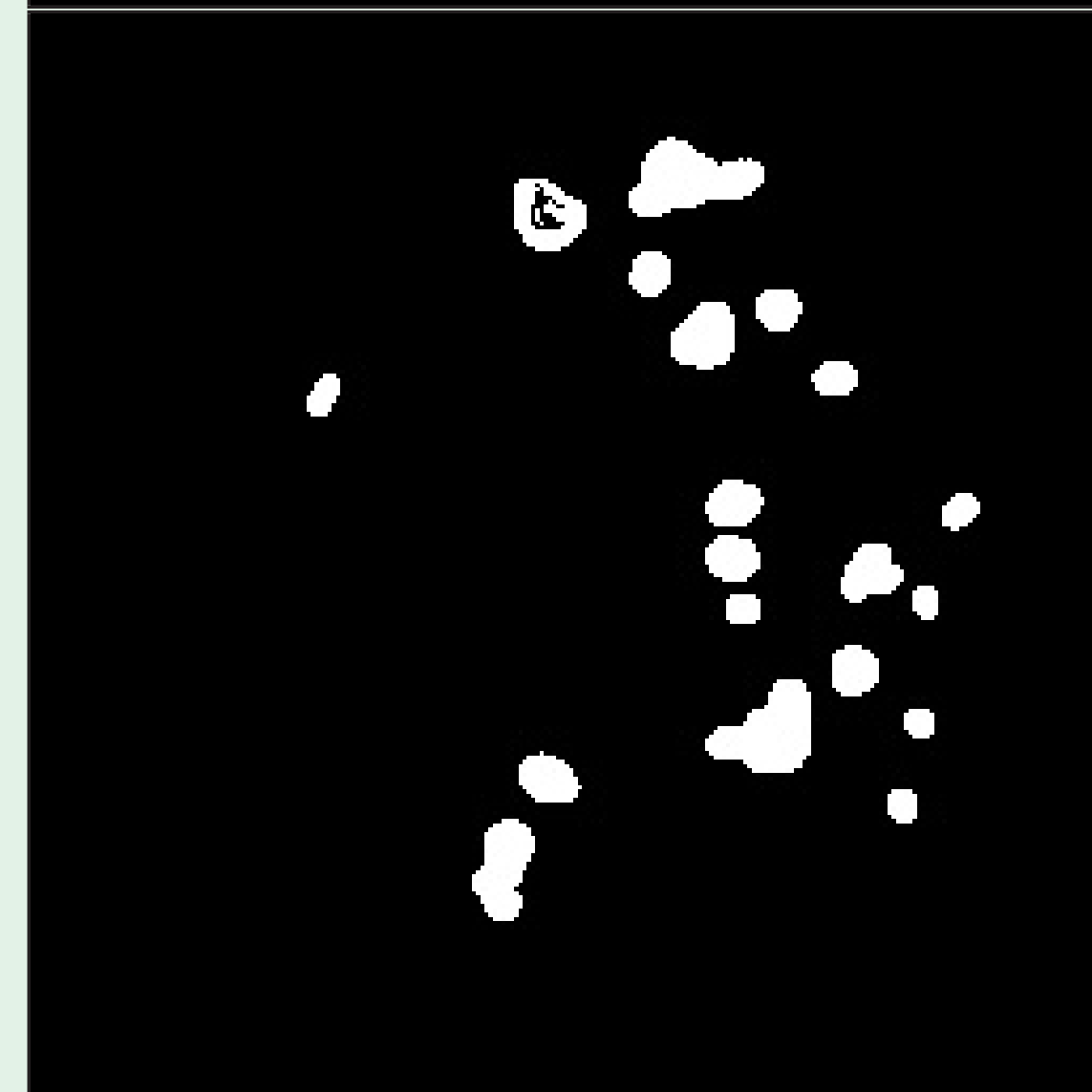
Numerical comparison

Numerical comparison of the 5 methods in various test scenarios including IoU accuracy and time.

Method	Test1[%]	Test2[%]	Test3[%]	Time[s]	FP_{t1}	FN_{t1}	FP_{t2}	FN_{t2}	FP_{t3}	FN_{t3}
<i>Otsu</i>	62.4	46.7	46.7	0.0004	35	2	48	6	48	6
<i>Mask R-CNN</i> [5]	93.64	61.04	86.48	0.160	3	3	38	1	10	3
<i>MobileNetV3</i> [6]	83.76	81.89	82.97	0.088	0	16	11	8	3	14
<i>FPN</i> [8]	90.52	50.24	85.57	0.015	8	1	48	2	4	12
<i>SegNet</i> [3]	63.3	59.12	65.1	0.007	35	2	40	0	31	4

Results

A few examples of leaves infieeld and from the lab both diseased and healthy. Under the diseased leaves, you can see the masked disease patches.



References

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