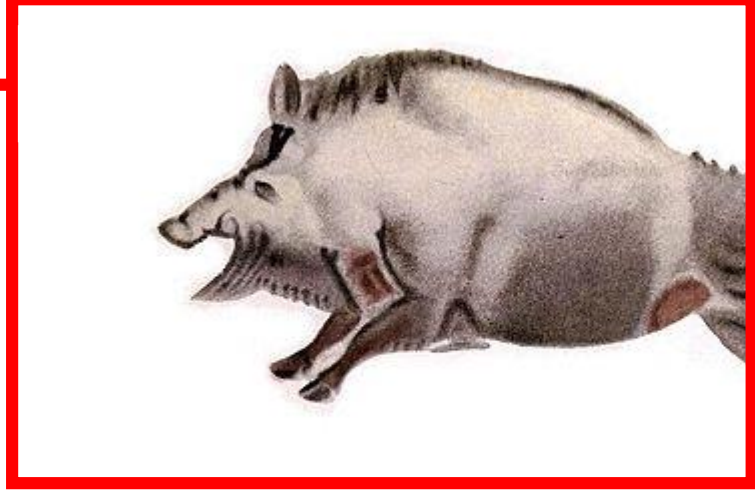


Animal detection and species classification on Swiss camera trap images using AI

person 50%



animal 100%



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institution 100%



Which model?

Mega Detector:
Faster RCNN
InceptionResNet

Which datasets?

KORA
(with white flash and thermal sensor)
HEPIA
(without)

Results?

F1 (at 85%
conf level)
99.7%
96.8%

Set to Production?

Both at
Lepus
system
and
KORA



Classes: Animal, Person, Vehicle, Empty

<https://github.com/microsoft/CameraTraps/blob/main/megadetector.md>

Lessons learned:

High accuracy
Automatic inference as fast as human (per core)
Parallelizable
False negatives avoidable with better camera placements

Image quality issues: occlusion, motion blur, moisture condensation, forced perspective

Future: Species classifiers
Abundance estimates
Event detection as a sequence

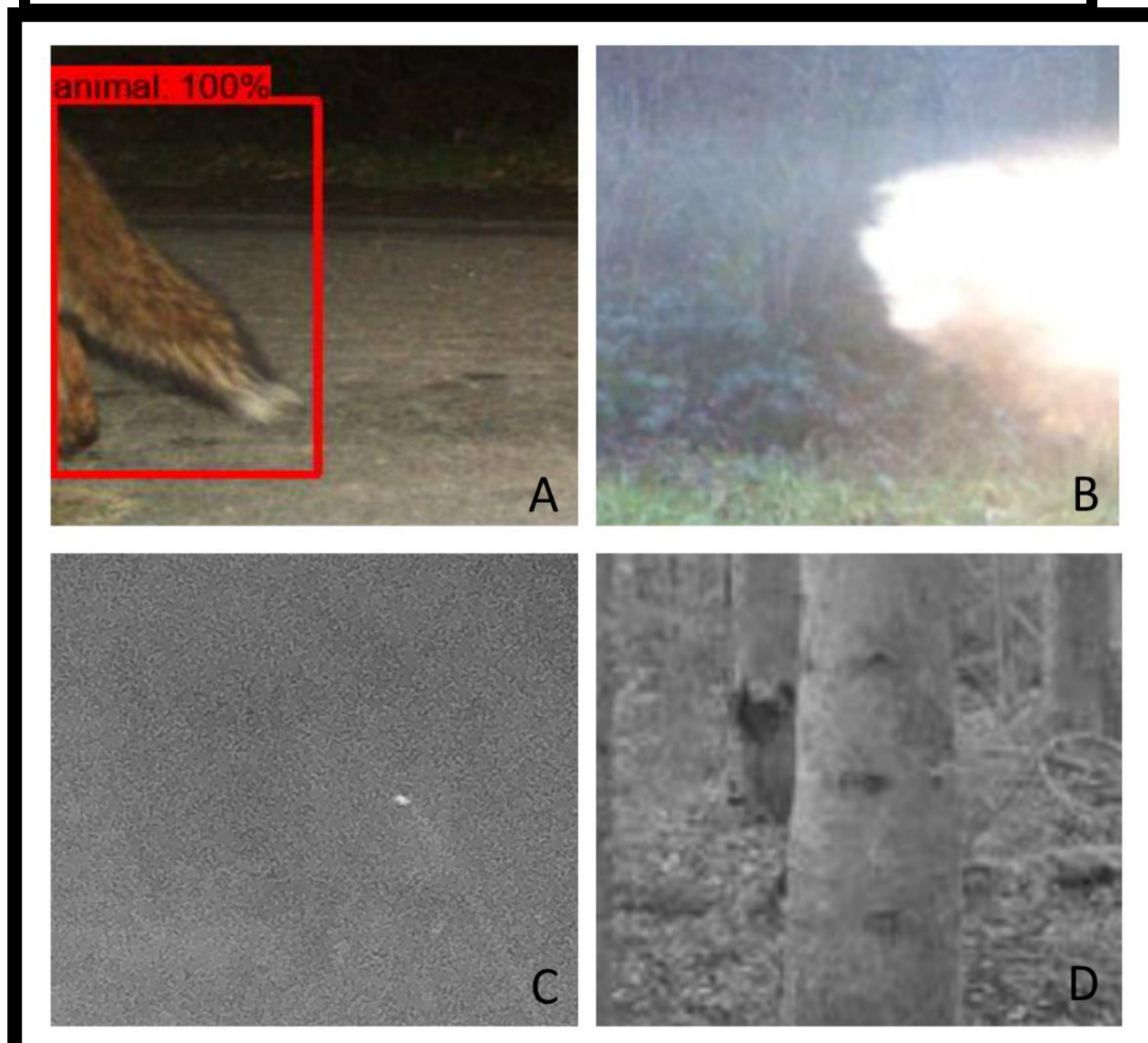
First tests with ResNet34:
97% Accuracy, 97% AUC

Graffiti get detected too! ;)

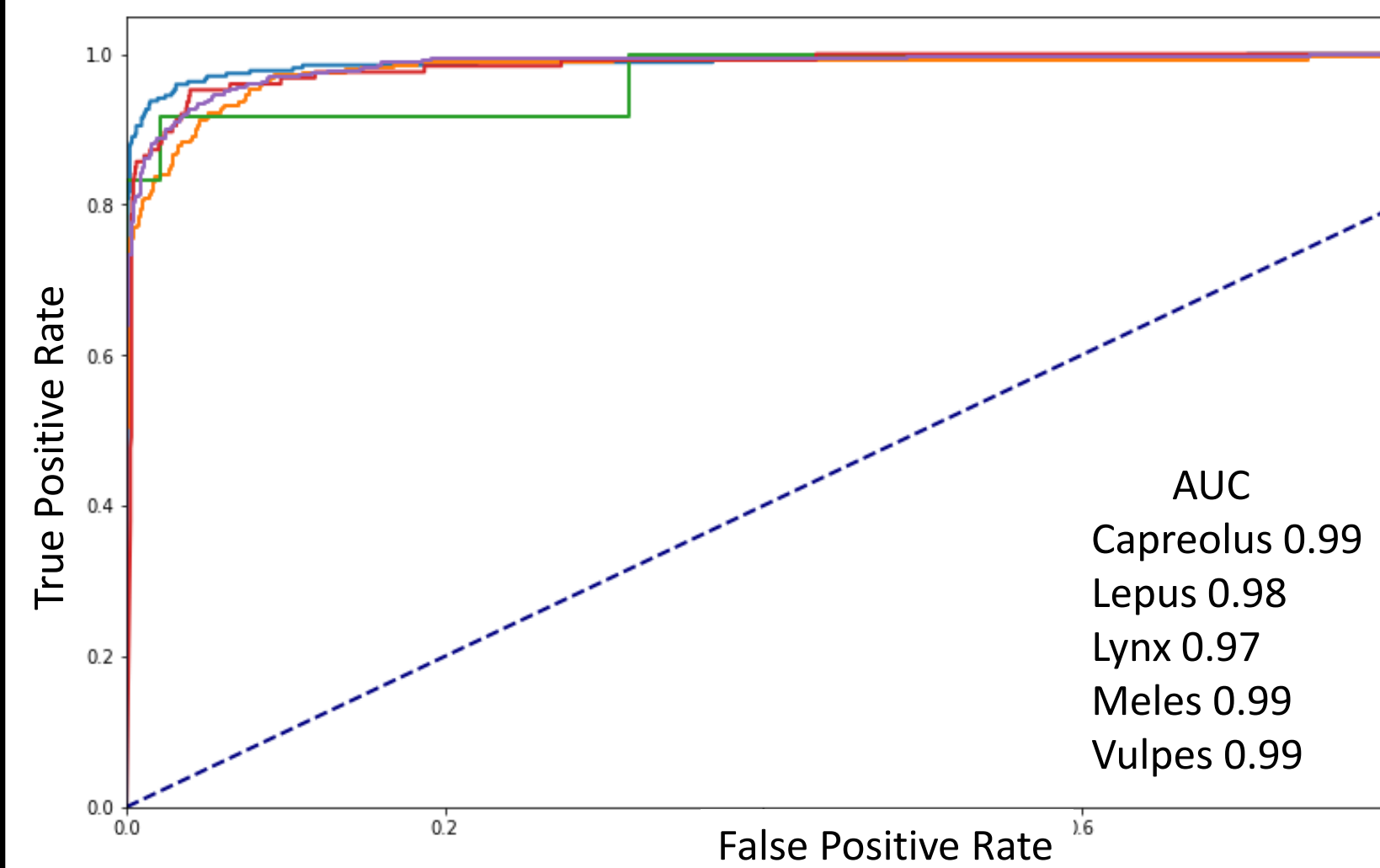


Non-consistent detections, In this case

True Positives, False negatives



Receiving Operator Characteristic



Some challenging images

