Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

More Weeds

Application / Weeds Detection

- Drone takes image of field
- Detect weeds in images

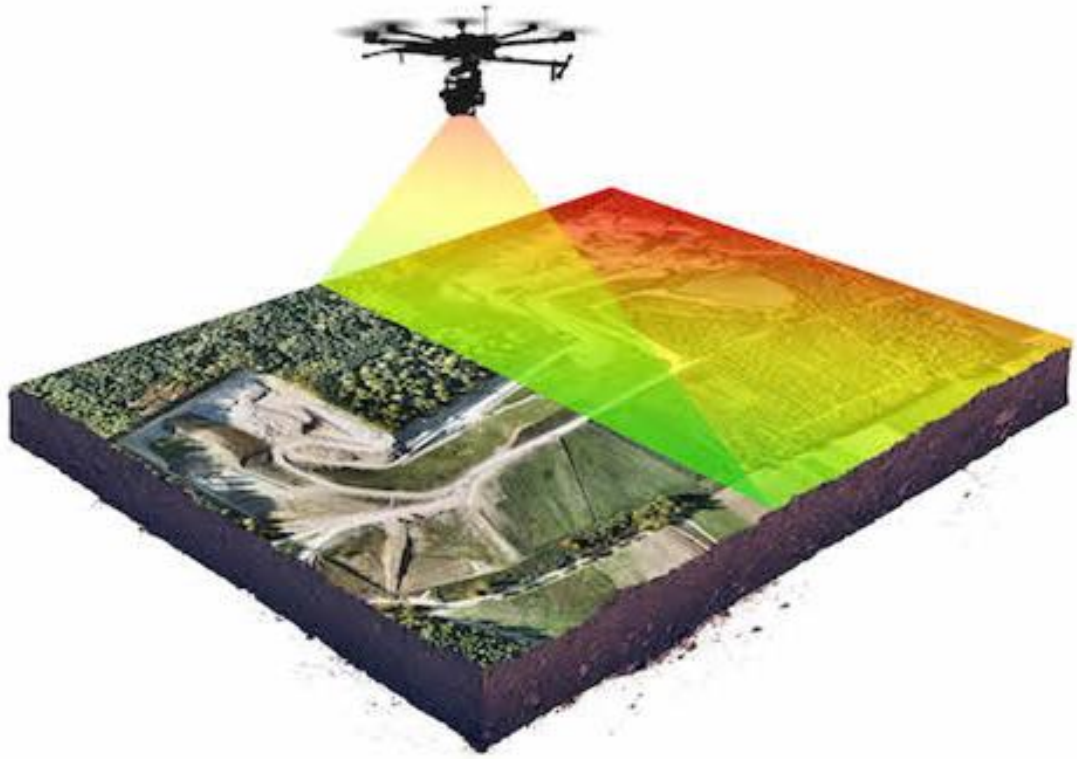
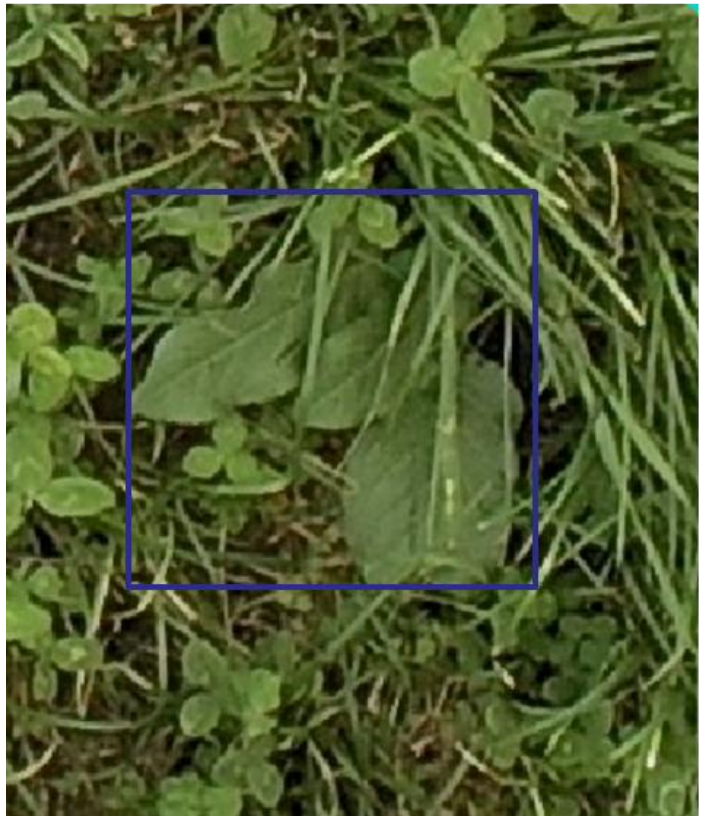


Image annotation is very expensive

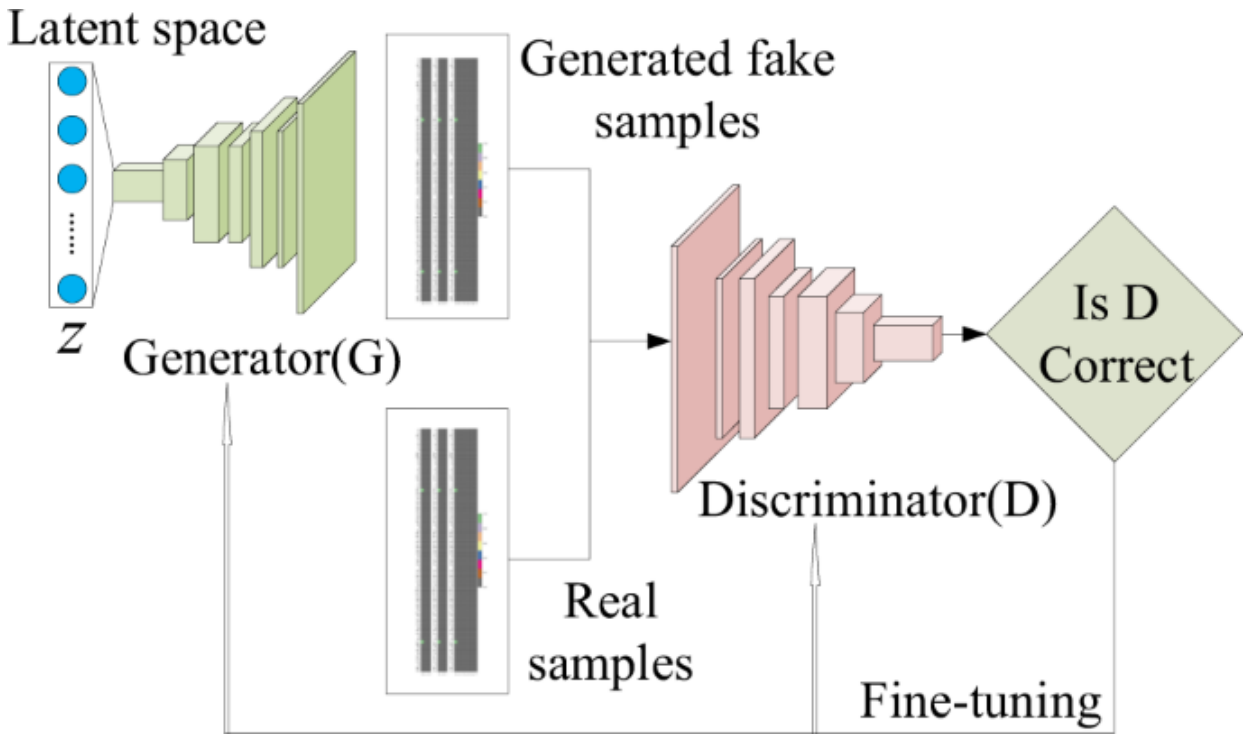


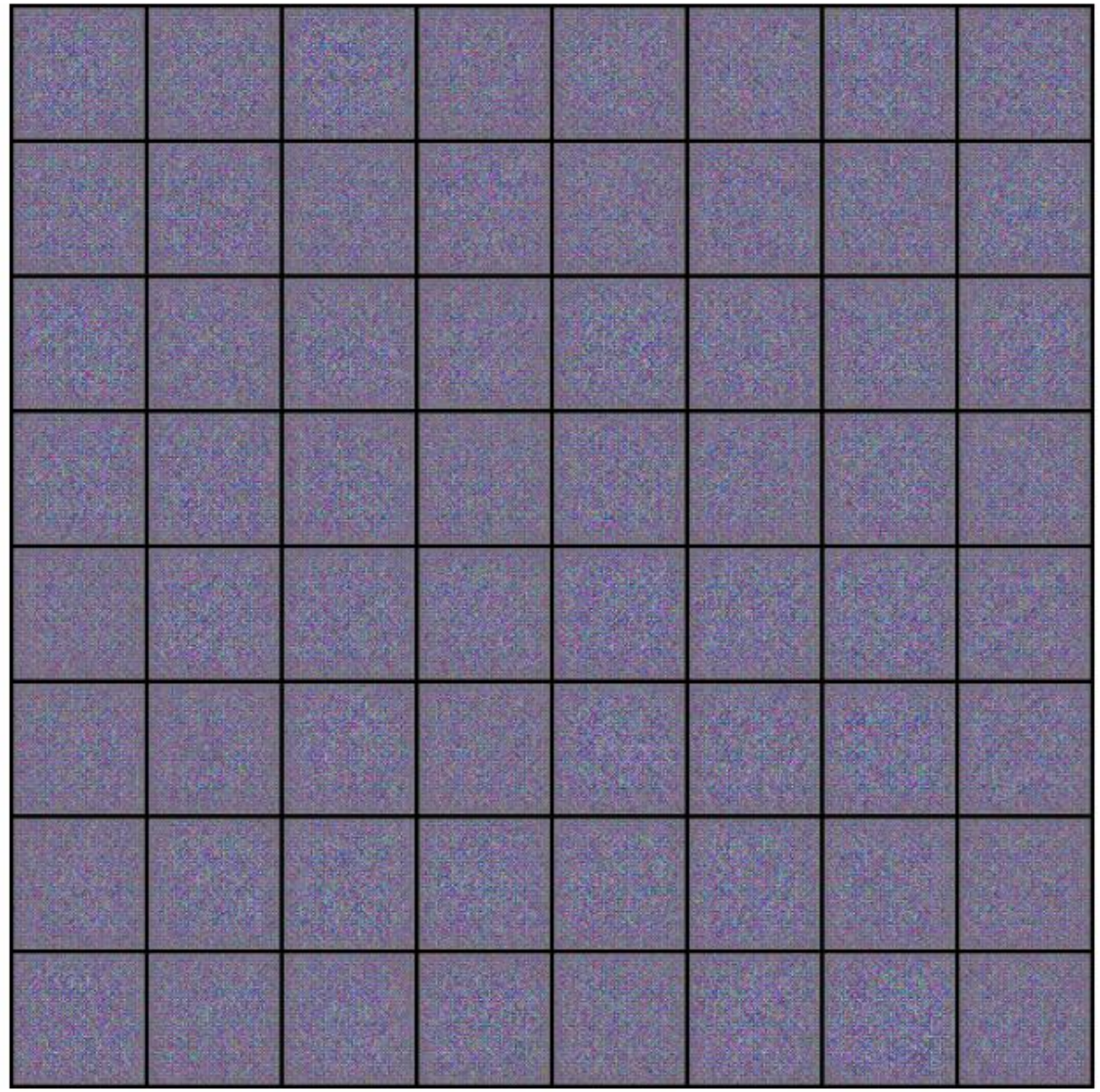
Can GenAI help in generating images?

- Generative Adversarial Networks.
- Stable diffusion Inpaiting.

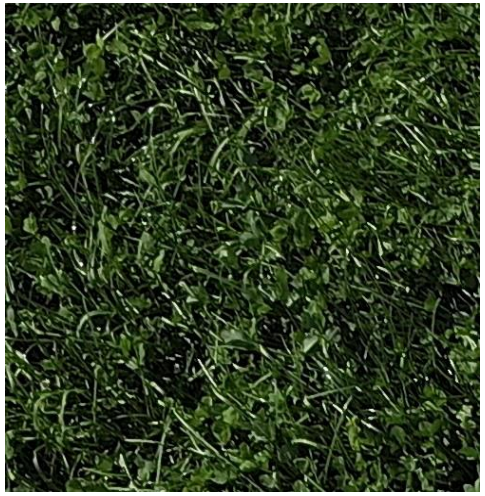
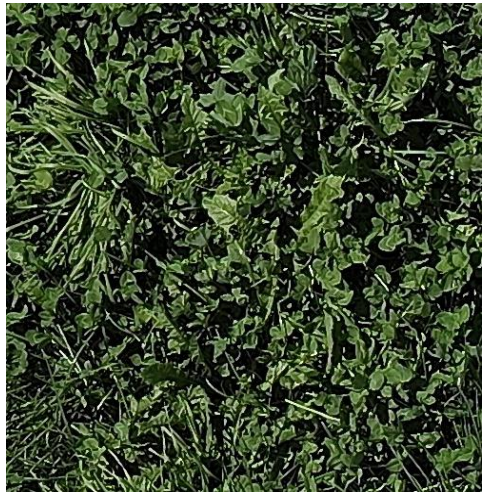
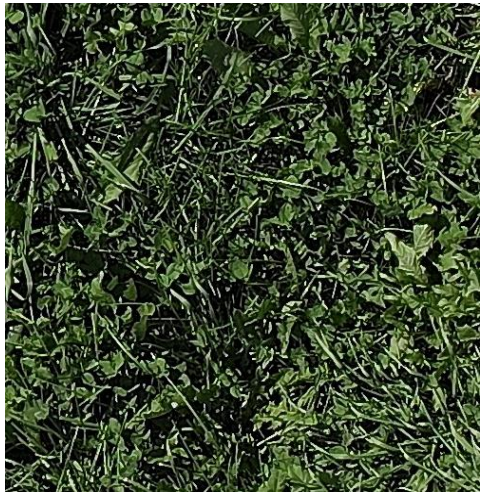
Generative Adversarial Network Model

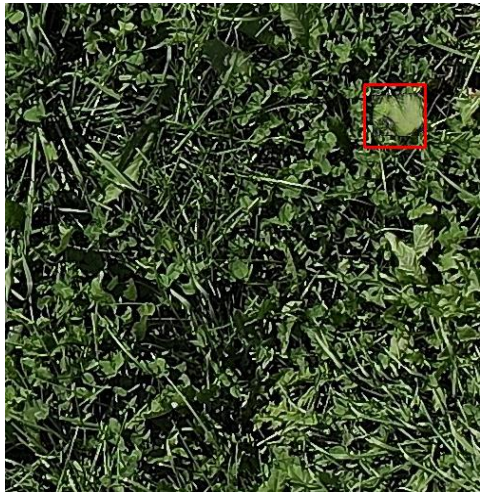
- We trained a model based on pre-annotated image patches.





Add generated weeds on backgrounds

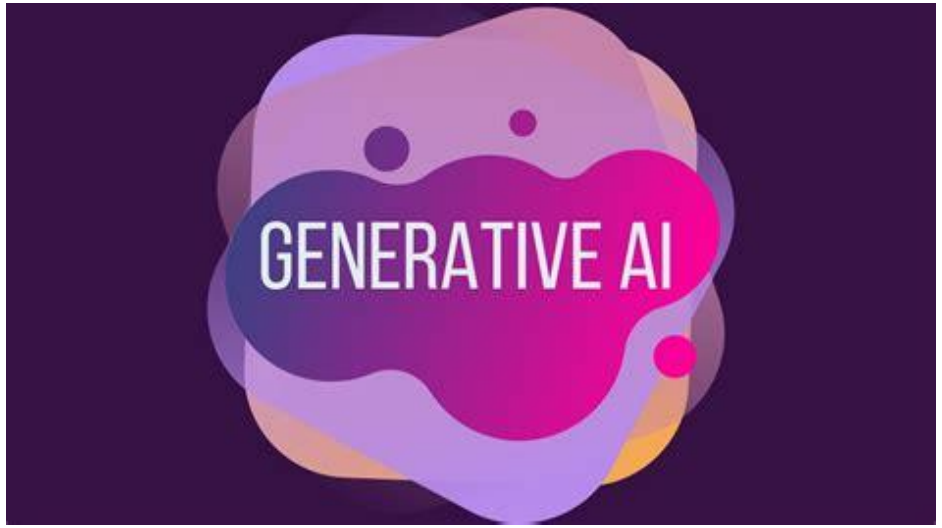






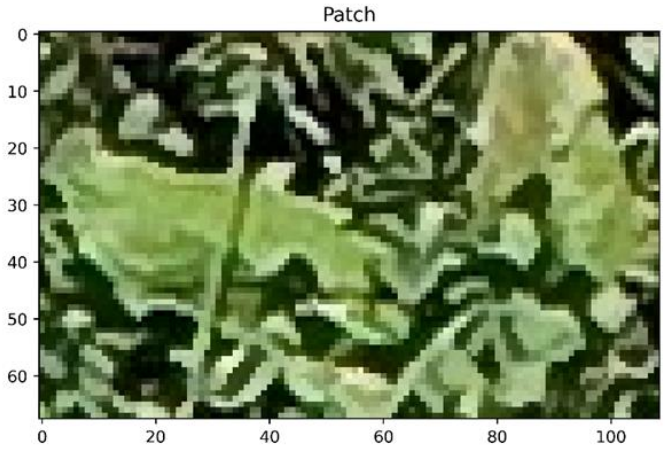
Methods for adding images on backgrounds

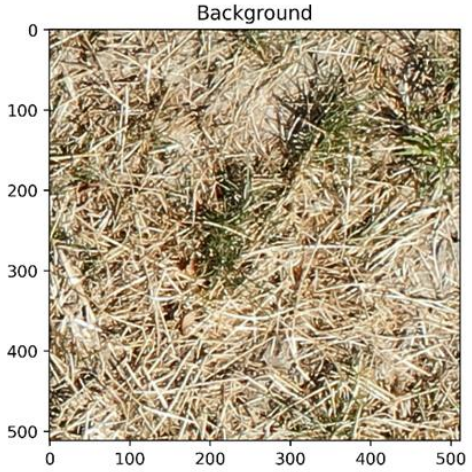
Simple overlay

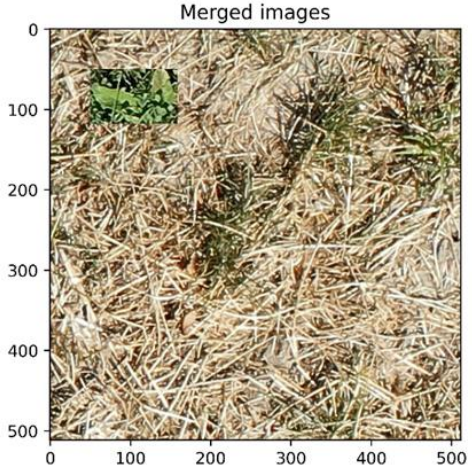
Inpainting

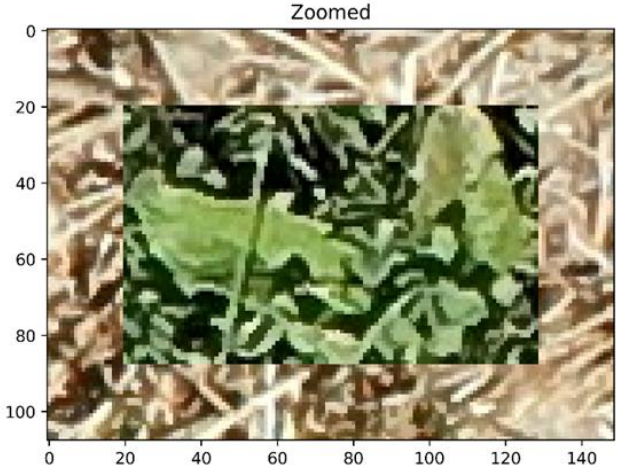


Simple overlay



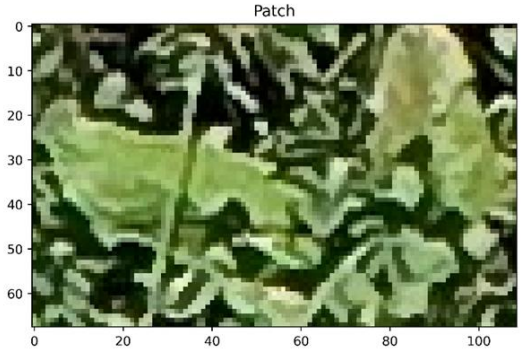


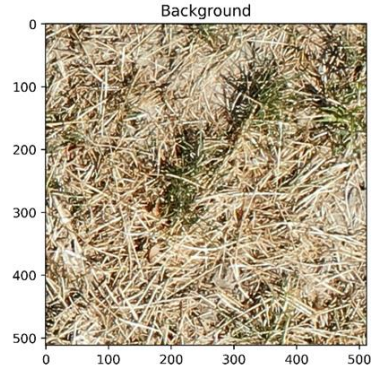


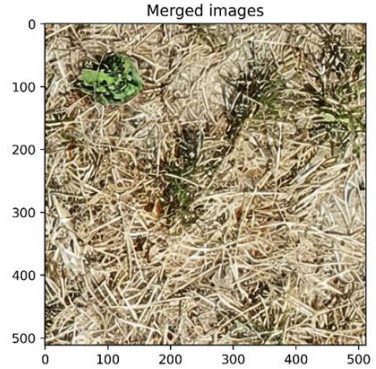


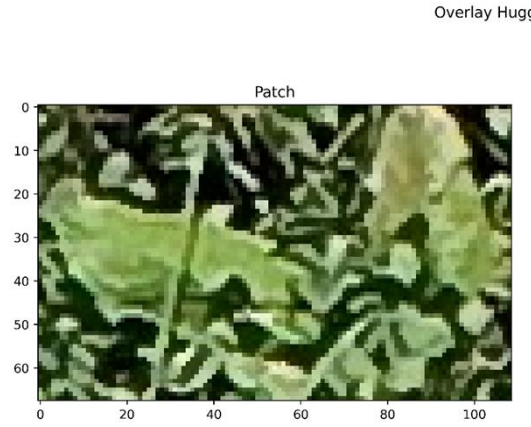
Inpainting

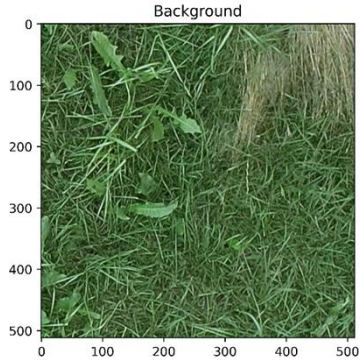
runwayml/**stable-diffusion-inpainting**

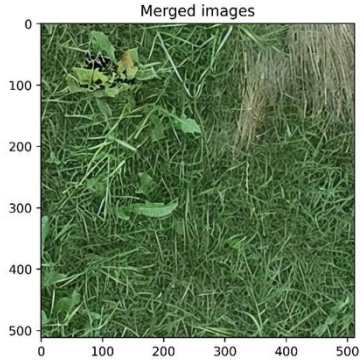




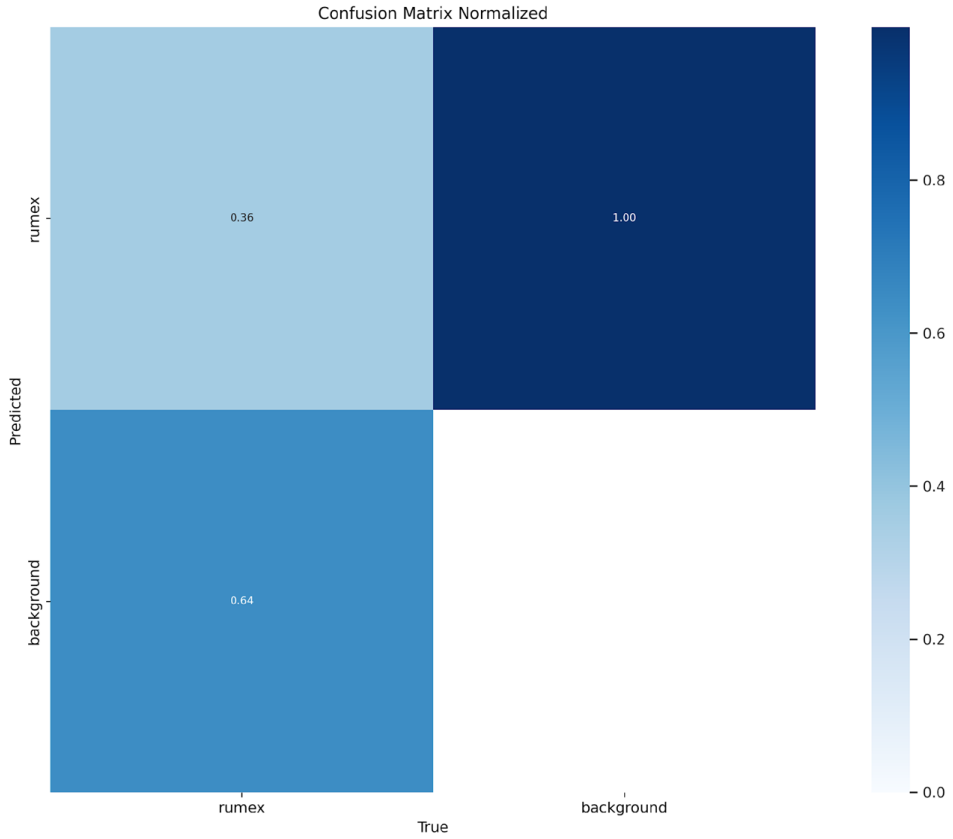


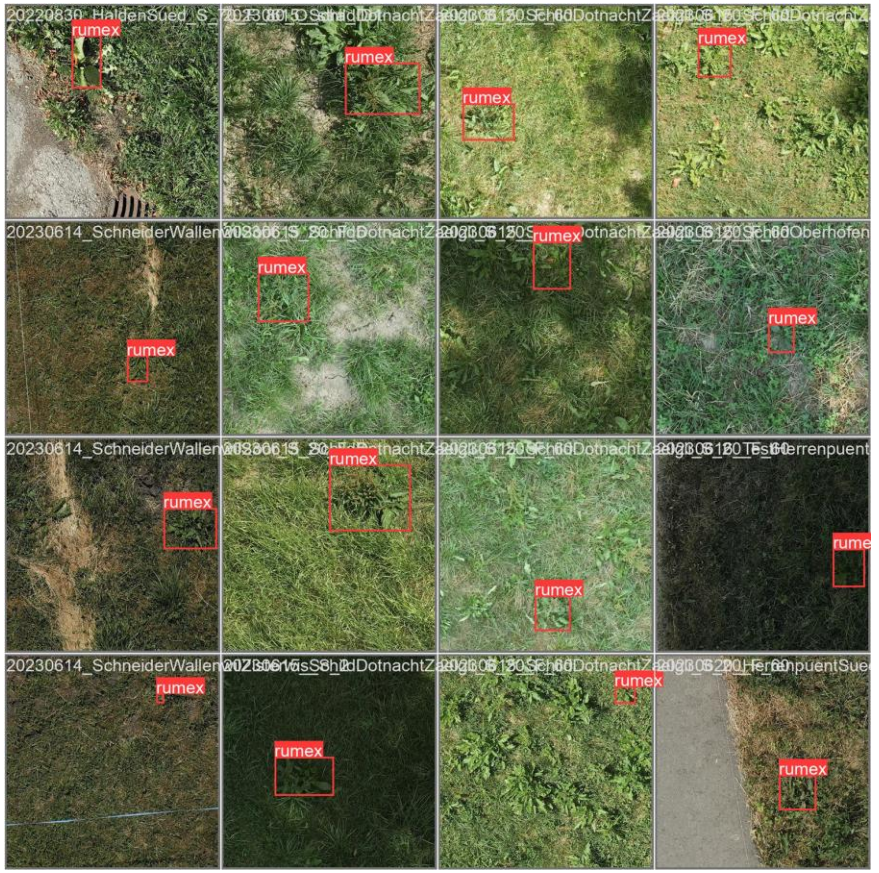






Yolo results

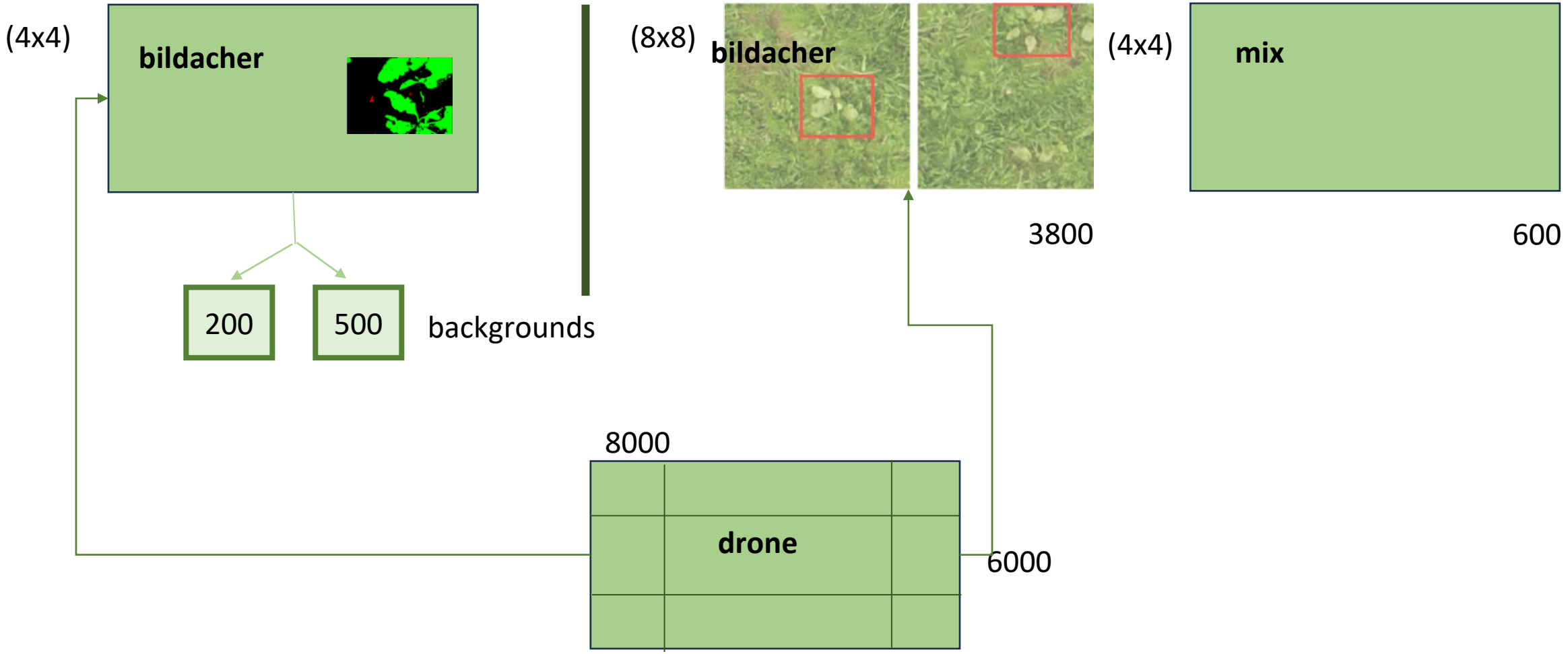




Bottom line

- Generating synthetic data ⇒ Mix-match them with field in various conditions ⇒ more (and various) data for training.
- Could be applied to other scenarios for weeds detection.

Datasets


(4x4)
bildacher
200
500
backgrounds
(8x8)
bildacher
3800
(4x4)
mix
600
8000
drone
6000