



Maize Well™

Corn Leaf Disease & Health

An Image Classification Project
By Dana Rausch & Diane Tunnicliffe

Corn?

Yes, corn!

Corn is integral to global and US-specific agriculture and economy.





DISEASES RUIN CROPS.

Our mission is to help you, the hardworking farmers, catch these diseases sooner and more efficiently.



We are **Maize Well**.

Use our app to scan your corn leaves for diseases! Our scientifically proven product is able to predict the three major leaf diseases that affect and ruin corn crops.

By identifying Blight, Gray Leaf Spot, and Common Rust quickly and accurately, we can save you time and protect your harvest.



How does **Maize Well** work?

We used an industry standard approach to gather and analyze our data. We reviewed thousands of images of healthy and diseased corn leaves and trained a model to classify these images.

Blight

- Blight is caused by a fungus.
- Shows on lower leaves first.
- Leaf lesions are 1-6 inches.
- Gray-green at first, turning pale gray or tan.

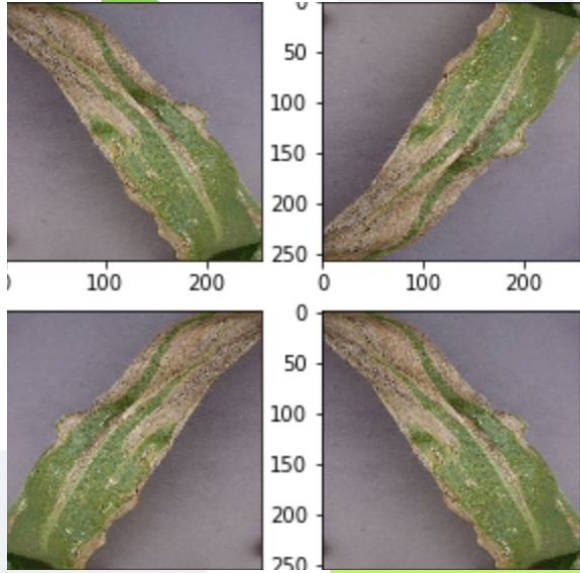
Common Rust

- Caused by a fungus.
- Occurs seasonally, usually beginning in late June.
- Identifiable by its rust color.

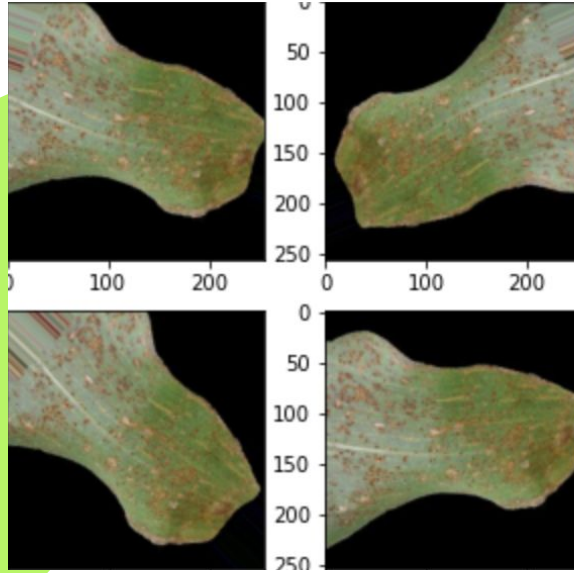
Gray Leaf Spot

- Caused by a fungus.
- First appear on lower leaves.
- Leaf lesions up to 2 inches.
- Narrow, rectangular, light tan colored.
- Eventually turn gray.

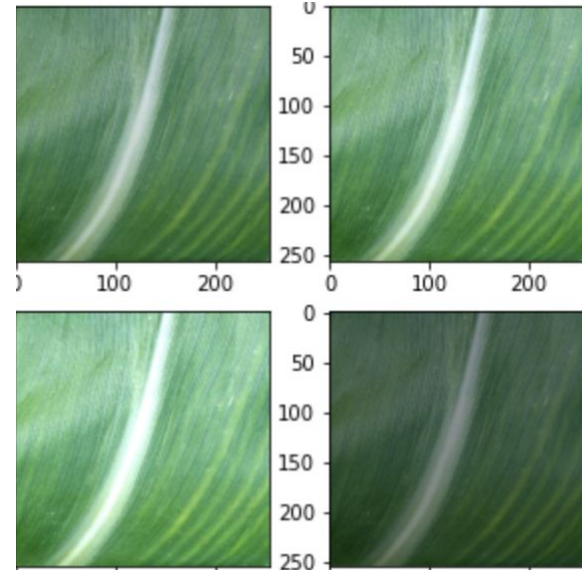
Data Augmentation



Flips



Rotation



Brightness

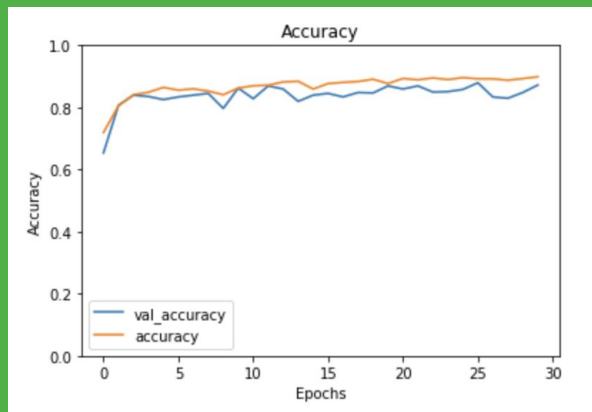


85%

WITH A MODEL BOASTING

ACCURACY,

MAIZE WELL CAN TELL!





Prioritize your healthy corn!

Our recommendation?

Use Maize Well to identify leaf diseases and ensure the health of your corn crops.



Future Work

If you invest in **Maize Well** today, we will use your corn plants to add more data to our model.

We can focus on your needs and prevalent diseases in your climate.

Thanks!

ANY QUESTIONS?

You can find us at

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All's well that **Maize Well!**TM





Image Sizes (pixels) | Blight

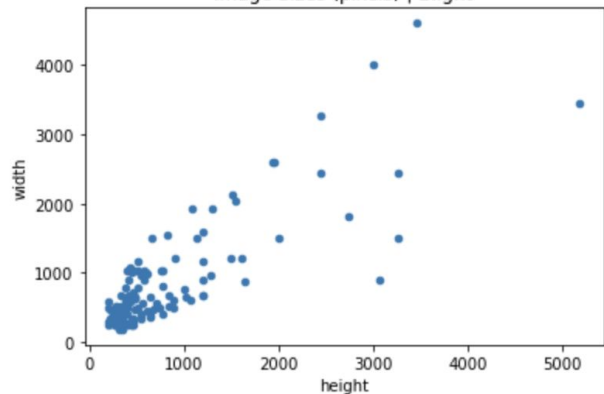


Image Sizes (pixels) | Rust

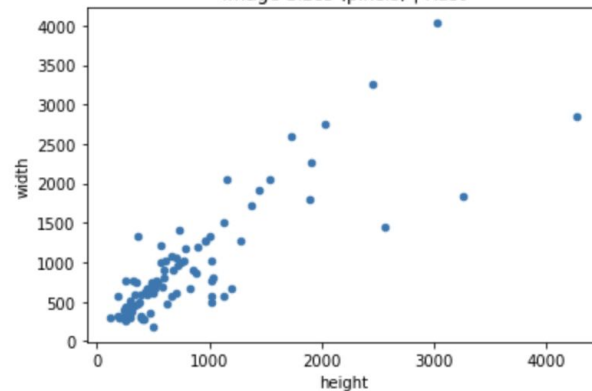


Image Sizes (pixels) | Healthy

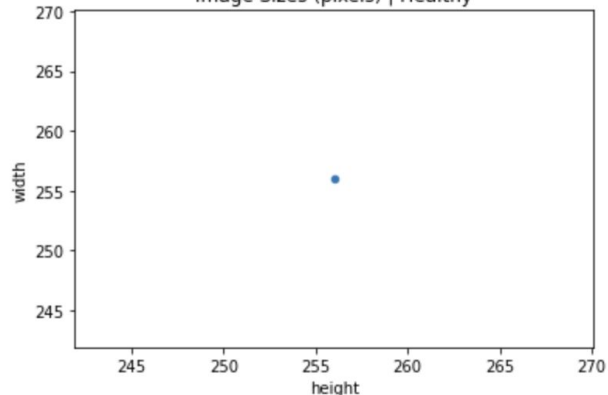
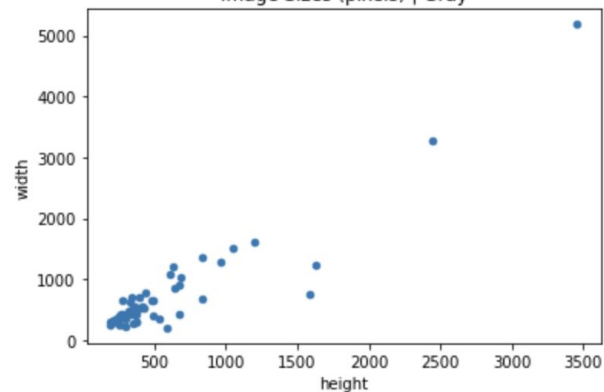
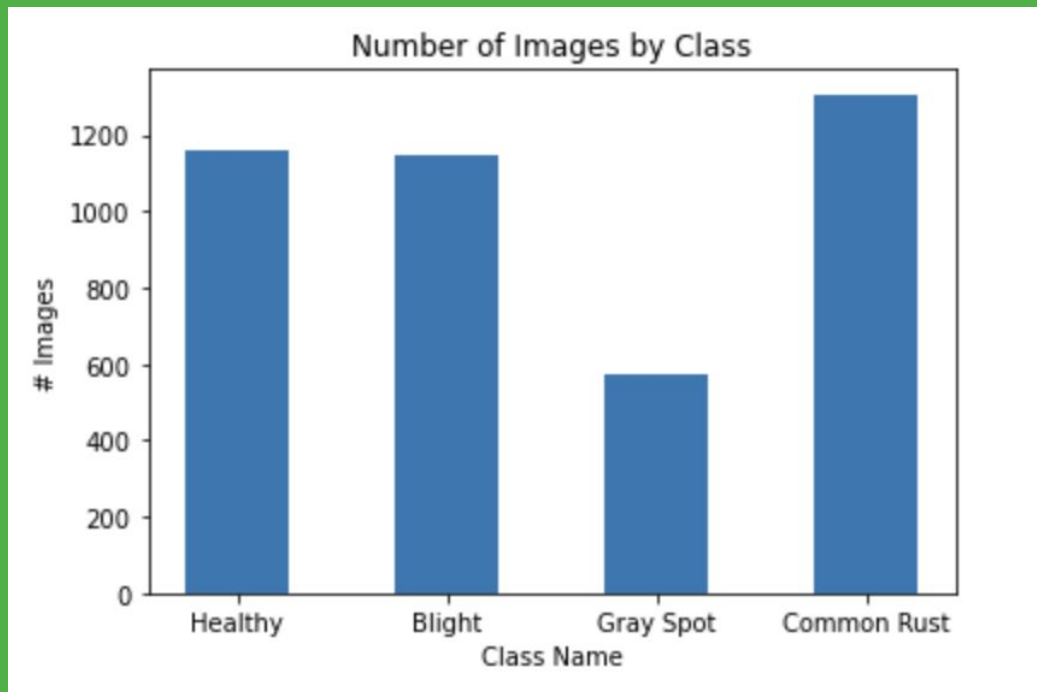


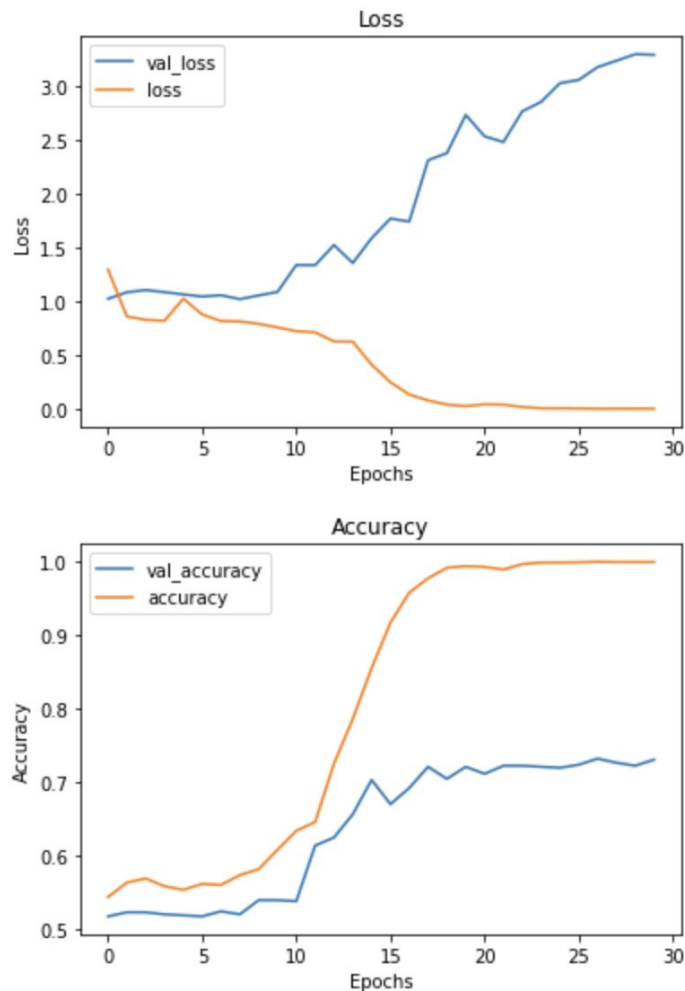
Image Sizes (pixels) | Gray







Baseline Model before data augmentation





Best Model
after data
augmentation



Appendix

