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Womanium AI+Climate Project

Qgreen

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What's our
problem?



It's 1,3 billions people problem.

Land degradation and desertification.

Almost all of Earth is experiencing severe climatic changes.
Desertification is not talked about *enough*.

That's why we chose it.
Because ~~it was the help people in need and protect vulnerable areas for the future.~~

The
solution?



Water!

The word "Water!" is displayed in a large, bold, black sans-serif font. A thick red horizontal line is drawn through the middle of the word, starting from the left edge of the 'W' and ending at the right edge of the 'r'. The background of the image is a dynamic, crashing wave with a rich turquoise hue.

Assessing risk with AI.

Our idea was to develop a two-phase model, that given a satellite image of an area could evaluate it's vegetation's distribution and with the help of environmental data, predict whether there's risk it's going to get worse.

Or not.

1. Image recognition

Feeding a Convolution Neural Network a tasty Landsat 8 OLI-TIRS C2 L1 image and hoping it understands what's desert, and what's plants.

Easy, no?

A wide-angle photograph of a desert landscape. The foreground is dominated by large, light-colored sand dunes with distinct ridges and shadows. In the middle ground, more dunes extend towards the horizon. The sky above is a pale, clear blue. Superimposed over the left side of the image is a large, bold, black sans-serif font text.

This is a
desert.

This is a
plant.



A wide-angle photograph of a desert landscape. In the foreground, several tall saguaro cacti stand prominently against a dry, brown ground. The middle ground shows more cacti and low-lying desert shrubs. In the background, there are rolling hills and mountains under a clear blue sky.

But what's
this?

2. Predictive model

Evaluating images (taken in September) of the same place on a span of around 10 years, also adding data about climate factors (rainfall, humidity, temperature...).

But for what?

To predict what will happen in another 10 years.

Did we
succeed?

A dense tropical forest scene with various green foliage and palm fronds. The colors range from deep forest greens to bright lime yellows and fiery reds. The lighting is natural, filtering through the canopy.

Expectation

Half and half.

Our image recognition model works.
It shoots almost random, but it's fixable.

Our predictive model doesn't exist.
So we guess it *could* work.

**What's in
the future?**

A photograph of a beach scene featuring several large, colorful umbrellas (yellow, orange, red) and matching deck chairs (teal) arranged in a row. The umbrellas are open, providing shade. The background is a clear, light blue sky.

Vacation!

Making it work.

The image recognition model needs some help. The training data and the testing data are different and that doesn't make it easier, but it's a promising start and we managed to get something going.

The predictive model should be easier, but we didn't even start to work it out in practice. The only issue might be the lack of extensive datasets. We'll see what we can do. *Or not.*

Thanks?

Thanks, to you!

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