Problem: semantic segmentation for coral reef images

Tools that we have:

Image thresholding for labeling?

Dashdoodler?

Convolutional neural network

Deep learning

Need to deal with black spots from dashdoodler

Write a script to convert to the dominant surrounding class?, also need to edit metadata

File

Develop initial model

Depending on results change annotation methods to either thresholding or some way to remove black dots

Edge detection is powerful tool for helping dashdoodler understand our classes and the boundaries between them

Deep learning works best here because edge detection is not always accurate and is too aggressive in the wrong places. We need to use our model to see this

Try model on both raw images and edge imposed images

More data? : use data augmentation, rotation, blurring, etc to try to give model more performance

Don't understand: feature extraction: this comes from an already existing model?

How to format data? I see many times it's a 4 dimensional numpy array which represents our dataset, but this seems impossible with various sizes of dataset. Need to fix this too.

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Need to fix overwritten labels(correct says many 0’s for some)

Just go through files containing “label” in filename and set aside the file with the longest name. This will have the most 0s. Then, delete everything and change the saved file to label.npy to match the intended format.

Tasks: label them thangs