## Overview

Changes based off the trunk from a collated kaggle repo found [here](https://www.kaggle.com/c/planet-understanding-the-amazon-from-space), which was used to generate the current submission.

1. Attempted to add spectral indices bands based off custom spectral processing of the tifs. Input to the neural nets were 64 x 64 x 6 images, RGB-NIR-NDVI-NDWI. Outputs didn’t show an improvement on current submission
2. Split models up based on weather tags – current script generates 5 separate models – one or predicting the weather label, and 4 others for predicting additional tags out of the 13 possible. As it stands the haze dataset doesn’t seem to train due to lack of samples
3. Included optimizer as suggested by Nick, also training epoch by epoch and printing the fbeta score (the error metric tested) alongside the validation accuracy
4. Included an ‘optimize threshold’ function based off a different forum post, which attempts to optimize the threshold for each tag, suggested use for each of forward models to optimize fbeta
5. Changed epoch numbers to allow additional training vs. trunk

## To do

1. Generate predictions and thresholds for the multi-model submission
2. Weight loss functions based on frequency of tags
3. L2 regularization – there is a number of things preventing overfitting as it stands, so we’ll bear this in mind once we start getting more results
4. Include haralick and/or other features in dense layers of the CNN