Journal Report 6
10/07/19-10/11/19
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Daily Log

Monday October 7

I continued to try to fix the issue of the low validation accuracy. This time however, I edited the original training data to crop the pictures so they only contained the individual logos instead of the background because I suspected that was a major reason why the validation accuracy was so low. Thankfully, the pictures came with a text file with the bounding boxes of the logos, so I used that file to crop the images.

Tuesday October 8

I spent time trying to write the object detection framework modelled after YOLO. I also wrote methods for displaying bounding boxes.

Thursday October 10

Same as Thursday, the structure is quite complicated, so I spent more time writing the methods and components of the object detection framework.

Timeline

Date	Goal	Met
9/23	reach acceptable accuracy (over 95 percent) on original training data with a validation set and augmentations	no - not yet (around 60-70 percent)
9/30	reach acceptable accuracy (over 95 percent) on data with a validation set and augmentations	no - not yet (60-70 percent)
10/07	develop object detection framework	yes
10/15	develop a running object detection framework	no - not yet
10/22	develop a running object detection framework able to detect logos in realtime	no - not yet

Reflection

I'm pretty happy with what I achieved this week. After editing the training data based on the logos' bounding boxes, the validation score jumped up to about 85 percent. While this is still not where I want it, its still a great improvement from before. There are some other methods, I want to try such as gray scaling and removing low-resolution images. Other than that, I started developing the object detection framework. I'm not exactly sure when I'll be able to test it since there are so many different parts, but hopefully by the end of the week.

```
if check in img_dict and img_dict[check][0] == logo:
    crop = []
    for val in img_dict[check][2:]:
        crop.append(int(val))
    if crop[0] == crop[2] or crop[1] == crop[3]:
        img2 = Image.open(img)
    else:
        img2 = Image.open(img).crop(tuple(crop))
    print(str(tuple(crop))+' '+str(img2.size))
    img2.save(os.path.join(filepath, str(logo) + '_' + str(num)) + '.JPG', 'JPEG', quality=90)
```