

# Capstone Project Proposal

## **1. What is the problem you want to solve? Why is it an interesting problem?**

Build a ML model to solve general object detection, and stock prediction.

## **2. What data are you going to use to solve this problem? How will you acquire this data?**

Solution: use specific image data to train a model of object detection. After training, the model (object detector) should be able to recognize a set of objects from images or from live video.

Data source:

(1) Use kaggle image data such as the Oxford-IIIT Pet Dataset

(2) Use Quandl free data to train a model of stock prediction

## **3. In brief, outline your approach to solving this problem. You might not know everything in advance, and this approach may change later. This might include information like:**

a. Is this a supervised or unsupervised problem?

Supervised learning problem

b. If supervised, is it a classification or regression problem?

Object detection is a classification. Stock prediction is a regression problem

c. What are you trying to predict?

Predict a set of objects upon training images

d. What will you use as predictors?

The training Datasets

e. Will you try a more “traditional” machine learning approach, a deep learning approach, or both?

Both

## **4. What will be your final deliverable? Will it be an application deployed as a web service with an API or a more robust web/mobile app.**

A Web service (use one of the three cloud services)

## **5. What computational resources would you need at a minimum to do this project? You may not have a very clear sense now, but work with your mentor to come to an estimate. In real industry applications, you’ll often be called upon to provide resource estimates at the beginning of a project.**

a. Processing power (CPU)

b. Memory

c. Specialized hardware such as GPUs

Will answer questions later