CS 4375.503

Project Proposal

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**Project topic:** Human Assisted Machine Learning

**Team Members:** Stephen Wells (SAW180005)

**Technique/algorithm:** The task will be binary classification of images using a neural network that I implement, including forward/backward propagation. It will use uncertainty sampling, where any images that cannot be confidently classified are presented to the user for classification, with the user’s response used as part of training for the model.

**Dataset:** The dataset will consist of thousands of images belonging to one of two classes, ie. Cats or dogs. The model will be trained on these images and also presented with other unseen test data which is where the human interaction takes place. For images that the model is unsure about (defined by some threshold), the human will classify the image to improve the model’s learning.

**Coding language:** Python will be used with various libraries for preprocessing and evaluation

**Other:** I may also use diversity sampling in addition to uncertainty sampling and try and target unusual or confusing images the model may not have been exposed to