Due on Monday, October 21, 2019 at 11:59 pm
Answer all problems following the instructions. Please include the written and programming portions in a zipped folder titled "Lastname_firstname_hw3.zip"

1 EEE problems

All EEE problems are extra-credit.

2 Max Patches

Problem 1. *Multi-layer Perceptron*

Download the ml.star package from Max. Take a look at the **ml.mlp** patch, for implementing a multi-layer perceptron.

Open the training object to see how data is passed to the multi-layer perceptron. You will need to create a list of input data and associated output data for the neural network to train on.

Create a patch that takes in images, and classifies it as "cat" or "not a cat". To do this, take images of cats, and not cats, resize them to the same size, and create a patch that performs some sort of edge filtering and then adds that Jitter matrix to a vector of values of fixed length. Then you can append to each of these the corresponding label.

Feed this list as training messages for your MLP. Make sure you specify the input and output size of the network, so the multi-layer perceptron knows what it is expecting. See how well your MLP performs.