

# Classification of TERC Photos: A Space Odyssey

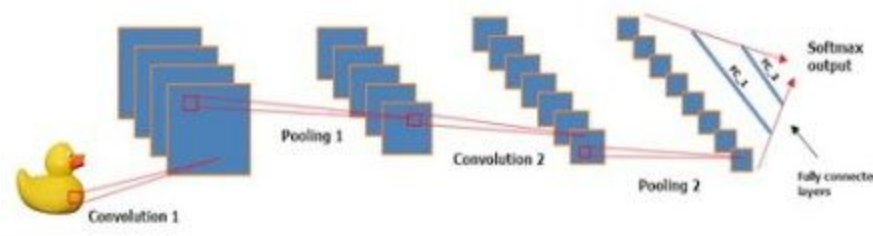
Dimitri Makrigiorgos, Neela Kaushik, Sarah Ferry

## Data Collection/Processing

Data collection will involve downloading the training dataset and retrieving the classification labels from the image metadata. Preprocessing on the images will involve vectorizing each image in order to allow for them to be consumed by a neural network.

## Plan for Approach

We will use a convolutional neural network to analyze the images and output classifications based on pixels. The model will be trained on images for which TERC has already provided labels. The input to the model is an array of pixel values corresponding to an image, on which we will use a Softmax classifier. The output of the model is the probability that the image has a given classification label. We will use Python along with the TensorFlow and/or scikit-learn libraries to implement the CNN and classification algorithms.



## Milestones

1. **Thursday, October 12th:** Project proposal due.
2. **Monday, October 30th:** Gather requirements, research CNNs and develop a more comprehensive plan.
3. **Thursday, November 2nd:** ML problem sets completed; begin intensive work on project
4. **Monday November 21st:** Initial coding complete, submit initial results.
5. **Monday December 4th:** 90% project completion. Most of coding will be complete by this time. We will focus on debugging and our project poster presentation.
6. **Tuesday December 12th:** Project and poster complete.

## Team Member Roles

1. Manage communication, meetings, deadlines, progress reports, etc.
  - Dimitri
2. Programming
  - Neela, Sarah, Dimitri