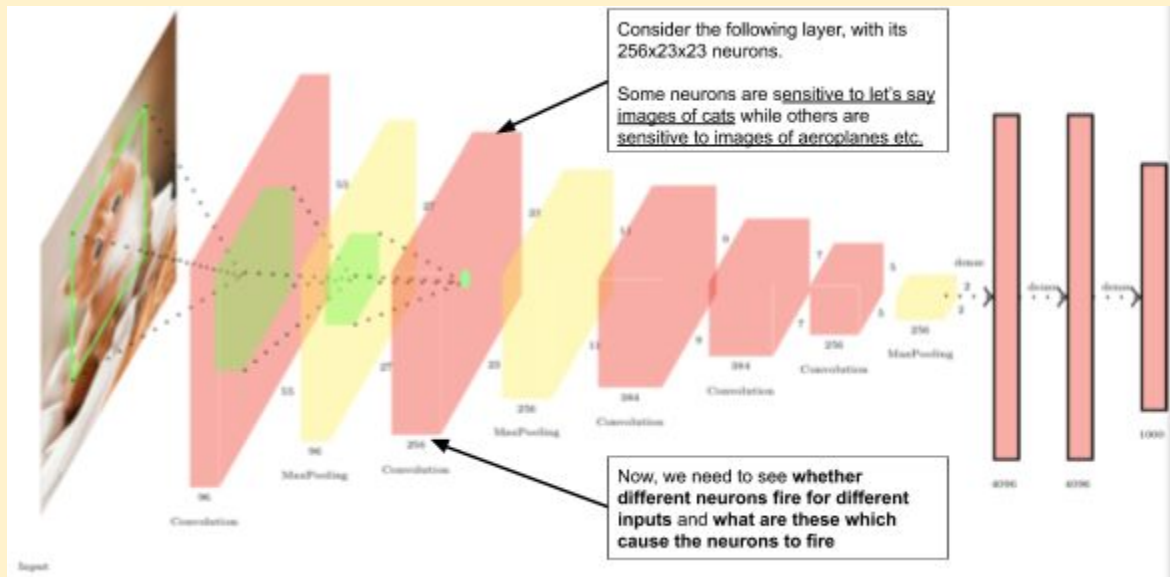


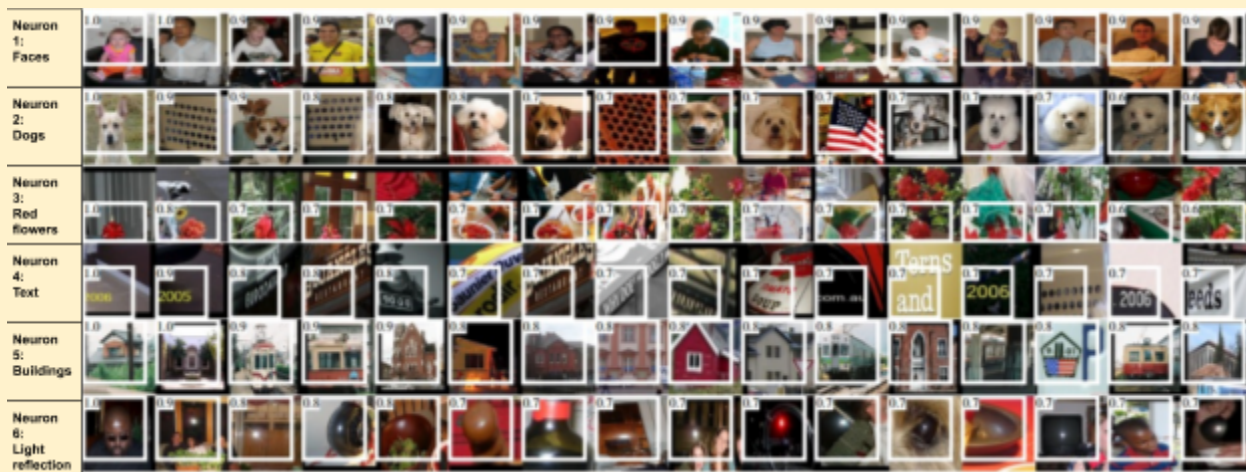
### Identifying images which cause certain neurons to fire

How do you check what is causing a neuron to fire?

1. From the previous section, why is the concept of an increasing receptive field important?
2. Consider the same diagram from the before



3. Now, what does Firing mean? In the case of sigmoid/tanh neurons, it refers to when the output approaches 1. In the case of ReLU and leaky ReLU, it refers to any large positive value, greater than some threshold.
4. Here are the results of an experiment to understand the firing of different neurons



5. In the above image, the firing of 6 different neurons was observed across the training set of 1000 images. Each neuron is shown to be sensitive to particular inputs as shown in the figure above.
6. This analysis helps us to understand whether neurons in different layers are learning some meaningful patterns, and having some discriminatory power, instead of all of them firing for all types of inputs..