4712099 – Questions for Paper 6,7

Visualizing and Understanding Convolutional Networks

1. The supervised convnet models map a color 2D input image "x" via a series of layers to a probability vector "y" over different classes. The top few layers are fully connected and the final layer is a Softmax Classifier. The components of each layer are made up of:

    a. convolution of the previous layer with a set of learned filters
    b. Only passing the responses of the previous layer via a rectified linear function
    c. Either Max pooling over local neighbors or/and a local contrast operation that normalizes the response across feature maps.
    d. All the above

    Answer: d. All the above

2. The order of the process repeated to reconstruct the activity of the previous layer that gave rise to the chosen activation is :

    a. unpool -> rectify ->filter
    b. unpool -> filter-> rectify
    c. rectify -> unpool ->filter
    d. None of the above

    Answer: a. unpool -> rectify ->filter

You Only Look Once: Unified, Real-Time Object Detection

1. What are the Properties of YOLO model that makes it better than R-CNN and DPM models?
    a. Fast as we frame detection as a regression problem
    b. Sees the entire image during training and test time so it implicitly encodes contextual information about classes and their appearance.
    c. Learns generalizable representations of objects
    d. All the above

    Answer: d. All the above