

Due Date 22/Dec/2016. Fall 2016. Homework 4

Prof. Alan Yuille

December 15, 2016

Due on Friday 22/Dec 2016. Email pdf and Lua files (just *your* code) to `reisinger@cogsci.jhu.edu`.

YOU MUST WORK BY YOURSELF ON THIS ASSIGNMENT!

Question 1. Multilayer Perceptrons and Deep Networks

Describe the basic ideas of multilayer perceptrons – at level of detail of the hand-out Multilayer Perceptron for lecture 19. in the handout. Why are they better than single layer perceptrons? What is the backpropagation algorithm?

What is the main difference between multi-layer perceptrons and deep networks? (At the level of the AlexNet handout in lecture 20).

Question 2. Deep Neural Networks

Work through the convolutional neural networks exercise in `CNN_exercise.pdf`. First you'll need to work through the Torch tutorial in `CNN_tutorial.docx` (even if you already know how to use Torch). All of the necessary files will be available on Blackboard in `CNN_final.zip`.

Note: contact Prof. Yuille by email if you want to attempt a more challenging deep network application.