

Quiz 3
Week 3 Sept/28/2022
CS 280: Fall 2022
Instructor: Lan Xu

Name:
On your left:
On your right:

Instructions:

Please answer the questions below. Show all your work. This is an open-book test. NO discussion/collaboration is allowed.

Problem 1. Convolution Kernel (10 points)

We have a video sequence and we would like to design a 3D convolutional neural network to recognize events in the video. The frame size is 31×31 and each video has 30 frames. Let's consider the first convolutional layer.

- We use a set of $5 \times 5 \times 5$ convolutional kernels. Assume we have 64 kernels and apply stride 2 in spatial domain and 3 in temporal domain, what is the size of output feature map? Use proper padding if needed.

Quiz 3
Week 3 Sept/28/2022
CS 280: Fall 2022
Instructor: Lan Xu

Name:
On your left:
On your right:

Problem 2. Adam (10 points)

Explain why the bias correction is needed in the Adam update. Hint: You should derive the update rule for $t=1$.