

TTIC 31230 Fundamentals of Deep Learning, winter 2019
CNN Problems

Problem 1. Consider convolving an $N \times N$ filter over a $D \times D$ input image x (with $\lfloor N/2 \rfloor$ padding) stride 1 to produce a $D \times D$ output image y . Assume the input image has C_x channels and the output image has C_y channels and we have batch size B . How many floating point multiplies are required in computing the convolution on the batch (without any activation function)?

Problem 2: Write a 3D CNN procedure for video. Details coming soon.

Problem 3: Write a scale-invariant CNN. Details coming soon.