You would like to shrink a volume of shape (32, 32, 256) into a volume of shape (32, 32, 64). What layer should you use? (The shapes are in the [height, width, channels] format. You can't use any padding.)

Pick one of the choices

○ A pooling layer

● A 1x1 convolutional layer

○ A 3x3 convolutional layer

○ A 4x4 convolutional layer

○ A fully connected layer

Clear selection

☆ Convolutional layer

Consider a simple convolutional neural network with one convolutional layer. Which of the following statements is true about this network? (Check all that apply.)

Pick the correct choices

☐ It is scale invariant.

☐ It is rotation invariant.

☑ It is translation invariant.

Clear selection

☆ Image generation

In Neural Style Transfer, you want to generate an RGB image of the Eiffel Tower that looks like it was painted by Picasso. The size of your image is 100x100x3 and you are using a fixed

pretrained network with 1,000,000 parameters. At every iteration of gradient descent, how many updates do you perform?

Pick one of the choices

○ **10,000**

◉ **30,000**

○ **1,000,000**

○ **1,030,000**

Clear selection

☆ Mirrored image

You are working on a cat/non-cat binary classification and have trained a logistic regression to overfit the following image/label pair. **It's the only training example in your training set.** (Label 0 indicates "non-cat", label 1 indicates "cat".)

Now, you run the same image, but mirrored, through the model, what's the expected output?

Pick one of the choices

○ It will classify it as a cat ("1").

◉ It will classify it as a non-cat ("0").

◯ We can't really tell, but it will be either cat ("1") or non-cat ("0").

◯ None of the above propositions.

Clear selection

☆ **Activation functions**

You're building a fully connected network to classify all animals on images taken in a zoo. Here are some examples of images in your dataset:

If there are bears and iguanas in the image, your network should classify the image as containing two classes: "bear" and "iguana", no matter how many animals from each class there is. What is a good choice for the last activation of your neural network?

Pick one of the choices

◯ Softmax

🔘 Sigmoid

◯ Tanh

◯ ReLU

Clear selection

☆ **Bi-directional RNN vs. Simple RNN**

Which, if any, of the following applications would you build using a Bi-directional RNN rather than a simple RNN? (Check all that apply.)

Pick the correct choices

- ☑ Live-translation earphone devices
- ☐ Online object tracking
- ☑ Machine translation
- ☑ Real-time robot path planning
- ☐ Video classification

Clear selection

☆ **Transfer learning**

Your dataset is tiny and pretty different to the dataset your pretrained model was trained on, you should:

Pick one of the choices

- ○ Replace the pretrained model's last layer, and fine-tune the whole network.
- ● Replace the pretrained model's last layer, and fine-tune the last layer only.
- ○ Keep only the pretrained model's first few layers, add a layer to it, and fine-tune only the last layer.
- ○ Keep only the pretrained model's first few layers, add a layer to it, and fine-tune the whole network.

Clear selection

Continue

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