Sheet-4 Neural Networks

Answer the following MCQs questions

1-What is the main function of pooling layer in a convolutional neural network (CNN)?
a. To add non-linearity
b. To increase model complexity
c. To reduce the spatial dimensions of feature maps
d. To add noise to the input data

2-What kind of layer is commonly used in neural networks to add non-linearity?
a. Fully Connected Layer
b. Pooling Layer
c. Convolutional Layer
d. Activation Layer

3-What are the key advantages of dropout in neural networks?
a. It increases model complexity.
b. It accelerates training.
c. It introduces stochasticity to improve generalization.
d. It reduces the number of neurons in the network.

4-What is the primary purpose of a Convolutional Neural Network (CNN)?
a) Object detection
b) Image classification
c) Text generation
d) Reinforcement learning

5- Which layer type is used to reduce the spatial dimensions in a CNN?
a) Convolutional layer
b) Pooling layer
c) Fully connected layer
d) Activation layer

6-What is the primary advantage of using a CNN over a fully connected neural network for image processing tasks?

a) CNNs can capture local spatial patterns in the input data
b) CNNs can handle sequential data
c) CNNs have a higher number of neurons
d) CNNs have a higher training speed

7-What is the purpose of the output layer in a CNN?

a) To compute the predicted output based on the final feature representation
b) To reduce the spatial dimensions of the input data
c) To apply non-linear transformations to the feature maps
d) To initialize the weights and biases of the network

8-List a few applications of a CNN self driving , ATM , Smart phone

9-What are the advantages of using CNN over ANN?

10-What Are the Different Layers on CNN?

11-What is Pooling on CNN, and How Does It Work?

12-Draw CNN Architecture ?

9-

CNNs are more suitable for image-related tasks due to their ability to capture spatial hierarchies, handle translation invariance, and be computationally efficient compared to traditional ANNs

10-

pooling , convolution layer ,fully connection , dropout layer , activation layer

11-

a Convolutional Layer is followed by a Pooling Layer. The primary aim of this layer is to decrease the size of the convolved feature map to reduce the computational costs.

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