Deep learning worksheet – 4

1.Ans) A) Once we have the pooled feature map, this component transforms the information into a vector. It's the input we need to get on with Artificial Neural Networks

2.Ans) B) Little dependence on pre-processing, decreasing the needs of human effort developing its functionalities

3.Ans) B) False

4.Ans) B) 3 – 5 – 1 – 2 – 4

5.Ans) A) C=((I-F+2P)/S) + 1

6.Ans) B) [3 2 2 3]

7.Ans) D) 13×13

8.Ans) B)

9.Ans) B) larger the value of strides, smaller is the size of feature map we get

10.Ans) C) LeNet-5, B) Inception-ResNets, D) Hopfield Network

11.Ans) A CNN architecture is formed by a stack of distinct layers that transform the input volume into an output volume (holding the class scores) through a differentiable function. A few distinct types of layers are commonly used.

12.Ans) A Convolutional neural network is a neural network that has one or more convolutional layers and are used mainly for image processing, classification, segmentation and also for other auto correlated data A convolution is essentially sliding a filter over the input.

13.Ans) Max pooling is the maximum pixel value of the batch is selected it is a sample-based discretization process. The objective is to down-sample an input representation image, hidden-layer output matrix, etc., reducing its dimensionality and allowing for assumptions to be made about features contained in the sub-regions binned

Average pooling is the average value of all the pixels in the batch is selected and it involves calculating the average for each patch of the feature map. This means that each 2×2 square of the feature map is down sampled to the average value in the square

14.Ans) The padding property in CSS defines the innermost portion of the box model, creating space around an element's content, inside of any defined margins and/or borders. Padding values are set using lengths or percentages, and cannot accept negative values. The initial, or default, value for all padding properties is 0

15.Ans) There are three types of layers in a convolutional neural network: convolutional layer, pooling layer, and fully connected layer

Convolutional layers are the layers where filters are applied to the original image, or to other feature maps in a deep CNN. This is where most of the user-specified parameters are in the network. The most important parameters are the number of kernels and the size of the kernels. Features of a pooling layer.

A pooling layer is another building block of a CNN. Its function is to progressively reduce the spatial size of the representation to reduce the amount of parameters and computation in the network. Pooling layer operates on each feature map independently. The most common approach used in pooling is max pooling.

Fully Connected layers in a neural network are those layers where all the inputs from one layer are connected to every activation unit of the next layer. In most popular machine learning models, the last few layers are full connected layers which compiles the data extracted by previous layers to form the final output.