Understanding CNN

What authors explain about stride in the paper?

Ans : Stride is a method of lowering parameters while also lowering some negative effects. By looking at the surrounding area in this work, the authors made the naive assumption that the nodes in the next layer had a lot of overlap with their neighbors' nodes, and that the overlap could be changed by adjusting the step size of the rice field.

How is zero padding effective in CNN where the authors proposed to use it?

Ans : The loss of information that might be present at the image's edges is one of the cons of the convolution stage. They never have a chance to be viewed because they are only ever recorded when the filter slides. The author proposed utilizing zero padding to address this issue. Zero padding has the additional benefit of letting you control the output size. The network output's size does not decrease with depth thanks to the padding concept. Therefore, you can use as many deep convolutional networks as you like.

What is the convolution layer? What does it do ?

Ans : The most significant layers in CNNs are convolutional layers. In the network, things frequently take time. The number of layers in the network affects network performance as well. On the other hand, though, lengthening the network's layers also lengthens the time needed to train and test it.

What authors are represented by max pool layer? How have they performed max pool?

Ans : One of the most popular pooling techniques is Max Pool. Downsampling is the key component of pooling, which lowers the complexity of additional layers. divides the image into rectangle-shaped subareas and only returns the highest value included within each subarea. 2x2 is one of the most popular sizes for max pooling. The top right portion of the 2x2 block is the focus while the top left 2x2 block moves by 2. This indicates that while pooling, a stride of two is employed. To prevent downsampling, a stride of 1 was utilized. Use downsampling only when the presence of information not geographical information is crucial because it does not maintain the position of information.

What advantages CNN have over traditional Neural networks?

Ans : Comparing CNNs to classic neural networks, there are various benefits. The reduction in the number of parameters in ANNs is the most advantageous feature of CNNs. This study has inspired both researchers and developers to use larger models to tackle challenging problems that regular neural networks cannot handle. The notion that CNN-solved problems should be devoid of spatially dependent features is a fundamental presumption. In other words, the location of the face within the image is irrelevant to facial recognition software. The main issue is identifying them no matter where they are in an image. The preservation of abstract properties as the input propagates to further layers is another crucial feature of CNNs.