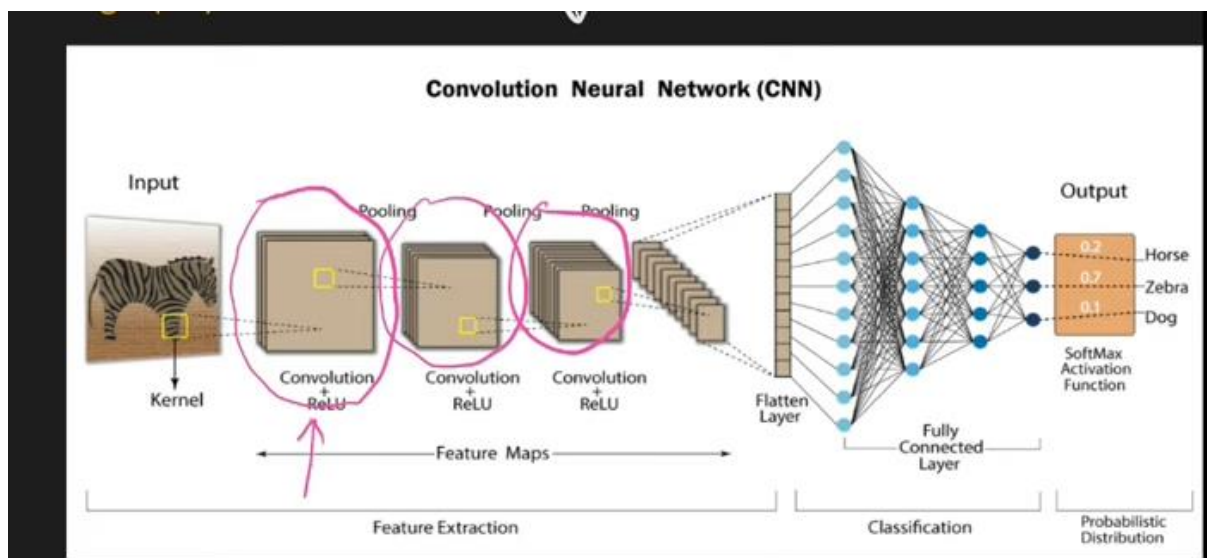


Convolutional Neural Network

CNN is type of neural network, also known as convent, or CNNs, are a special kind of neural network for processing data that has a known grid like topology like time series data (1D) or images(2D).



CNN mai 1 Convolutional Layer hota hai.

Yeahi Different hai ANN se

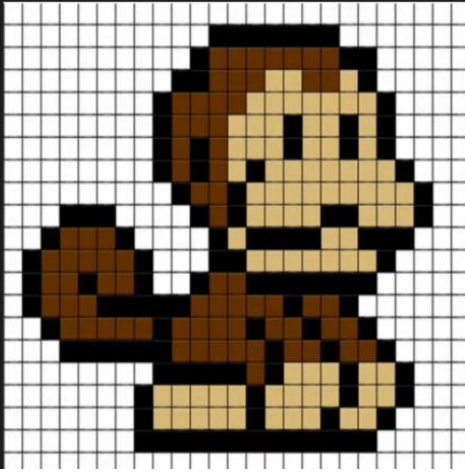
ANN mai we do Matrix Multiplication

&

In CNN we use Convolution Layer.

Why not use ANN?

17 August 2022 06:47



1. High Computation Cost
2. Overfitting
3. Loss of imp info like spatial arrangement of pixels

MNIST \rightarrow ANN \rightarrow 98%

Image is Pixel of 2D Grid

Why not to use ANN for Image Data:

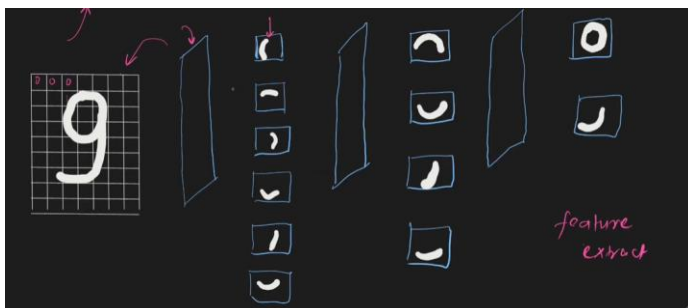
Image ka jaise size badega vaise Weights badenge then

Computation Cost badega !

&

Overfitting.

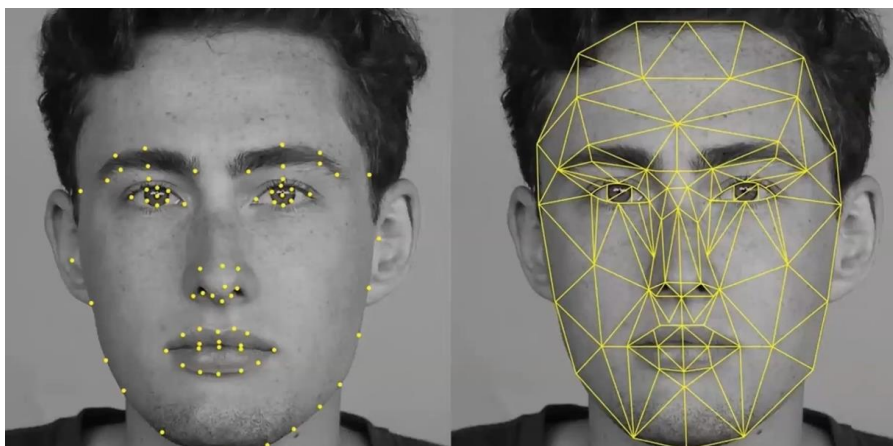
CNN Intuition



Applications



Object Detection



Face Detection & Recognition

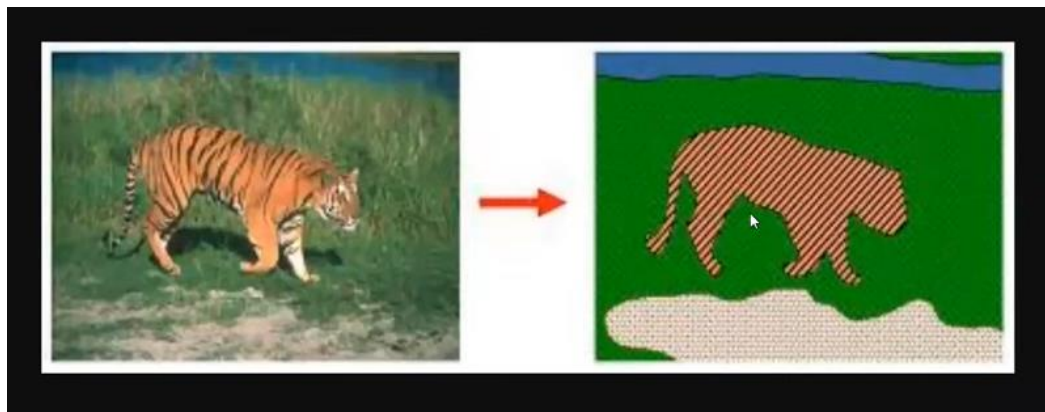
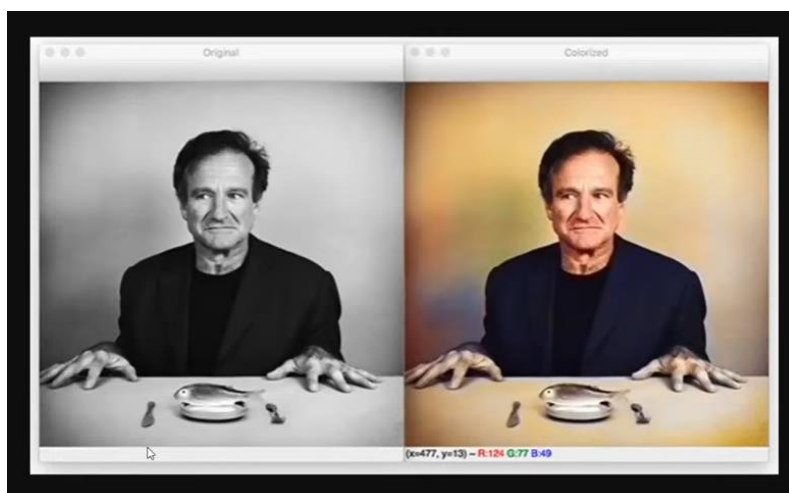


Image Segmentation



Posture Detection

Process:

Convolution:

Padding + stride

Pooling

CNN Arch

CNN vs ANN

Dog vs Cat

Data Augmentation (used when data is less)

Popular CNN Architectures like

LENET,ALEXNET,RESNET, VGGNET , Xception

Transfer Learning

