The **AlexNet** is the pioneer in reviving neural network machinery in large scale classification tasks by transforming the original CNN proposed in “Gradient-based learning applied to document recognition.” By Y. LeCun, L. Bottou, Y. Bengio, and P. Haffner.  
  
In the article “Image classification using Deep Learning”M Manoj Krishna, M Neelima, Harshali Mane, the convolutional neural network is used in **AlexNet** architecture for classification purpose. From the experiments, it was observed that the images are classified correctly even for the portion of the test images and shows the effectiveness of deep learning algorithm.

In “ImageNet Classification with Deep Convolutional Neural Networks” by Alex Krizhevsky, Ilya Sutskever, Geoffrey E. Hinton it is shown that using a huge dataset like **ImageNet** the results shows that a large, deep convolutional neural network is capable of achieving record-breaking results on a highly challenging dataset using purely supervised learning. It is notable that our network’s performance degrades if a single convolutional layer is removed.

In “Deep Learning for Medical Image Processing: Overview, Challenges and Future” by Muhammad Imran Razzak, Saeeda Naz and Ahmad Zaib, for gastrointestinal detection the features from **ImageNet** dataset was learned and then the learned feature vector fed to CNN SoftMax for classification and detection of celiac disease using duodenums endoscopic images

**VGGNet** reinforced the notion of CNN by introducing simpler filters with a longer architecture. Following this trend, ResNet used an exceptional architectural which used a modular concept to construct the network for ImageNet challenge 2016. Although ResNet uses a much deeper architecture than VGGNet-16 and VGGNet-19, the architecture convergences faster with a smaller number of parameter.

# In “Attention-based VGG-16 model for COVID-19 chest X-ray image classification by Chiranjibi Sitaula and Mohammad Belayet Hossain, they proposed a novel deep learning model using attention module on top of VGG-16, called attention-based VGG-16, to classify the COVID-19 CXR images. They evaluated a method on three COVID-19 CXR datasets. The evaluation results indicate that their method is not only efficient in terms of classification accuracy but also training parameters. From this result, it can be concluded that their proposed method is more appropriate for COVID-19 CXR image classification.

# In “Breast Cancer Classification using Capsule Network with Pre-processed Histology Images” by Anupama M A, Sowmya V, Soman K P, classification of Brest cancer is done using CapsNet architecture. The performance of the conventional architectures can be improved by data pre-processing and parameter tuning. Rather than diagnosis, this method can be used as an automated tool to increase cancer rate survival.

The paper “Capsule Network for object detection in UAV Imaginary” by Mohamed Lamine Mekhalfi 1, \*, Mesay Belete Bejiga 1, Davide Soresina 1, Farid Melgani 1 and Begüm Demir, it is presented that a **Capsule Network** (CapsNet) framework for object detection in UAV-acquired images. Unlike usual deep models such as CNNS (which capitalize on the depth aspect and omit the object’s relative position), CapsNet consists of a simple shallow architecture that can detect complex objects under challenging scenarios thanks to the routing by agreement strategy, which enables the spread of objects relative position within an image across several layers. This further lessens the processing overheads with respect to CNNs.  
  
  
M. A. Hasnat, S. M. Habib, and M. Khan in “A high performance domain specific ocr for bangla script”, proposed a domain specific OCR which classify machine printed characters as well as handwritten characters. For feature extraction they apply **Discrete Cosine Transform** (DCT) technique over the input image and for classification **Hidden Markov Model** (HMM) was used.