**MODELS AND TECHNIQUES**

**Convolutional Neural Network:**

CNN is a type of neural network model which allows us to extract higher representations for the image content. Unlike the classical image recognition where you define the image features yourself, CNN takes the image’s raw pixel data, trains the model, then extracts the features automatically for better classification.

**ResNet :**

ResNet is a powerful backbone model that is used very frequently in many computer vision tasks. ResNet uses skip connection to add the output from an earlier layer to a later layer.

**Transfer Learning:**

This method focuses on storing knowledge gained while solving one problem and applies it to a different but related problem. For example, knowledge gained while learning to recognize pneumonia could apply when trying to recognize covid.

**DenseNet:**

DenseNet is one of the new discoveries in neural networks for visual object recognition. DenseNet is actually quite similar to with some fundamental differences. As Previously mentioned ResNet usesan additive method (+) that merges the previous layer (identity) with the future layer, whereas DenseNet concatenates. This method utilizes dense connections between layers, through Dense Blocks, where we connect all layers directly with each other.

**Multi criteria Decision Analysis:**

A Multi-Criteria Analysis (MCA) can be used to identify and compare different policy options by assessing their effects, performance, impacts, and trade-offs. MCA provides a systematic approach for supporting complex decisions according to pre-determined criteria and objectives.