PRIOR KNOWLEDGE

One should have knowledge on the following Concepts:

- **Supervised and Unsupervised learning;**
  - Supervised learning, as the name indicates, has the presence of a supervisor as a teacher. Basically, supervised learning is when we teach or train the machine using data that is well labelled. Which means some data is already tagged with the correct answer.
  - Unsupervised learning is the training of a machine using information that is neither classified nor labelled and allowing the algorithm to act on that information without guidance. Here the task of the machine is to group unsorted information according to similarities, patterns, and differences without any prior training of data.

Video link; https://youtu.be/kE5QZ8G_78c

- **Regression Classification and Clustering:**
  - Regression and Classification are types of supervised learning algorithms while Clustering is a type of unsupervised algorithm. When the output variable is continuous, then it is a regression problem whereas when it contains discrete values, it is a classification problem.

Video link; https://youtu.be/6za9_mh3uTE

- **Artificial Neural Networks:**
  - An ANN is based on a collection of connected units or nodes called artificial neurons, which loosely model the neurons in a biological brain. Each connection, like the synapses in a biological brain, can transmit a signal to other neurons. An artificial neuron receives signals then processes them and can signal neurons connected to it.

Video link; https://youtu.be/DKSZHN7jftI

- **Convolution Neural Networks:**
  - A convolutional neural network (CNN or convnet) is a subset of machine learning. It is one of the various types of artificial neural network which are used for different applications and data types. A CNN is a kind of network architecture for deep learning. algorithms and is specifically used for image recognition and tasks that involve the processing of pixel data

Video link; https://youtu.be/umGJ30-15_A