

# CPE 693 (ANN)

## Topics treated

### 1) Notes on types of machine learning

(Linear regression, decision tree, SVM, K-means, Dimensionality, regression) ← Assignment from last year

### 2) Model of a neuron,

- Benefit of neural networks,
- Artificial neural network, forward and backward propagation, Activation function (THRESHOLD and Sigmoid function), Applications of ANN, Advantages & Disadvantages

### 3) Convolutional Neural Network

- Architecture of convolutional neural network

(Input, KERNEL, Pooling, ReLU (activation function), Padding, disadvantages of CNN.

### 4) Self organisation map (Ksom or SOM),

Steps to SOM,

### 5) Cross Validation, Types of cross validation,

Discussion on training set and test set as regards to ML; Discussion on neural network testing and performance ← Assignment.

6. practice and run code on example of ANN,

Practice and run code on example of CNN.