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| CS321 | Artificial Neural Networks | L | T | P |
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Introduction: Biological Neural Networks, Mathematical Model of Neuron, McCulloch and Pitts Model, Concepts of Threshold and Activation Functions, Typically used Non-linearity, Stability-plasticity dilemma.

ANN Topologies and Learning: Rosenblatt Perceptron, Linear Separation and MLP, Feed-forward and Feed-backward Networks; Delta and Gradient Descent learning rules, Hebbian Learning, Back Propagation learning, Radial basis Function Networks, Associative Memory Paradigms, Hopfield Networks, Recurrent Networks, Self-organizing feature Maps.

Applications: ANN for Pattern Classification, Pattern Matching and Time Series Analysis.

Suggested Readings:

1. L. Fausett et al., Fundamentals of Neural Networks, Pearson.
2. S. Haykin, Neural Networks, Pearson.
3. M. T. Hagan, Neural Network Design, Cengage