Neural Networks

Pattern Matching

Neural Net Theory

* Self-Learning
* Machine Learning
* Changing Conditions

Two Types

Fixed Weight between layers is a fixed value

Adaptive Networks weights are changed to reduce prediction error

Neuron has inputs, Use, Teach, Output

Input Layer - Some value

Hidden Layer - Some activity/process decided by weight of input

Output Layer - Output given by weight from hidden layer to output node

Backpropagation - Search for weights that minimize total error over sets

Forward Pass - One example activated, any error is computed

Backward Pass - Weights given from error are updated. Error propagated backwards layer by layer.

Pattern Memorization

Associative Mapping - Neural Network which produces particular pattern on set of inputs

Regularity Detection - Neural Network which responds to properties of input pattern