

Rosenblatt's Perceptron

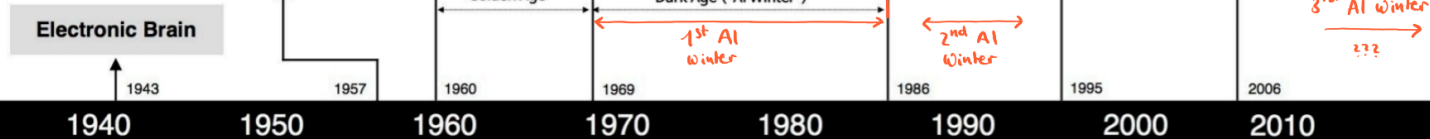
Related to SVMs, learned its own weight values and convergence proof

Various approaches to support backpropagation

showed limitations of single-layer perceptron networks

Technology available at time: didn't allow for usage of artificial neuron in meaningful manner

first artificial neuron



S. McCulloch - W. Pitts



F. Rosenblatt



B. Widrow - M. Hoff



M. Minsky - S. Papert



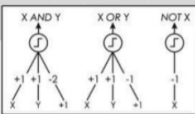
D. Rumelhart - G. Hinton - R. Williams



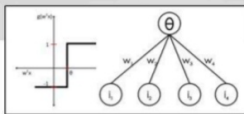
V. Vapnik - C. Cortes



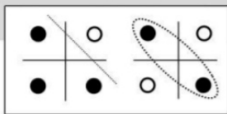
G. Hinton - S. Ruslan



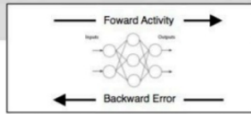
- Adjustable Weights
- Weights are not Learned



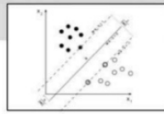
- Learnable Weights and Threshold



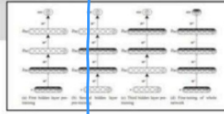
- XOR Problem



- Solution to nonlinearly separable problems
- Big computation, local optima and overfitting



- Limitations of learning prior knowledge
- Kernel function: Human Intervention



- Hierarchical feature Learning

(1) worked better
NN (2) surprising winner