Early Work in the Field of Neural Networks

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ABSTRACT

Fundamental developments in feedforward artificial neural networks from the first thirty years are reviewed. The central theme of this talk is a description of the history, origination, operating characteristics, and basic theory of several supervised neural network training algorithms. These methods were developed independently, but with the perspective of history they can all be related to each other. The concept underlying these algorithms is the "minimal disturbance principle," which suggests that during training it is advisable to inject new information into a network in a manner that disturbs stored information to the smallest extent possible.

Bio: Dr. Bernard Widrow has been a Professor of Electrical Engineering at Stanford for many decades. He has been pioneer in neural networks, adaptive signal processing, and adaptive controls. Dr Widrow is a Member of National Academy of Engineering. He received the IEEE Centennial Medal in 1984, the IEEE Alexander Graham Bell Medal in 1986, the IEEE Signal Processing Society Medal in 1986, the IEEE Neural Networks Pioneer Medal in 1991, IEEE Signal Processing Society Award in 1999, IEEE Millennium Medal in 2000, and Benjamin Franklin Medal in 2001.