World Academy of Science, Engineering and Technology
International Journal of Psychological and Behavioral Sciences
Vol:17, No:11, 2023

Impact of Neuron with Two Dendrites in Heart Behavior

Authors : Kaouther Selmi, Alaeddine Sridi, Mohamed Bouallegue, Kais Bouallegue

Abstract : Neurons are the fundamental units of the brain and the nervous system. The variable structure model of neurons consists of a system of differential equations with various parameters. By optimizing these parameters, we can create a unique model that describes the dynamic behavior of a single neuron. We introduce a neural network based on neurons with multiple dendrites employing an activation function with a variable structure. In this paper, we present a model for heart behavior. Finally, we showcase our successful simulation of the heart's ECG diagram using our Variable Structure Neuron Model (VSMN). This result could provide valuable insights into cardiology.

Keywords : neural networks, neuron, dendrites, heart behavior, ECG
Conference Title : ICCBN 2023 : International Conference on Cognitive and Behavioral Neuroscience
Conference Location : Jeddah, Saudi Arabia
Conference Dates : November 20-21, 2023