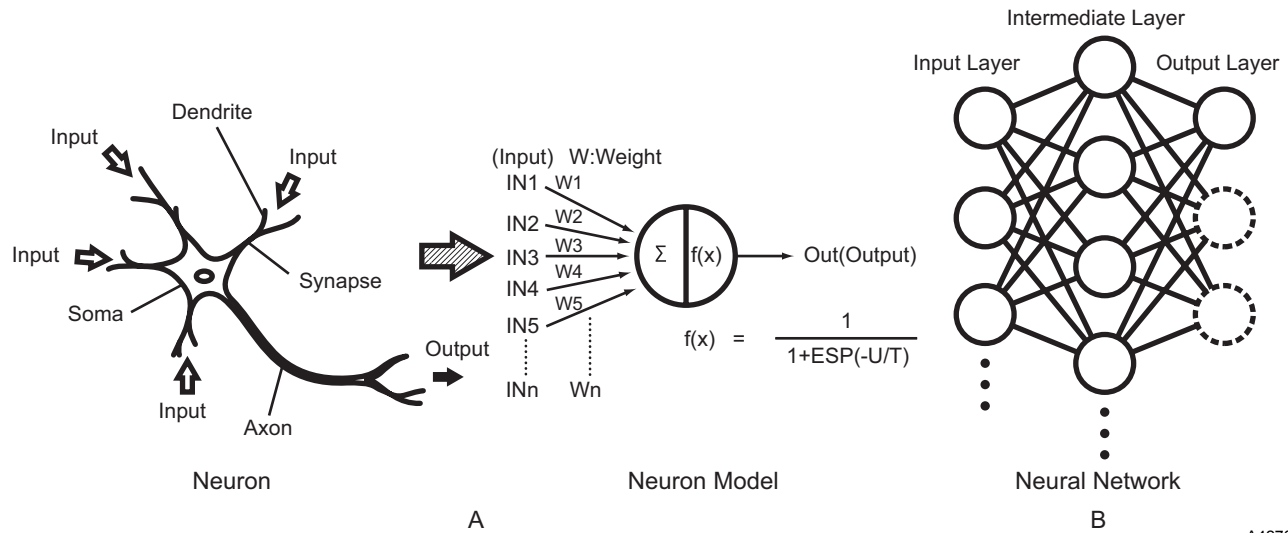


Neural Network

- The conventional auto air conditioner control calculates the required outlet temperature TAO (thermal load) in response to the set temperature. this calculation is performed in accordance with a predetermined formula, based on the temperature data provided by various sensors. Then, the front air conditioner ECU automatically controls the servomotors and the blower motor in response to the calculated TAO (thermal load). Thus, it is able to maintain the temperature in the cabin in a stable manner to ensure the comfort of the occupants. However, even if the TAO (thermal load) remains constant, the sensory perception of each and every occupant can vary significantly, depending on the environmental conditions that surround the occupants. Thus, the conventional auto air conditioner control, which determines all controls in response to the TAO (thermal load) that is calculated through a formula, cannot match all the conditions to the sensory perception of the occupants, which are complex and difficult to render into formulas. For this reason, the neural network is used as a means of effecting more sophisticated control to suit the sensory perception of the occupants. The neural network is an engineering application that imitates the data processing method of the nervous system of a living organism (see Figure A). It transposes the complex relationship between the inputs and outputs of the neural transmission such as the neurons of humans onto neuron models. Multiple models are combined to form a network, which consists of input, intermediate, and output layers (see Fig. B).



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