Artificial Neural Network Technique to Find Optimal Weights in the Network System RICHARD KYUNG, CRG-NJ, BRIAN KWON, Leonia High School — In this paper, to design a network that can predict the output from input data or experimental measurements and hidden layers, an artificial neural network technique was studied. Using a graphical user interface, Neural Network Fitting App and MATLAB programming, an algorithm to minimize the error signal caused by train epoch was employed to perform the research. In this paper, GUI in the MATLAB were used for the test set sensitive AI neural network analysis by introducing training data sets associated with an experiment. Since this data requires a proper statistical method in which the fitting model exactly matches the data, the least squares method was used to minimize the sum of the squares of the deviations between the assumed model and the actual data. After the network has been trained, an artificial neural network was used to compute the network outputs, errors and overall performance. Each time a neural network is trained, a different solution was obtained due to different initial weight values, train epoch and different test sets.

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