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The use of Artificial Neural Network for the Prediction of Particular Subject Marks of Final Examination

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In the competitive world, a student must do the best thing to go ahead, and in a limited time, achieve good results. If someone is weak in a subject and if s/he can predict the final result for the examination before the examination, it is the best solution to win the challenge.

The objective of this research is to predict particular subject marks of final examinations of a student. In this application, after inputs are given, the student can get the result s/he can obtain for the subject in the final examination. Since the output depends on the input details related to examination, such as the number of courses registered, number of assignments done, number of days to final examination, assignment marks and the stress of a student at that moment are variables. Because of difficulty in measuring stress of a student at the exam, we do not consider the stress of the student as a factor of dependence.

Theoretical principles and the use of multilayer neural network training have been directed to predict results. The neural network approach for prediction is based on the type of the learning mechanism applied to generate the output from the network. The learning can be classified as Supervised learning in which the desired response is known to the system, i.e., the system is trained with the priori information available to obtain the desired output. In case of this type of learning, if the computed output does not match the desired output, then the difference between the two is determined which is eventually used to modify the external parameters required to produce the correct output. Back-propagation algorithm in Artificial Neural Network with bias is used in training the neural network until the error will be minimized as less than 0.001, according to the some sort of standards. When the Neural Network is trained, a data set will be encoded into weights and distributed over networks without storing in a particular location. Removing few neurons from a trained network, that is decreasing the inputs will not affect the overall performance of a network and will not handle/maintain a database to store trained data or data which is used to predict results. This research will be on more intelligent applications to predict with more trained data.

At present, there is no such application for predicting the subject marks with minimum error before the examination. So this application will be more useful for students to get high marks knowing a predicted result before the examination.