Abstract

Every semester registration courses, students have difficulty in determining what courses that will be taken to the next semester in order to achieve a satisfactory grade. This problem can be solved by using a model that can predict the courses's score of a student. Artificial Neural Network (ANN) with the ability of learning can be used for predicting the model.

ANN Multi Layer Perceptron (MLP) with backpropagation algorithm is often used in cases with nonlinear output. The Disadvantages of this method is easily occurs overfitting in the training process. The solution is performing the validation process

In addition to solving nonlinear problems, backpropagation ANN-MLP can also provide the output more than one value (multi attribute) which can be used to predict a few courses.

In this final project, 3-fold cross validation model is compared with the ordinary validation model. The result gave a conclusion that for this case, a model with a 3-fold cross validation method gives a good result. RMSE value for single attribute model obtain 0,11955 and 0,78517 for multi attribute model.

Based on the used cases ,the number of network output depends on the predicted *Class*. The process of multi-attribute class prediction gives the accuration value 20,6% and the process of single-attribute class prediction gives the accuration value 69,9%. Therefore, a model with single atribut class is better to be used as a final model for predicting the students objects grade.

Keywords: artificial neural network, attribute, 3-cross fold validation