CLASSIFICATION OF DATA BY USING RADIAL BASIS FUNCTION NEURAL NETWORKS

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ABSTRACT

Radial Basis Function Neural Network (RBFNN) is known as one form of feedforward Neural Network Layer Many (MFNN), which is reliable in solving the function approximation or regression problem and data classification. This thesis study on the technique of data classification with RBFNN architecture and tested in the process of senior high school students' majors.

This research was initiated with a sample data collection form report score tenth grade students and some supporting data for the second semester of the academic year 2005/2006 to 2008/2009 in SMAN 3 Surabaya. Score report card and student questionnaire data were taken as input data because the data were considered to have both represent talent, interests and abilities of students. With the target in the training data is obtained from data majors conducted by the competent (teacher) that is data of students who have classes XI and classified in the majors (Science, Social Studies and Language). Next step, the data is processed so that it can be applied to training and testing RBFNN. As a comparator it also applied to the training and testing other MFNN namely Backpropagation Network (BP). Where both the training and testing are implemented in the form of MATLAB code.

The results from both training and testing are a level of accuracy of each architecture in classification of data. So the results obtained in this study is the result of data classification with RBFNN has a fairly high degree of accuracy compared with BP. Therefore, data classification with RBFNN can be used as an alternative to assist in the school in order to the process of majoris senior high school students.

Key words: Neural Network, Classification, MFNN, RBFNN, BP, Process majors of senior high school students.