Abstract

Data mining is a process of extracting useful information from data sets implicitly contained within the database. Method for extraction of such information is one of classification. The purpose of classification is to analyze the input data and create accurate models for each class based on existing data. Class model is also used to classify the data of other tests. Artificial Neural Network (ANN) is one of the algorithms used to perform classification. The advantages of ANN is a training rule to find the connection weights based on training data in learning (learning) to recognize patterns. Thus, the ANN will be able to recognize patterns with high accuracy if it is doing the learning process and have the optimal architecture. In searching for the optimal architecture of ANN is not easy. So that is needed for the optimization algorithm to obtain an optimal architecture. In this final use Evolution Strategies (ES) which is the evolution-based optimization algorithm. In this thesis used two data sets, namely: data Pima Indians Diabetes and Breast Cancer. The data is divided into three sections into training data, data validation and testing data. With the combination of ANN and ES method can yield an accurate classification system, especially at the time of testing with the fitness function obtained 81.2834% *for Pima Indians Diabetes data and 98.2456% for Breast Cancer data.*

Keywords: Data Mining, Classification, Artificial Neural Networks, Evolution Strategies