ABSTRACT

Weather is an air condition in an area that changes at a certain period of time or relatively very short and has a very important role that can affect daily activities that require to be done in the open. Some areas of work such as agriculture, marine, and weather flight are among the factors that are very supportive, for that it takes very accurate information to know the weather conditions in order to make it easier to predict rain.

In this final task study build a system for digital image-based rain prediction using gray-level co-occurrencematrix (GLCM) feature extraction with backpropagation method. Cloud imagery is taken in Garut area and captured using camera time series so as to get a cloud image per second with two weather conditions, namely cloudy and rainy.

The results of this study can predict the weather condition in a region by using cloud imagery that will produce two weather prediction results between cloudy and rainy. In the rain prediction research using the backpropagation method, it can have an accuracy of 80.00%.

Keywords: *prediction, Backpropagation, weather, Gray-Level Co-occurrence matrix*