

ABSTRACT

Weather is a limited condition of air in the atmosphere at certain times and areas that are uncertain or indeterminate and change. Weather has a relatively narrow time with a short period of time. Weather forecasts in Indonesia are uncertain, this will change the time every week. To estimate and predict the weather and the types of clouds in the region, it requires a high level of weather technology and programming. Then machine learning (ML) is used with the algorithm, namely Logistic Regression (LR) in order to get a fairly good and accurate accuracy result, for the types of clouds that can affect the weather.

This final project research will be based on Himawari-8 data and also cloud data to be able to see cloud patterns to be used as learning material from this rain prediction. In addition to the above, later will also use data from real-time which can be useful as validation of the accuracy of this research. The dataset is NetCDF data that will be used covering approximately 100 data and for validation consisting of 1 Himawari-8 data and also cloud data. Rain prediction uses NetCDF data to predict cloud types using the Logistic Regression (LR) method with a benchmark point of kilometers (KM).

The test has been carried out using the results of cloud data training which produces a plot and an accuracy rate of 40 - 80%. Through a comparison of 100 data, the lowest accuracy values are 30 – 40% and 40 – 80% as the highest accuracy values, with a liblinear LR solver model that produces consistent accuracy values.

Keywords: *Weather Prediction, Satellite Himawari-8, Machine Learning, Cloud Type, Logistic Regression.*