

## ABSTRACT

*Indonesia is a tropical country that has two seasons, there is a dry season and the rainy season. Meteorological or the study of weather and the factors that influence it, and one of the factors studied was precipitation. In daily, we often find rainfall prediction in various mass media. The need for the state of tomorrow's weather is needed to prepare various plans. For the past, estimates of rainfall is very dependent on the season, there is a dry season and the rainy season. But this time, rainfall is difficult to predict, so the necessary model or system that can accurately predict rainfall. Therefore, it is necessary to estimate the occurrence of rain, so that the rainfall is predicted by implementing a fuzzy logic-based reasoning rule.*

*In this final task, it uses data with four variables that affect rain in the form of air temperature, relative humidity, wind speed, and rainfall. The study proposed using fuzzy logic. The Fuzzy method that has been optimized using the Coarse-to-fine Search algorithm is used to predict tomorrow's rainfall. The input parameter that will be used is the weather parameter data from BMKG Klas I Bandung. The results of the study are determining forecasting of the important weather defined is the membership and rule functions used. In this case, accuracy will be used to verify the weather forecast results of potentially rainy case studies.*

*The method to be used is Coarse-to-Fine Search (CFS) and Fuzzy Logic with the Mamdani method. Based on the results of the fuzzy system obtained an accuracy of 82%. The optimal fuzzy parameters are generated from the optimization of the Coarse to Fine Search algorithm from the constraint function generated by each membership function input from the fuzzy system and the number of individuals that have been evaluated with an accuracy of up to 84.1%.*

**Keywords:** *CFS, Fuzzy, Forecast, Weather, Accurate*