## ABSTRACT

*Weather conditions are very important information in human life, knowing the weather conditions in the future will be very helpful in all aspects of many people's activities. Convective clouds are one of the weather conditions that have the potential to cause rain. Where clouds are produced from the convection process of heating solar radiation which can form convective clouds or growing clouds. Convective clouds also often form cumulonimbus clouds whose growth is vertical and eventually produces rain.*

*In this study, the authors designed an expert system to predict convective clouds or growing clouds for early warning of potential rain. Using the parameters of the atmospheric elements of the weather including: water vapor, air temperature altitude of 850 millibars (mb), surface temperature, and wind speed. The author builds an application on the Android operating system with machine processing using the python programming language on a separate server that is connected by the Firebase platform with realtime database features.*

*The method used in this research is the Fuzzy Mamdani method. After analysis and testing, the system can provide information and predictions on the weather conditions of convective cloud growth. The final result of this study produces an accuracy rate of 80%*



*Keywords: Prediction, Cloud Growth, Convective Clouds, Fuzzy Logic, Mamdani.*