

Abstract

The rapid development of technology makes people sometimes forget important things for the body, one of them is health because it greatly affects the results of work and peoples activities, and one of the indicators for a good environment is good air quality index that are safe for people to inhale, The solution with this problem is to create good environment by forecasting the air quality. But in practice in the field, there are still few tools for estimating air quality index in the room, Most of them only know the levels of pollutants. To solve the above problems, this study proposes the development of a system that can provide an estimate of the air quality index in the room for the next few minutes. This research will also provide an analysis related to air quality estimation methods that accurate and precise. The method used in this research is 1. Study literature on air pollution detection, 2. Determination of the ARIMA method and Fuzzy time series chen model, 3. Development prototype, 4. Performance testing and analysis. Expected gasile performance testing indicates that the method used managed to achieve an accuracy above 85% or mean absolute percentage error (MAPE) below 15%.

Keywords: AQI, fuzzy logic, ARIMA, forecast, time series, chen