ABSTRACT

The main problem in modeling air pollution levels is influenced by weather parameters. Therefore, in estimating pollution levels, weather conditions in the area must be considered. The research will integrate weather data and pollution data to model air pollution levels. Attention Layer Network (ALN) is a component in deep learning that gives rise to the concept of attention. Attention Layer has empirically proven to be very effective in modeling sequences, such as languages, so it has become indispensable. This method is suitable for modeling. Therefore, this study will use the ALN method to model air pollution levels using data taken from Internet of Things-based weather stations. The results show that the ALN model is able to predict various environmental parameters with a high level of accuracy. The R^2 value obtained is close to 1, and the RMSE, MAE, and MAPE values are low, indicating minimal prediction error and excellent performance. The implementation of the Attention Layer increases the focus on important features of the input data, which contributes to the improved predictive performance.

Keywords: Weather Station, Attention Layer (ALN), Air Pollution, IoT, Data.