

Abstract

Air temperature is one of the important components of various aspects such as weather or energy consumption, so it is very important that the results of air temperature predictions produce accurate accuracy so that humans can prepare for the needs of the impact of changes in air temperature in various aspects such as weather and energy consumption. In this study, predictions of air temperature in the city of Jakarta, Indonesia will be made using air temperature data per unit hour with a period of January 2020-Desember 2020. The methods used are ARIMA, LSTM, and Prophet. In this study, an application for an air temperature prediction system was also created with the input of air temperature dataset, weight of the training data, what method to use, then tune the hyperparameters of each method. The application that has been created is registered as Intellectual Property Rights at the Ministry of Law and Human Rights with registration number 000313335. The results obtained from the test results show that ARIMA and LSTM achieve better accuracy in predicting test data with a size of 1757 data with not too much difference with their respective values of 96.2% and 96.1% compared to Prophet which produces an accuracy of 81.5%.

Keywords: Prediction, Air Temperature, ARIMA, LSTM, Prophet, Application
