

ABSTRACT

Telkom University Landmark Tower (TULT) has a different height on each floor so that it can affect the temperature and humidity in the building. This can affect students' thermal comfort while at TULT which indirectly affects comfort in teaching and learning activities. Because the temperature and humidity on each floor are different, the authors created a temperature and humidity prediction system using the Support Vector Machine (SVM) method accompanied by the Internet of Things (IoT) so that it is expected to be able to predict temperature and humidity at different heights. The results obtained from the measurement and evaluation show the effectiveness of the SVM method in predicting temperature and humidity. In particular, the SVM model produces a very accurate predictive value with a relatively low error rate. For example, during the training phase, the SVM model achieves a Mean Absolute Error (MAE) of 0.04 for temperature prediction and 0.269 for humidity prediction. At the testing stage, the SVM model shows that MAE gets a slightly higher value, namely 0.107 for temperature and 0.321 for humidity. The MAE value indicates the absolute difference between predicted and actual temperature and humidity measurements. A small Mae value indicates that the SVM model performs well in providing accurate predictions.

Kata Kunci: Support Vector Machine, Internet of Things, Prediction, Temperature and Humidity