

## Abstract

*Air quality is one of the crucial aspects of human life and the environment. The issue of air pollution is on the rise, including in campus environments such as Telkom University. Therefore, there is a need for an air quality monitoring system that can provide accurate and real-time information, as well as predictions about future air quality. This research aims to design and implement an IoT-based air quality monitoring system at Telkom University using the linear regression method to predict future air quality. The research methodology includes literature review, observation, and data collection and analysis through the implementation of an IoT-based air quality monitoring system. Data obtained from sensors installed at various points on the Telkom University campus, such as classrooms and public areas, are processed and analyzed using the linear regression method to predict future air quality. The research findings indicate that the implemented air quality monitoring system can provide accurate and real-time information about air quality at Telkom University and can predict future air quality. This research is expected to benefit campus administrators in improving air quality on the campus and maintaining the health of students and teaching staff.*

***Keywords: Air Quality, Internet of Things, Linear Regression, Monitoring, Sensor, Prediction.***