

AIR QUALITY PREDICTION USING ML

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Abstract

The quality of air is a crucial aspect of public health, and accurate air quality prediction is essential for monitoring and controlling air pollution. In this project, we propose a machine learning-based air quality prediction system that uses historical and real-time data to predict air quality in a specific location. The system uses a combination of feature engineering and machine learning algorithms, such as regression and time-series forecasting, to analyze and predict air quality. The system is designed to be user-friendly and efficient, with an intuitive interface that enables users to access air quality predictions in real-time. The system is trained on a large dataset of historical air quality data and real-time data, including weather data, traffic data, and pollutant emissions data, to accurately predict air quality. The performance of the system is evaluated using various metrics, including root mean square error and coefficient of determination. The results show that the proposed air quality prediction system achieves high accuracy and efficiency in predicting air quality, enabling users to monitor and control air pollution effectively. In conclusion, the proposed air quality prediction system using machine learning algorithms has the potential to revolutionize air quality monitoring and control. The system is accurate, efficient, and user-friendly, making it a valuable tool for public health officials and policymakers. Future research in this field should focus on improving the performance of the system, increasing its accessibility, and exploring its potential for other applications in environmental monitoring and control.