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Air Pollution Hotspot Detection using Machine Learning

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Abstract: The air pollution rates now a days are drastically increasing in all the developed and the developing countries which requires a more portable and cost-effective solution. The proposed system includes the design for monitoring air pollution and creating awareness among the public. The proposed system is installed in a particular locality where there is acute air pollution. The level of each hazardous pollutant is monitored at periodic intervals. The Air Quality Sensor for the observed pollutants is determined and awareness is created among the public through an proposed system which displays the level of each observed pollutant and also the air quality sensor in that particular location. Thus, the quality of air in that area can be understood by the public by viewing the concentration of the gases in both numerical and graphical format. Further this system is to be extended in future by allowing the public to register themselves in an app which pushes weekly or monthly air quality report through a message which reaches the user as a notification that is more comfortable in access. In this proposed system we design and develop a system with the help of an Air Quality Sensor and Arduino controller to detect air pollution and use of a machine learning algorithm to predict whether it is Air Pollution Hotspot or not.

Keywords: Air Pollution; Air Quality Sensor; Air Pollution Hotspot Prediction; Machine Learning & Classification; IoT; Decision Tree Algorithm; Arduino Controller; and Dataset; etc



