

# 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 Index (AQI) for the observed pollutants is determined and awareness is created among the public through an android app which displays the level of each observed pollutant and also the air quality index 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 message which reaches the user as a notification that is more comfortable in access..*

**Keywords:** Hotspot detection, Linear Regression, XML, Android

## REFERENCES

- [1]. Kgotutjo Simon Elvis Phala, Anuj Kumar, and Gerhard P.Hancke, "Air Quality Monitoring System Based on ISO/IEC/IEEE 21451 Standards", IEEE Sensors Journal, Vol. 16, No. 12, June 15, 2016.
- [2]. Khaled Bashir Shaban, Senior Member, IEEE, Abdullah Kadri, Member, IEEE, and Eman Rezk, "Urban Air Pollution Monitoring System", With Forecasting Models, IEEE Sensors Journal, Vol. 16, No. 8, April 15, 2016.
- [3]. Ramagiri Rushikesh and Chandra Mohan Reddy Sivappagari, "Development of IoT based Vehicular Pollution Monitoring System", International Conference on Green Computing and Internet of Things (ICGCIoT), 2015.
- [4]. Dongyun Wang, Chenglong jiang, Yongping Dian, "Design of air quality monitoring system based on internet of things", 10th International Conference on Software, Knowledge, Information Management & Applications (SKIMA), 2016.
- [5]. Akshata Tapashetti and Divya Vegiraju, "IoT-Enabled Air Quality Monitoring Device - A Low-Cost Smart Health Solution", IEEE Global Humanitarian Technology Conference, 2016.
- [6]. Navreetinder Kaur, Rita Mahajan, Deepak Bagai, "Air Quality Monitoring System based on Arduino Microcontroller", International Journal of Innovative Research in Science, Engineering and Technology Vol. 5, Issue 6, June 2016.
- [7]. Marin B. Marinov, Ivan Topalov, Elitsa Gieva and Georgi Nikolov, "Air Quality Monitoring in Urban Environments", 39th International Spring Seminar on Electronics Technology (ISSE), 2016.
- [8]. Santosh G Bhandarakawathe, Prof. S. B. Somani, "A Survey on WiFi Based Air Pollution Monitoring System", International Journal of Innovative Research in Computer and Communication Engineering Vol. 5, Issue 3, March 2017.
- [9]. Ch. V. Saikumar, M. Reji P. C. Kishoreraja, "IOT based Air Quality Monitoring system", International Journal of Pure and Applied Mathematics Volume 117 No. 9 2017, 53-57.
- [10]. Neha R. Rewatkar, Prof. Deepali M. Khatri, "A Review: Cost Effective IOT Based Air Pollution Monitoring and Air Quality Analysis", International Journal on Recent and Innovation Trends in Computing and Communication ISSN: 2321-8169, Volume: 5 Issue: 1, 2017

- [11]. Siva Shankar Chandrasekaran, Sudarshan Muthukumar and Sabeshkumar Rajendran, “Automated Control System for Air Pollution Detection in Vehicles”, 4th International Conference on Intelligent Systems, Modelling and Simulation, 2013