# SMART WASTE MANAGEMENT SYSTEM FOR METROPOLITIAN CITIES

## TEAM ID: PNT2022TMID04391

## LITERATURE SURVEY

| S.NO | PAPER | AUTHOR | YEAR | METHOD AND ALGORITHM/ SOFTWARE | SHORT ABSTRACT | FUTURE WORK |
|---|---|---|---|---|---|---|
| 1. | IoT-Based Smart Waste Bin Monitoring and Municipal Solid Waste Management System for Smart Cities | Tariq Ali, Muhammad Irfan, Abdullah Saeed Alwadie & Adam Glowacz | 2020 | The predictive analytic algorithm namely decision tree and neutral network | The proposed system is capable in the collection of waste effectively, detection of fire in waste material and forecasting of the future waste generation. The IoT-based device performs the controlling and monitoring of the electric bins. These devices are wirelessly connected with the central hub to transmit the information about the bins filling level with the existing location. The significant advantage of the system is to collect waste material on time in order to avoid the overflow of bins that would help in saving the environment from pollution. | To analyze the numerical results in terms of waste-truck route optimization and cost reduction of the system including development and maintenance cost. Available GIS data that can help in improving the efficiency of the IoT base system without using any assumptions. |

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| 2. | Real-time smart garbage bin mechanism for solid waste management in smart cities | Dominic Abugaa, N.SRaghavab | 2021 | Dijkstra's algorithm and Geographical Information System (GIS). | This paper focuses on a real-time smart garbage bin mechanism for solid waste management in smart cities.. The mechanism proposed accesses real-time information of any smart garbage bin deployed across the city and helps to resolve the problem of waste overflow from garbage bins and keep the smart cities clean. | Future work should consider using WSN in the real-time waste collection and management by integrating the GIS maps into the system for precise location identification of the nodes. In addition, the future work may consider applicability of IoT in the implementation of the proposed system. |
| 3. | Optimal Management of Solid Waste in Smart Cities using Internet of Things | Sahar Idwan, Imran Mahmood, Junaid Ahmed Zubairi & Izzeddin Matar | 2019 | multiple trucks routing algorithm (MITRA), Genetic algorithms, single truck routing algorithm (SITRA). | The smart dumpsters are equipped with the sensors that measure levels of waste and a controller to send updates to the central management system using wireless network. Our target is to improve the waste collection process by reducing the congestion on the road, the service time spent and the overall trip length. | The model we initially constructed was enhanced to multiple dimensions in this article which allowed us to apply it to large metropolitan areas. |
| 4. | A review of | A.A.I. Shah1 | 2020 | Definition of | Through smart cities, | Additionally, |

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| | IoT-based smart waste level monitoring system for smart cities | S.S.M. Fauzi2, R.A.J.M. Gining3,T.R.R azak4, M.N.F.Jamalu ddin5, R. Maskat6 | | research questions, searching for relevant papers, screening papers, keywording of abstracts, and data extraction and mapping. | necessary modern facilities using ICT emerging technologies such as the internet of things (IoT) had been installed to ensure the sustainability of the city. In the perspective of waste management, several different IoT-based solutions also had been proposed as an alternative to monitor and to ensure the health of communities. This paper reviews existing IoT-based solutions in smart cites' waste level management system to bring together the state-of-the-art. | to enhance the efficiency of a smart waste level monitoring system, a monitoring system should be made available as well so that it can benefit analysts greatly as they will have the amount of data available to be analysed that will lead to better decision making in the future. |
| 5. | Internet-of-Things-Based Smart Cities: Recent Advances and Challenges | Yasir Mehmood (ym@comnet s.uni-bremen.de) received his Master's in electrical (telecommuni cations) engineering from the Military College of Signals | 2017 | building IoT platforms, application softwares, and service-related offerings. | The appealing IoT services and big data analytics are enabling smart city initiatives all over the world. These services are transforming cities by improving infrastructure and transportation systems, reducing traffic congestion, providing waste management, and improving the quality of human life. In this | we unearth several IoT-related open research challenges to give future directions. It was launched by the European Commission, and aims to develop the core future technologies in |

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|      |       | (MCS), National University of Science and Technology (NUST) Islamabad, Pakistan |      |      | article, we devise a taxonomy to best bring forth a generic overview of the IoT paradigm for smart cities, integrated ICT, network types, possible opportunities and major requirements. | the IoT paradigm. |