# ABSTRACT

Waste has become a major worry for all of us due to the global population growth and industrialization of nations. Over the years, academics came to the conclusion that, in this age of globalization, waste management alone is insufficient for the efficient treatment and disposal of garbage. Researchers have developed IoT based Smart Waste Management initiatives and solutions with the aid of technology, ensuring that the time and energy needed to deliver waste management services and lower the amount of waste generated is minimized. Unfortunately, a number of variables, including the socioeconomic context, prevent developing countries from implementing those current solutions. In order to assure effective household garbage disposal, collection, transportation, and recycling while using the fewest resources possible, we have focused our research on designing a smart Internet of Things-based waste management system for developing nations like INDIA. In this project, a novel approach to smart trash management is presented, which significantly reduces the expense of keeping the city's environment clean. This method uses a sensor model to identify, quantify, and send data on trash volume across the internet of things. Regression, classification, and graph theory are used to process the acquired data, which includes the serial number and geographic location of the trash cans. A new approach is suggested to manage waste collection dynamically and effectively by forecasting waste status, classifying trash bin locations, and keeping track of waste production. Then, this latter suggests route optimization to effectively handle the garbage truck.