

RSSI and Machine Learning-Based Localization System for Smart Cities: A Short Review

RMMR Rathnayake#, MWP Maduranga

*Department of Computer Engineering, Faculty of Computing, General Sir John Kotelawala
Defence University, Sri Lanka*

Abstract. The Internet of Things (IoT) is being widely used to reduce costs and enhance performance across a variety of application areas. Localization-based services are also included in these varieties of applications. When a sensor node is localized, it can be identified by its geographical location within an IoT network. Most localization mechanisms use a Received Signal Strength Indicator (RSSI), which measures the strength of the received signal from the sensor nodes, along with supervised Machine Learning (ML) algorithms. Location-enabled Internet of things (IoT) has attracted a lot of attention in scientific and business communities because of its importance in agriculture, wildlife management, and infectious disease control. It is important that location information be accurate and frequent for these applications to be successful. This paper consists of a review of RSSI and Machine learning Based Localization Systems. It focuses on four main IoT application domains: smart cities, smart transportation, smart healthcare, and smart manufacturing. It demonstrates the technologies, as well as the important factors influencing the current systems.

Keywords: *Localization, Smart Cities, RSSI, Machine Learning*