

Advancements in Embedded Systems and IoT for Automatic Heavy and Light Vehicle Parking: A Comprehensive Review

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Abstract: This research paper comprehensively reviews automatic heavy and light vehicle parking systems, focusing on technological advancements in Embedded Systems and the Internet of Things (IoT). The escalating challenges in urban parking demand innovative solutions, and this paper assesses various literature surveys to explore the efficacy of these technologies in addressing the unique requirements of heavy and light vehicle parking. The investigation scrutinizes embedded systems as a foundational element, examining their hardware and software integration to develop automated parking solutions. Additionally, the study explores the role of IoT in enhancing parking efficiency, leveraging sensors and communication technologies for real-time data acquisition and intelligent decision-making. Through an analysis of diverse literature surveys, this paper elucidates the strengths and limitations of different technological approaches, providing a comprehensive understanding of the state-of-the-art in automatic heavy and light vehicle parking. The synthesized insights are valuable for researchers, practitioners, and policymakers seeking to implement effective and scalable parking solutions in urban environments.

Keywords: Smart Parking System, Embedded System, IoT, Arduino, IoT

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