

# The Role of Machine Learning and the Internet of Things in Smart Buildings for Energy Efficiency- A Review Paper

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**Abstract:** Machine learning can be used to automate a wide range of tasks. Smart buildings, which use the Internet of Things (IoT) to connect building operations, enable activities, such as monitoring temperature, safety, and maintenance, for easier controlling via mobile devices and computers. Smart buildings are becoming core aspects in larger system integrations as the IoT is becoming increasingly widespread. The IoT plays an important role in smart buildings and provides facilities that improve human security by using effective technology-based life-saving strategies. This review highlights the role of IoT devices in smart buildings. The IoT devices platform and its components are highlighted in this review. Furthermore, this review provides security challenges regarding IoT and smart buildings. The main factors pertaining to smart buildings are described and the different methods of machine learning in combination with IoT technologies are also described to improve the effectiveness of smart buildings to make them energy efficient.

**Keywords:** machine learning; Internet of Things; smart buildings; challenges in smart buildings; IoT applications