Internet of Things (IOT) in home automation

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ABSTRACT

The Internet of Things (IoT) in Home Automation has emerged as an area of research and development due to its potential to revolutionize the way home systems are managed and operated. The integration of smart devices and sensors connected to the internet allows for remote monitoring and control of various aspects of the home environment, such as temperature, lighting, security, and appliances. The objectives of this study are to investigate the applications of IoT in home automation, evaluate its benefits and challenges, and propose future directions for research and development in this area. The methodology employed involved a comprehensive literature review, including scientific articles and books, in order to gather relevant information on the topic. The results indicate that IoT in automation can be applicable in areas such as temperature control, smart lighting, security monitoring, and appliance management. Several advantages are offered, such as greater convenience, energy efficiency, safety, and accessibility. However, some challenges remain, including concerns about data privacy and security, interoperability between devices from different manufacturers, and implementation costs. Integrating open standards and adopting robust security protocols are essential to mitigate these challenges. In conclusion, IoT in home automation has the potential to radically transform the way we interact with our home spaces, providing greater comfort, convenience, and efficiency. However, significant challenges need to be addressed to ensure a successful and secure implementation of these technologies. Future work in this area should focus on overcoming these challenges by fostering innovation and widespread adoption of IoT in home automation.

Keywords: Automation, IOT, Residence.

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