

عنوان مقاله:

Enabling Technologies and Sustainable Smart Cities

محل انتشار:

ششمین همایش ملی افق های نوین در مهندسی عمران ، معماری و شهرسازی (سال: 1400)

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خلاصه مقاله:

The technological interventions in everyday processes has led to the rise of Smart ecosystems where all aspects of everyday life like governance, transportation, agriculture, logistics, maintenance, education and healthcare are automated in some way or the other and can be controlled, managed and accessed remotely with the help of smart devices. This has led to the concept of Smart cities where Information Communication and Technology (ICT) is merged with the existing traditional infrastructure of a city which is then coordinated and managed using digital technology. This idea of smart cities is slowly but surely coming into reality as many countries around the globe are adopting this idea and coming up with their own model of smart cities. At the core of smart city lies the sensors and actuators embedded in the smart devices that sense the environment for facilitating effective decision making. The microcontrollers available in these devices are programmed to take decisions automatically based on the information received from the sensors. This involves integration of several information and communication technologies like artificial intelligence, protocols, Internet of things (IoT), wireless sensor network (WSN) etc. This paper discusses and extensively reviews the role of enabling technologies in smart cities. The paper further highlights the challenges and limitations in the development of smart cities along with the mitigation strategies. Specifically, three categories of challenges are identified namely technical, socio-economic and environmental giving specifics of each category. Finally, some of the best practices for attaining sustainable smart cities are provided.

کلمات کلیدی:

Block chain, IoT, Enabling Technologies, WSN, Smart Cities, ICT

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