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A NOVEL AND EFFICIENT TECHNIQUE OF COMMUNICATION IN IOTS USING AUTOENCODERS

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ABSTRACT

In the today's fast growing scenario, sensors and communication capabilities have been added into many traditional devices, controllers, and infrastructures so that systems can make informed and smart decisions. It involves flow of lot of personal and sensitive data through the network.

The Internet of Things (IoT) is the network of physical objects embedded with electronics, software, sensors, and network connectivity, which enables these objects to collect and exchange data that will help in taking smart decisions. Issue with these many IoT devices is network bandwidth utilization and energy cost. One strategy is to provide key based encryption for transmitted data and then increase communication efficiency using compression techniques in order reduce both network and bandwidth utilization. Common techniques for both approaches are compute intensive and not much suited for low power IoT devices. We propose use of deep learning network consisting of stacked autoencoders for increasing communication efficiency. Our method provides unified approach for both compression and encryption for IoT devices with the simplicity suitable for low power devices.

KEYWORDS: IoT, Autoencoder, Encoder, Decoder, Configuration File