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(57) Abstract :
The present invention discloses a method and system for secure data transmission in an IoT network utilizing homomorphic encryption. The system comprises multiple devices equipped with homomorphic encryption modules, enabling the encryption and decryption of data. The encrypted data is then transmitted across the IoT network. Homomorphic encryption is a cryptographic technique that allows computations to be conducted on encrypted data without the need for decryption. In the IoT context, this means that data collected by IoT devices can be encrypted using homomorphic encryption and transmitted to a central server. The server can perform various operations on the encrypted data, such as data analysis or controlling IoT hardware, without the necessity to decrypt the data first. This approach ensures the security and confidentiality of the transmitted data throughout its journey within the IoT system.

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