

Intrusion Detection System for Internet of Medical Things

The widespread deployment of Internet of Medical Things (IoMTs) after the COVID 19 and the shortage of healthcare professionals, resulted from the drastic need of remote monitoring of patients. However, the use of IoMT opens widely the door for cyberattacks and illegal access to private medical data as they are prone to several type of security attacks with their constrained resources and limited processing power.

To address these problems, this work aims to provide a secure transmission of medical data in IoMT and to propose an intrusion detection system based on Machine Learning (ML) that uses network features and biometric parameters to distinguish normal traffic from attack traffic. We also want to investigate the impact of cryptography at the accuracy of ML algorithms to distinguish normal from attack traffic.

The objective is to achieve the following tasks:

1. Security of communications in IoMT.
2. Distributed learning and Deep Learning from encrypted traffic.
3. Intrusion detection system that uses both flow metrics and biometric features to detect attack.
4. Prevention of attacks by providing a robust and secure solution.
5. Testbed using medical sensors and diffusion of collected dataset.

References

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