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Secure IoT using Cloud

Abstract

In an IoT system the level of risking our data depends on to which extent we consume the service provided by that system. Putting trust in a system, where the serving entity and served entity is often unknown is a hard decision. Furthermore, interoperability and scalability of billions of heterogeneous devices in an IoT system requires special attention. ARCA-IoT is a system which identifies the attributes essential for trust and also presents a user-centric model that is robust enough to tackle the attacks made by dishonest entities to manipulate the trustworthiness. For scalability and interoperability, a cloud-assisted environment is introduced in the ARCA-IoT. An intuitive Naive Bayes approach is used to train the ARCA-IoT in a way that it calculates the probabilities of the trustworthiness of the entities and then identifies various types of attacks with the support of three proposed algorithms.