

Autonomous IoT System Security Capability: Pushing IoT Security to the Edge

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Abstract: *Complex systems of IoT devices (SIoTD) are systems that have a single purpose but consist of multiple IoT devices. These systems are becoming ubiquitous, have complex security requirements, and face a diverse and ever-changing array of cyber threats. Privacy and bandwidth issues will prevent all data from these systems from being sent to a central location, so these systems cannot completely rely on a centralized cloud service for their security. The security of these systems must be provided locally and autonomously. In this paper, we describe the capability to address this problem, explain the system specifications, present our work to enable SIoTD, and show initial results of a novel edge-based machine learning application to build this capability.*

Keywords: IoT, Machine Learning, Assured Autonomy, Edge, Security

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