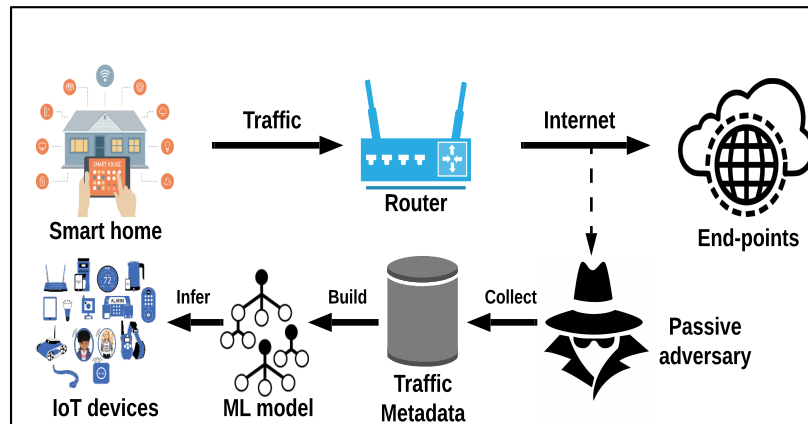


CRII: SaTC: Analyzing Information Leak in Smart Homes

Challenges:

- Fingerprint Internet of Things (IoT) devices from encrypted traffic. Also, infer device-specific activities.
- Identify the data sharing practices of IoT devices.
- Understand people's perceptions and concerns regarding emerging IoT ecosystems.

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UNIVERSITY**



Data collection setup. This grant supported the establishment of an IoT Lab at NCSU which will further facilitate future work on enhancing data transparency for emerging IoT ecosystems.

Solution:

- Develop a testbed to automatically collect data from IoT devices.
- Identified network-level features that are robust in identifying device type and device activities.

Award # 1849997
North Carolina State University
PI: Anupam Das

Scientific Impact:

- Detecting device type and activities can help with: 1) anomaly detection; 2) network resource allocation.
- Better transparency into IoT devices' data sharing practices.
- Understanding people's mental model and perception of how emerging IoT ecosystems work can help develop usable technologies.

Broader Impact and Broader Participation:

- Participated in FTC's PrivacyCon seminar.
- Interacting with the Amazon Alexa team.
- Two K-12 students analyzed the IoT dataset to create a data virtualization tool.
- 3 undergraduate and 2 PhD students were supported by this project.