



Rochester Joint Chapter of the IEEE Computer and Computational Intelligence Societies



Rochester, New York

and

RIT's Computer Science Colloquium & Global Cybersecurity Institute Colloquium

present

Protecting Vehicular Over-the-air Software Updates From Nation-state Actors

by

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Date: Monday, November 25, 2019

Time: 11:00 a.m. to 12:15 p.m. --- 11:00 - Presentation, 12:00 - pizza

Location: RIT Campus, Golisano Hall - Bldg 70 (GOL), Room 2455

Computer Society announcements and venue information:

<http://ewh.ieee.org/r1/rochester/computer>

Cost: Free. Open to IEEE members and non-members.

IEEE Event Feed: <https://events.vtools.ieee.org/m/210522>

Cosponsor: RIT's Computer Science Colloquium -- <https://www.cs.rit.edu/colloquium-series>

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Abstract

This talk describes Uptane, the first compromise-resilient security system for over-the-air updates for the computerized units of automobiles. Uptane can thwart attacks from malicious actors who can compromise servers and networks at the manufacturing level. Hence, it is designed to be resilient even to the best efforts of nation state attackers. Uptane is integrated into Automotive Grade Linux, an open source system currently used by many large OEMs, and has also been adopted by a number of U.S. and international manufacturers. Within the next few years, more than one-third of new cars on U.S. roads will include Uptane. Uptane is also an IEEE/ISTO standard and is currently hosted by the Joint Development Foundation of the Linux Foundation. The Uptane Standards document is freely available and can be accessed free of charge. Other materials, including technical papers, security audits, and a public reference implementation are also freely available for all to use.

Speaker's Biography

Justin Cappos is an associate professor in the Computer Science and Engineering department at New York University. Justin's research focuses on practical systems security research advances that can be used in production.

His research advances are adopted into production use by Docker, git, Google, Python, VMware, automobiles, Cloudflare, Microsoft, Digital Ocean, and most Linux distributions. Due to the practical impact of his work, Justin was named to Popular Science's Brilliant 10 list in 2013.

His website is at: <https://engineering.nyu.edu/faculty/justin-cappos>

