

PERSONAL DATA



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EDUCATION

Ph.D. Degree	2019	University of California, Irvine
Master Degree	2015	University of California, Irvine
Bachelor Degree	2013	University of Michigan -- Ann Arbor

RESEARCH INTERESTS

Embedded Systems Security



Formal Verification



Network Security



Applied Cryptography



Binary Analysis



RESEARCH PROJECTS

Present:

- 1) Embedded Systems and IoT Security
- 2) Legacy Cryptographic Binaries

Past:

- [1\) Attacks on Intellectual Property Rights](#)
- [2\) Android-based Free Web Proxy discovery](#)

TEACHING

- Object-oriented Programming, 2020-2021
- Information Technology for International Organization, 2021
- Computer Security, 2020
- Computer: The Internet & Society, 2020

INTERNATIONAL JOURNAL ARTICLES


Ivan De Oliveira Nunes, Sashidhar Jakkamsetti, Norrathep Rattanavipanon, and Gene Tsudik, [Towards remotely verifiable software integrity in resource-constrained IoT devices](#), IEEE Communications Magazine, Volume 62, Issue 7, 2024.

 7/2024

Norrathep Rattanavipanon, Donlapark Ponnoprat, Hideya Ochiai, Kuljaree Tantayakul, Touchai Angchuan, and Sinchai Kamolphiwong, [Detecting Anomalous LAN Activities under Differential Privacy](#), Hindawi Security and Communication Networks, 2022.

 4/2022

N. Asokan, Thomas Nyman, *Norrathep Rattanavipanon*, Ahmad-Reza Sadeghi, and Gene Tsudik, [ASSURED: Architecture for Secure Software Update of Realistic Embedded Devices](#), IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (TCAD), Volume 37, Issue 11, 2018.

 11/2018

Xavier Carpent, Norrathep Rattanavipanon, and Gene Tsudik. [Remote Attestation via Self-Measurement](#), ACM Transactions on Design Automation of Electronic Systems (TODAES), Volume 24, Issue 1, 2018.


 1/2018

INTERNATIONAL PROCEEDINGS

Adam Caulfield, Norrathep Rattanavipanon, and Ivan De Oliveira Nunes, [ASAP: Reconciling Asynchronous Real-Time Operations and Proofs of Execution in Simple Embedded Systems](#), DAC, 2022.

 7/2022

Nattawat Songsom, Warodom Werapun, Jakapan Suaboot, and Norrathep Rattanavipanon, [The SWC-based Security Analysis Tool for Smart Contract Vulnerability Detection](#), INCIT, 2022.

 10/2022

Norrathep Rattanavipanon, Donlapark Ponnoprat, Hideya Ochiai, Kuljaree Tantayakul, Touchai Angchuan, and Sinchai Kamolphiwong, [Releasing ARP Data with Differential Privacy Guarantees For LAN Anomaly Detection](#), ECTI-CON 2021.

📅 5/2021

Ivan De Oliveira Nunes, Sashidhar Jakkamsetti, Norrathep Rattanavipanon, and Gene Tsudik, [On the TOCTOU Problem in Remote Attestation](#), CCS, 2021.

📅 11/2021

Ivan De Oliveira Nunes, Karim Eldefrawy, *Norrathep Rattanavipanon*, and Gene Tsudik, [APEX: A Verified Architecture for Proofs of Execution on Remote Devices Under Full Software Compromise](#), USENIX Security, 2020.

📅 8/2020

Karim Eldefrawy, Michael Locasto, *Norrathep Rattanavipanon*, and Hassen Saidi, [Towards Automated Augmentation and Instrumentation of Legacy Cryptographic Executables](#), Applied Cryptography and Network Security (ACNS), 2020.

📅 10/2020

Ivan De Oliveira Nunes, Karim Eldefrawy, *Norrathep Rattanavipanon*, and Gene Tsudik, [PURE: Using Verified Remote Attestation to Obtain Proofs of Update, Reset and Erasure in Low-End Embedded Systems](#), IEEE/ACM ICCAD, 2019.

📅 10/2019

Ivan De Oliveira Nunes, Karim Eldefrawy, *Norrathep Rattanavipanon*, Michael Steiner, and Gene Tsudik, [VRASED: A Verified Hardware/Software Co-Design for Remote Attestation](#), in *USENIX Security*, 2019.

📅 8/2019

Ivan De Oliveira Nunes, Ghada Dessouky, Ahmad Ibrahim, *Norrathep Rattanavipanon*, Ahmad-Reza Sadeghi and Gene Tsudik, [Towards Systematic Design of Collective Remote Attestation Protocols](#) IEEE ICDCS, 2019.

📅 6/2019

N. Asokan, Thomas Nyman, *Norrathep Rattanavipanon*, Ahmad-Reza Sadeghi, and Gene Tsudik, [ASSURED: Architecture for Secure Software Update of Realistic Embedded Devices](#), EMSOFT, 2018.

📅 8/2018

Xavier Carpent, Karim Eldefrawy, *Norrathep Rattanavipanon*, Ahmad-Reza Sadeghi, and Gene Tsudik, [Invited: Reconciling Remote Attestation and Safety-Critical Operation on Simple IoT Devices](#), DAC, 2018.

📅 8/2018

Xavier Carpent, Karim Eldefrawy, *Norrathep Rattanavipanon*, and Gene Tsudik, [Temporal Consistency of Integrity-Ensuring Computations and Applications to Embedded Systems Security](#), ACM ASIACCS, 2018.

📅 5/2018

Xavier Carpent, *Norrathep Rattanavipanon*, and Gene Tsudik, [Remote Attestation of IoT Devices via SMARM: Shuffled Measurements Against Roving Malware](#), IEEE HOST, 2018.

📅 4/2018

Xavier Carpent, *Norrathep Rattanavipanon*, and Gene Tsudik, [ERASMUS: Efficient Remote Attestation via Self-Measurement for Unattended Settings](#), DATE, 2018.

📅 4/2018

Karim ElDefrawy, *Norrathep Rattanavipanon* and Gene Tsudik, [HYDRA: HYbrid Design for Remote Attestation \(Using a Formally Verified Microkernel\)](#), ACM WISEC 2017.

📅 10/2017

Xavier Carpent, Karim ElDefrawy, *Norrathep Rattanavipanon*, and Gene Tsudik, [Lightweight Swarm Attestation: A Tale of Two LISAs](#), ACM ASIACCS, 2017.

📅 4/2017

RESEARCH GRANTS

Securing Remote Attestation Against Time-of-Check Time-of-Use (TOCTOU) Attacks in Embedded/IoT Devices (การป้องกันปัญหา TOCTOU ในระบบการยืนยันระยะไกลของอุปกรณ์ฝังตัว)

: 250,000 baht funded by Young Research Grant (ทุนนักวิจัยใหม่ ว.ท.), 2021

📅 2021

Scan Me !! CV Online



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