

Zhenyu Ning

RESEARCH ASSISTANT PROFESSOR

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Research Interest

My Research interests are in different areas of security and privacy, including system security, mobile security, IoT security, transportation security, trusted execution environments, hardware-assisted security, transparent malware analysis, etc.

Education

Wayne State University

MI, USA

PH.D. IN COMPUTER SCIENCE

Aug. 2015 - Apr. 2020

Tongji University

Shanghai, China

M.S. IN COMPUTER SCIENCE

Aug. 2008 - Apr. 2011

Tongji University

Shanghai, China

B.S. IN COMPUTER SCIENCE

Aug. 2004 - Jun. 2008

Publications

[DSN'20] KShot: Live Kernel Patching with SMM and SGX

LEI ZHOU, FENGWEI ZHANG, JINGHUI LIAO, **ZHENYU NING**, JIDONG XIAO, KEVIN LEACH, WESTLEY WEIMER, AND GUOJUN WANG

To Appear in the 50th Annual IEEE/IFIP International Conference on Dependable Systems and Networks (DSN'20), Valencia, Spain, 2020.

[JCDR'19] A Study of Using TEE on Edge Computing (基于边缘计算的可信执行环境研究)

ZHENYU NING, FENGWEI ZHANG AND WEISONG SHI

In Journal of Computer Research and Development (计算机研究与发展), Vol.56, No.7, pp.1441-1453, 2019.

[DIMVA'19] Understanding the Security of Traffic Signal Infrastructure

ZHENYU NING, FENGWEI ZHANG, AND STEPHEN REMIAS

In Proceedings of the 16th Conference on Detection of Intrusions and Malware & Vulnerability Assessment, Gothenburg, Sweden, 2019.

[S&P'19] Understanding the Security of ARM Debugging Features

ZHENYU NING AND FENGWEI ZHANG

In Proceedings of the 40th IEEE Symposium on Security & Privacy, San Francisco, California, May, 2019.

[TIFS'18] Hardware-assisted Transparent Tracing and Debugging on ARM

ZHENYU NING AND FENGWEI ZHANG

In IEEE Transactions on Information Forensics & Security, Vol.14, No.6, pp.1595-1609, 2018.

[EdgeSP'18] Preliminary Study of Trusted Execution Environments on Heterogeneous Edge Platforms

ZHENYU NING, JINGHUI LIAO, FENGWEI ZHANG, AND WEISONG SHI

In Proceedings of the 1st ACM/IEEE Workshop on Security and Privacy in Edge Computing, in conjunction with the 3rd ACM/IEEE Symposium on Edge Computing (SEC'18), Bellevue, Washington, October, 2018.

[DSN'18] DexLego: Reassembleable Bytecode Extraction for Aiding Static Analysis

ZHENYU NING AND FENGWEI ZHANG

In Proceedings of the 48th IEEE/IFIP International Conference on Dependable Systems and Networks, Luxembourg, June, 2018.

[Security'17] Ninja: Towards Transparent Tracing and Debugging on ARM

ZHENYU NING AND FENGWEI ZHANG

In Proceedings of the 26th USENIX Security Symposium, Vancouver, BC, Canada, August, 2017.

[HASP'17] Position Paper: Challenges Towards Securing Hardware-assisted Execution Environments

ZHENYU NING, FENGWEI ZHANG, WEISONG SHI, AND LARRY SHI

In Proceedings of the Hardware and Architectural Support for Security and Privacy, In conjunction with the 44th International Symposium on Computer Architecture (ISCA), Toronto, ON, Canada, June, 2017.

Talks

SecLabel: Enhancing RISC-V Platform Security with Labelled Architecture

ZHENYU NING, YINQIAN ZHANG, AND FENGWEI ZHANG

In China RISC-V Forum (CRVF), Shenzhen, China, November, 2019.

Nailgun: Breaking the Privilege Isolation on ARM

ZHENYU NING AND FENGWEI ZHANG

In Mobile Security Conference (MOSEC), Shanghai, China, May, 2019.

Transparent Malware Debugging on x86 and ARM

ZHENYU NING AND FENGWEI ZHANG

In DEFCON China, Beijing, China, May, 2018.

Posters

Poster: SecLabel: Enhancing RISC-V Platform Security with Labelled Architecture

ZHENYU NING, YINQIAN ZHANG, AND FENGWEI ZHANG

In China RISC-V Forum (CRVF), Shenzhen, China, November, 2019.

Poster: Enhancing ARM Platform Security with Hardware Tags

ZHENYU NING AND FENGWEI ZHANG

In the 40th IEEE Symposium on Security & Privacy, San Francisco, California, May, 2019.

Poster: Revealing True Behavior via Instruction-level Extraction and Reassembling on Android

ZHENYU NING AND FENGWEI ZHANG

In the IEEE Southeastern Michigan 2016 Spring Conference, Livonia, MI, April, 2016.

Teaching Experience

CSC 4111 Laboratory for Software Engineering, *Instructor*

DEPARTMENT OF COMPUTER SCIENCE, WAYNE STATE UNIVERSITY, FALL 2017.

CSC 4110 Software Engineering, *Teaching Assistant*

DEPARTMENT OF COMPUTER SCIENCE, WAYNE STATE UNIVERSITY, FALL 2017.

Employment History

Research Assistant Professor

SOUTHERN UNIVERSITY OF SCIENCE AND TECHNOLOGY

Shenzhen, China

Jun 2020 - present

Graduated Research or Teaching Assistant

WAYNE STATE UNIVERSITY

MI, USA

Aug 2015 - May 2020

Senior Software Engineer

BOLOME ELECTRONIC COMMERCE

Shanghai, China

May 2015 - Jul 2015

Senior Software Engineer

CHINA UNIONPAY

Shanghai, China

Sep 2012 - Apr 2015

Assistant Software Engineer

HUAWEI TECHNOLOGIES

Shanghai, China

Apr 2011 - Sep 2012

Professional Services

Program Committee

ACM Cloud Computing Security Workshop (CCSW): 2020

Artifact Committee

Annual Computer Security Applications Conference (ACSAC): 2019

External Reviewer

ACM Conference on Computer and Communications Security (CCS): 2017, 2018, 2019

Annual Computer Security Applications Conference (ACSAC): 2017, 2018, 2019

European Workshop on Systems Security (EuroSec): 2018, 2019

EAI International Conference on Security and Privacy in Communication Networks (SecureComm): 2019

Reviewer

Computers & Security: 2020

PLOS ONE: 2019

IEEE Letters of the Computer Society (LOCS): 2018

Awards

- 2019 **Faculty Competitive for Graduate Research Assistantships Award**, Wayne State University
- 2019 **Student Travel Grant**, IEEE S&P
- 2018 **Student Travel Grant**, IEEE/IFIP DSN