### **Proceedings**

#### 2025

# Network and Distributed System Security Symposium



#### **Proceedings**

#### 2025

# Network and Distributed System Security Symposium

February 24 – February 28, 2025

San Diego, CA, USA

Hosted by the Internet Society



Internet Society

Internet Society 11710 Plaza America Drive Suite 400 Reston, VA 20190

Copyright © 2025 by the Internet Society.

All rights reserved.

This volume is published as a collective work. The Internet Society owns the copyright for this publication and the copyrights to the individual papers are retained by their respective author[s].

Address your correspondence to: NDSS Program Manager, Internet Society, 11710 Plaza America Drive, Suite 400, Reston, VA 20190 USA, tel. +1 703 439 2120, fax +1 703 326 9881, ndss@elists.isoc.org.

The papers included here comprise the proceedings of the meeting mentioned on the cover and title page. They reflect the authors' opinions and, in the interest of timely dissemination, are published as presented and without change. Their inclusion in this publication does not necessarily constitute endorsement by the editors or the Internet Society.

ISBN Number (Digital Format): 979-8-9894372-8-3

Additional copies may be ordered from:



**Internet Society** 

11710 Plaza America Drive Suite 400 Reston, VA 20190 tel +1 703 439 2120 fax +1 703 326 9881 http://www.internetsociety.org

#### **Table of Contents**

Message from the General Chairs
Message from the Program Committee Co-Chairs
Message from the Internet Society
Program Committee
External Reviewers
Artifact Evaluation Committee
Ethical Review Board (ERB) Members
Organizing Committee
Steering Group

#### Session 1A: WiFi and Bluetooth Security "Unplugging the Hackers from Your WiFi"

- Off-Path TCP Hijacking in Wi-Fi Networks: A Packet-Size Side Channel Attack Ziqiang Wang (Southeast University), Xuewei Feng (Tsinghua University), Qi Li (Tsinghua University), Kun Sun (George Mason University), Yuxiang Yang (Tsinghua University), Mengyuan Li (University of Toronto), Ganqiu Du (China Software Testing Center), Ke Xu (Tsinghua University), Jianping Wu (Tsinghua University)
- CHAOS: Exploiting Station Time Synchronization in 802.11 Networks Sirus Shahini (University of Utah), Robert Ricci (University of Utah)
- Rediscovering Method Confusion in Proposed Security Fixes for Bluetooth

  Maximilian von Tschirschnitz (Technical University of Munich), Ludwig Peuckert

  (Technical University of Munich), Moritz Buhl (Technical University of Munich),

  Jens Grossklags (Technical University of Munich)
- Lend Me Your Beam: Privacy Implications of Plaintext Beamforming Feedback in WiFi Rui Xiao (Zhejiang University), Xiankai Chen (Zhejiang University), Yinghui He (Nanyang Technological University), Jun Han (KAIST), Jinsong Han (Zhejiang University)

#### Session 1B: Internet Security "Surfing the Web Safely: Don't Let the Sharks Bite"

Secure IP Address Allocation at Cloud Scale

Eric Pauley (University of Wisconsin–Madison), Kyle Domico (University of Wisconsin–Madison), Blaine Hoak (University of Wisconsin–Madison), Ryan Sheatsley (University of Wisconsin–Madison), Quinn Burke (University of Wisconsin–Madison), Yohan Beugin (University of Wisconsin–Madison), Engin Kirda (Northeastern University), Patrick McDaniel (University of Wisconsin–Madison)

Revealing the Black Box of Device Search Engine: Scanning Assets, Strategies, and Ethical Consideration

Mengying Wu (Fudan University), Geng Hong (Fudan University), Jinsong Chen (Fudan University), Qi Liu (Fudan University), Shujun Tang (QI-ANXIN Technology Research Institute; Tsinghua University), Youhao Li (QI-ANXIN Technology Research Institute), Baojun Liu (Tsinghua University), Haixin Duan (Tsinghua University; Quancheng Laboratory), Min Yang (Fudan University)

SketchFeature: High-Quality Per-Flow Feature Extractor Towards Security-Aware Data Plane

Sian Kim (Ewha Womans University), Seyed Mohammad Mehdi Mirnajafizadeh (Wayne State University), Bara Kim (Korea University), Rhongho Jang (Wayne State University), DaeHun Nyang (Ewha Womans University)

Securing BGP ASAP: ASPA and other Post-ROV Defenses

Justin Furuness (University of Connecticut), Cameron Morris (University of Connecticut), Reynaldo Morillo (University of Connecticut), Arvind Kasiliya (University of Connecticut), Bing Wang (University of Connecticut), Amir Herzberg (University of Connecticut)

#### Session 1C: Privacy & Usability 1 "Privacy That Doesn't Hurt to Use"

The Power of Words: A Comprehensive Analysis of Rationales and Their Effects on Users' Permission Decisions

Yusra Elbitar (CISPA Helmholtz Center for Information Security), Alexander Hart (CISPA Helmholtz Center for Information Security), Sven Bugiel (CISPA Helmholtz Center for Information Security)

Exploring User Perceptions of Security Auditing in the Web3 Ecosystem

Molly Zhuangtong Huang (University of Macau), Rui Jiang (University of Macau),

Tanusree Sharma (Pennsylvania State University), Kanye Ye Wang (University of Macau)

Was This You? Investigating the Design Considerations for Suspicious Login Notifications

Sena Sahin (Georgia Institute of Technology), Burak Sahin (Georgia Institute of Technology), Frank Li (Georgia Institute of Technology)

UI-CTX: Understanding UI Behaviors with Code Contexts for Mobile Applications Jiawei Li (Beihang University & National University of Singapore), Jiahao Liu (National University of Singapore), Jian Mao (Beihang University), Jun Zeng (National University of Singapore), Zhenkai Liang (National University of Singapore)

#### Session 1D: System-Level Security "The Fortress: Securing Systems from the Inside Out"

BULKHEAD: Secure, Scalable, and Efficient Kernel Compartmentalization with PKS Yinggang Guo (State Key Laboratory for Novel Software Technology, Nanjing University; University of Minnesota), Zicheng Wang (State Key Laboratory for Novel Software Technology, Nanjing University), Weiheng Bai (University of

- Minnesota), Qingkai Zeng (State Key Laboratory for Novel Software Technology, Nanjing University), Kangjie Lu (University of Minnesota)
- Statically Discover Cross-Entry Use-After-Free Vulnerabilities in the Linux Kernel Hang Zhang (Indiana University Bloomington), Jangha Kim (The Affiliated Institute of ETRI, ROK), Chuhong Yuan (Georgia Institute of Technology), Zhiyun Qian (University of California, Riverside), Taesoo Kim (Georgia Institute of Technology)
- VulShield: Protecting Vulnerable Code Before Deploying Patches
  Yuan Li (Zhongguancun Laboratory & Tsinghua University), Chao Zhang
  (Tsinghua University & JCSS & Zhongguancun Laboratory), Jinhao Zhu (UC
  Berkeley), Penghui Li (Zhongguancun Laboratory), Chenyang Li (Peking
  University), Songtao Yang (Zhongguancun Laboratory), Wende Tan (Tsinghua
  University)
- Oreo: Protecting ASLR Against Microarchitectural Attacks
  Shixin Song (Massachusetts Institute of Technology), Joseph Zhang
  (Massachusetts Institute of Technology), Mengjia Yan (Massachusetts Institute of Technology)

#### Session 2A: LLM Security "When LLMs Go Rogue: Defending the Models that Write Your Emails"

- The Philosopher's Stone: Trojaning Plugins of Large Language Models

  Tian Dong (Shanghai Jiao Tong University), Minhui Xue (CSIRO's Data61),

  Guoxing Chen (Shanghai Jiao Tong University), Rayne Holland (CSIRO's

  Data61), Yan Meng (Shanghai Jiao Tong University), Shaofeng Li (Southeast

  University), Zhen Liu (Shanghai Jiao Tong University), Haojin Zhu (Shanghai

  Jiao Tong University)
- Safety Misalignment Against Large Language Models Yichen Gong (Tsinghua University), Delong Ran (Tsinghua University), Xinlei He (Hong Kong University of Science and Technology (Guangzhou)), Tianshuo Cong (Tsinghua University), Anyu Wang (Tsinghua University), Xiaoyun Wang (Tsinghua University)
- I know what you MEME! Understanding and Detecting Harmful Memes with Multimodal Large Language Models

Yong Zhuang (Wuhan University), Keyan Guo (University at Buffalo), Juan Wang (Wuhan University), Yiheng Jing (Wuhan University), Xiaoyang Xu (Wuhan University), Wenzhe Yi (Wuhan University), Mengda Yang (Wuhan University), Bo Zhao (Wuhan University), Hongxin Hu (University at Buffalo)

#### Session 2B: Web Security "Keeping the Web Safe from the Bad Guys"

The (Un)usual Suspects – Studying Reasons for Lacking Updates in WordPress
Maria Hellenthal (CISPA Helmholtz Center for Information Security), Lena
Gotsche (CISPA Helmholtz Center for Information Security), Rafael Mrowczynski
(CISPA Helmholtz Center for Information Security), Sarah Kugel (Saarland

- University), Michael Schilling (CISPA Helmholtz Center for Information Security), Ben Stock (CISPA Helmholtz Center for Information Security)
- Duumviri: Detecting Trackers and Mixed Trackers with a Breakage Detector
  He Shuang (University of Toronto), Lianying Zhao (Carleton University and
  University of Toronto), David Lie (University of Toronto)
- YuraScanner: Leveraging LLMs for Task-driven Web App Scanning
  Aleksei Stafeev (CISPA Helmholtz Center for Information Security), Tim
  Recktenwald (CISPA Helmholtz Center for Information Security), Gianluca De
  Stefano (CISPA Helmholtz Center for Information Security), Soheil Khodayari
  (CISPA Helmholtz Center for Information Security), Giancarlo Pellegrino (CISPA
  Helmholtz Center for Information Security)

### Session 2C: Phishing & Fraud 1 "Hook, Line, and Cyber Sink: The Art of Phishing"

SCAMMAGNIFIER: Piercing the Veil of Fraudulent Shopping Website Campaigns Marzieh Bitaab (Arizona State University), Alireza Karimi (Arizona State University), Zhuoer Lyu (Arizona State University), Adam Oest (Amazon), Dhruv Kuchhal (Amazon), Muhammad Saad (X Corp.), Gail-Joon Ahn (Arizona State University), Ruoyu Wang (Arizona State University), Tiffany Bao (Arizona State University), Yan Shoshitaishvili (Arizona State University), Adam Doupé (Arizona State University)

"Where Are We On Cyber?" - A Qualitative Study On Boards' Cybersecurity Risk Decision Making

Jens Christian Opdenbusch (Ruhr University Bochum), Jonas Hielscher (Ruhr University Bochum), M. Angela Sasse (Ruhr University Bochum, University College London)

The Kids Are All Right: Investigating the Susceptibility of Teens and Adults to YouTube Giveaway Scams

Elijah Bouma-Sims (Carnegie Mellon University), Lily Klucinec (Carnegie Mellon University), Mandy Lanyon (Carnegie Mellon University), Julie Downs (Carnegie Mellon University), Lorrie Faith Cranor (Carnegie Mellon University)

#### Session 2D: Android Security 1 "Bugging Android: The Chase for the Holy APK"

MALintent: Coverage Guided Intent Fuzzing Framework for Android

Ammar Askar (Georgia Institute of Technology), Fabian Fleischer (Georgia Institute of Technology), Christopher Kruegel (University of California, Santa Barbara), Giovanni Vigna (University of California, Santa Barbara), Taesoo Kim (Georgia Institute of Technology)

You Can Rand but You Can't Hide: A Holistic Security Analysis of Google Fuchsia's (and gVisor's) Network Stack

Inon Kaplan (Independent researcher), Ron even (Independent researcher), Amit Klein (The Hebrew University of Jerusalem, Israel) Power-Related Side-Channel Attacks using the Android Sensor Framework

Mathias Oberhuber (Graz University of Technology), Martin Unterguggenberger

(Graz University of Technology), Lukas Maar (Graz University of Technology),

Andreas Kogler (Graz University of Technology), Stefan Mangard (Graz

University of Technology)

#### Session 3A: Network Security 1 "The Internet's Secret Service: Securing the Pipes"

Incorporating Gradients to Rules: Towards Lightweight, Adaptive Provenance-based Intrusion Detection

Lingzhi Wang (Northwestern University), Xiangmin Shen (Northwestern University), Weijian Li (Northwestern University), Zhenyuan LI (Zhejiang University), R. Sekar (Stony Brook University), Han Liu (Northwestern University), Yan Chen (Northwestern University)

- Wallbleed: A Memory Disclosure Vulnerability in the Great Firewall of China Shencha Fan (GFW Report), Jackson Sippe (University of Colorado Boulder), Sakamoto San (Shinonome Lab), Jade Sheffey (UMass Amherst), David Fifield (None), Amir Houmansadr (UMass Amherst), Elson Wedwards (None), Eric Wustrow (University of Colorado Boulder)
- Heimdall: Towards Risk-Aware Network Management Outsourcing Yuejie Wang (Peking University), Qiutong Men (New York University), Yongting Chen (New York University Shanghai), Jiajin Liu (New York University Shanghai), Gengyu Chen (Carnegie Mellon University), Ying Zhang (Meta), Guyue Liu (Peking University), Vyas Sekar (Carnegie Mellon University)
- The Discriminative Power of Cross-layer RTTs in Fingerprinting Proxy Traffic Diwen Xue (University of Michigan), Robert Stanley (University of Michigan), Piyush Kumar (University of Michigan), Roya Ensafi (University of Michigan)
- MineShark: Cryptomining Traffic Detection at Scale
  Shaoke Xi (Zhejiang University), Tianyi Fu (Zhejiang University), Kai Bu
  (Zhejiang University), Chunling Yang (Zhejiang University), Zhihua Chang
  (Zhejiang University), Wenzhi Chen (Zhejiang University), Zhou Ma (Zhejiang
  University), Chongjie Chen (Hang Zhou City Brain Co., Ltd), Yongsheng Shen
  (Hang Zhou City Brain Co., Ltd), Kui Ren (Zhejiang University)

### Session 3B: Wireless, Cellular & Satellite Security "The Sky's the Limit: Securing the Wireless Frontier"

Magmaw: Modality-Agnostic Adversarial Attacks on Machine Learning-Based Wireless Communication Systems

Jung-Woo Chang (University of California, San Diego), Ke Sun (University of California, San Diego), Nasimeh Heydaribeni (University of California, San Diego), Seira Hidano (KDDI Research, Inc.), Xinyu Zhang (University of California, San Diego), Farinaz Koushanfar (University of California, San Diego)

Time-varying Bottleneck Links in LEO Satellite Networks: Identification, Exploits, and Countermeasures

Yangtao Deng (Tsinghua University), Qian Wu (Tsinghua University), Zeqi Lai (Tsinghua University), Chenwei Gu (Tsinghua University), Hewu Li (Tsinghua University), Yuanjie Li (Tsinghua University), Jun Liu (Tsinghua University)

Detecting IMSI-Catchers by Characterizing Identity Exposing Messages in Cellular Traffic

Tyler Tucker (University of Florida), Nathaniel Bennett (University of Florida), Martin Kotuliak (ETH Zurich), Simon Erni (ETH Zurich), Srdjan Capkun (ETH Zuerich), Kevin Butler (University of Florida), Patrick Traynor (University of Florida)

- Spatial-Domain Wireless Jamming with Reconfigurable Intelligent Surfaces
  Philipp Mackensen (Ruhr University Bochum), Paul Staat (Max Planck Institute
  for Security and Privacy), Stefan Roth (Ruhr University Bochum), Aydin Sezgin
  (Ruhr University Bochum), Christof Paar (Max Planck Institute for Security and
  Privacy), Veelasha Moonsamy (Ruhr University Bochum)
- Starshields for iOS: Navigating the Security Cosmos in Satellite Communication Jiska Classen (Hasso Plattner Institute, University of Potsdam), Alexander Heinrich (TU Darmstadt), Fabian Portner (TU Darmstadt), Felix Rohrbach (TU Darmstadt), Matthias Hollick (TU Darmstadt)

#### Session 3C: Mobile Security "Mobile Security: Not Just for Your Mom's iPhone"

- EvoCrawl: Exploring Web Application Code and State using Evolutionary Search Xiangyu Guo (University of Toronto), Akshay Kawlay (University of Toronto), Eric Liu (University of Toronto), David Lie (University of Toronto)
- The Skeleton Keys: A Large Scale Analysis of Credential Leakage in Mini-apps Yizhe Shi (Fudan University), Zhemin Yang (Fudan University), Kangwei Zhong (Fudan University), Guangliang Yang (Fudan University), Yifan Yang (Fudan University), Xiaohan Zhang (Fudan University), Min Yang (Fudan University)
- Understanding Miniapp Malware: Identification, Dissection, and Characterization Yuqing Yang (The Ohio State University), Yue Zhang (Drexel University), Zhiqiang Lin (The Ohio State University)
- What's Done Is Not What's Claimed: Detecting and Interpreting Inconsistencies in App Behaviors

Chang Yue (Institute of Information Engineering, Chinese Academy of Sciences, Beijing, China), Kai Chen (Institute of Information Engineering, Chinese Academy of Sciences, Beijing, China), Zhixiu Guo (Institute of Information Engineering, Chinese Academy of Sciences, Beijing, China), Jun Dai, Xiaoyan Sun (Department of Computer Science, Worcester Polytechnic Institute), Yi Yang (Institute of Information Engineering, Chinese Academy of Sciences, Beijing, China)

Hitchhiking Vaccine: Enhancing Botnet Remediation With Remote Code Deployment Reuse

Runze Zhang (Georgia Institute of Technology), Mingxuan Yao (Georgia Institute of Technology), Haichuan Xu (Georgia Institute of Technology), Omar Alrawi (Georgia Institute of Technology), Jeman Park (Kyung Hee University), Brendan Saltaformaggio (Georgia Institute of Technology)

#### Session 3D: Al Safety "When Your Al Starts Watching you Back"

- A Key-Driven Framework for Identity-Preserving Face Anonymization

  Miaomiao Wang (Shanghai University), Guang Hua (Singapore Institute of
  Technology), Sheng Li (Fudan University), Guorui Feng (Shanghai University)
- THEMIS: Regulating Textual Inversion for Personalized Concept Censorship
  Yutong Wu (Nanyang Technological University), Jie Zhang (Centre for Frontier Al
  Research, Agency for Science, Technology and Research (A\*STAR),
  Singapore), Florian Kerschbaum (University of Waterloo), Tianwei Zhang
  (Nanyang Technological University)

Explanation as a Watermark: Towards Harmless and Multi-bit Model Ownership Verification via Watermarking Feature Attribution

Shuo Shao (Zhejiang University), Yiming Li (Zhejiang University), Hongwei Yao (Zhejiang University), Yiling He (Zhejiang University), Zhan Qin (Zhejiang University), Kui Ren (Zhejiang University)

GAP-Diff: Protecting JPEG-Compressed Images from Diffusion-based Facial Customization

Haotian Zhu (Nanjing University of Science and Technology), Shuchao Pang (Nanjing University of Science and Technology), Zhigang Lu (Western Sydney University), Yongbin Zhou (Nanjing University of Science and Technology), Minhui Xue (CSIRO's Data61)

Towards Understanding Unsafe Video Generation

Yan Pang (University of Virginia), Aiping Xiong (Penn State University), Yang Zhang (CISPA Helmholtz Center for Information Security), Tianhao Wang (University of Virginia)

#### Session 4A: IoT Security "When Your Smart Fridge Knows Too Much"

Deanonymizing Device Identities via Side-channel Attacks in Exclusive-use IoTs & Mitigation

Christopher Ellis (The Ohio State University), Yue Zhang (Drexel University), Mohit Kumar Jangid (The Ohio State University), Shixuan Zhao (The Ohio State University), Zhiqiang Lin (The Ohio State University)

EAGLEYE: Exposing Hidden Web Interfaces in IoT Devices via Routing Analysis
Hangtian Liu (Information Engineering University), Lei Zheng (Institute for
Network Sciences and Cyberspace (INSC), Tsinghua University), Shuitao Gan
(Laboratory for Advanced Computing and Intelligence Engineering), Chao Zhang
(Institute for Network Sciences and Cyberspace (INSC), Tsinghua University),
Zicong Gao (Information Engineering University), Hongqi Zhang (Henan Key

Laboratory of Information Security), Yishun Zeng (Institute for Network Sciences and Cyberspace (INSC), Tsinghua University), Zhiyuan Jiang (National University of Defense Technology), Jiahai Yang (Institute for Network Sciences and Cyberspace (INSC), Tsinghua University)

Hidden and Lost Control: on Security Design Risks in IoT User-Facing Matter Controller Haoqiang Wang, Yiwei Fang (Institute of Information Engineering, Chinese Academy of Sciences; School of Cyber Security, University of Chinese Academy of Sciences; Indiana University Bloomington), Yichen Liu (Indiana University Bloomington), Ze Jin (Institute of Information Engineering, Chinese Academy of Sciences; School of Cyber Security, University of Chinese Academy of Sciences; Indiana University Bloomington), Emma Delph (Indiana University Bloomington), Xiaojiang Du (Stevens Institute of Technology), Qixu Liu (Institute of Information Engineering, Chinese Academy of Sciences; School of Cyber Security, University of Chinese Academy of Sciences), Luyi Xing (Indiana University Bloomington)

Evaluating Machine Learning-Based IoT Device Identification Models for Security Applications

Eman Maali (Imperial College London), Omar Alrawi (Georgia Institute of Technology), Julie McCann (Imperial College London)

### Session 4B: Audio Security "Not Your Average Earworm: Securing the Soundwaves"

VoiceRadar: Voice Deepfake Detection using Micro-Frequency and Compositional Analysis

Kavita Kumari (Technical University of Darmstadt), Maryam Abbasihafshejani (University of Texas at San Antonio), Alessandro Pegoraro (Technical University of Darmstadt), Phillip Rieger (Technical University of Darmstadt), Kamyar Arshi (Technical University of Darmstadt), Murtuza Jadliwala (University of Texas at San Antonio), Ahmad-Reza Sadeghi (Technical University of Darmstadt)

Characterizing the Impact of Audio Deepfakes in the Presence of Cochlear Implant Magdalena Pasternak (University of Florida), Kevin Warren (University of Florida), Daniel Olszewski (University of Florida), Susan Nittrouer (University of Florida), Patrick Traynor (University of Florida), Kevin Butler (University of Florida)

SongBsAb: A Dual Prevention Approach against Singing Voice Conversion based Illegal Song Covers

Guangke Chen (Pengcheng Laboratory), Yedi Zhang (National University of Singapore), Fu Song (Key Laboratory of System Software (Chinese Academy of Sciences) and State Key Laboratory of Computer Science, Institute of Software, Chinese Academy of Science; Nanjing Institute of Software Technology), Ting Wang (Stony Brook University), Xiaoning Du (Monash University), Yang Liu (Nanyang Technological University)

Speak Up, I'm Listening: Extracting Speech from Zero-Permission VR Sensors

Derin Cayir (Florida International University), Reham Mohamed Aburas
(American University of Sharjah), Riccardo Lazzeretti (Sapienza University of Rome), Marco Angelini (Link Campus University of Rome), Abbas Acar (Florida

International University), Mauro Conti (University of Padua), Z. Berkay Celik (Purdue University), Selcuk Uluagac (Florida International University)

#### Session 4C: Privacy & Cryptography 1 "Breaking Ciphers, Not Trust"

- Secure Transformer Inference Made Non-interactive
  Jiawen Zhang (Zhejiang University), Xinpeng Yang (Zhejiang University), Lipeng
  He (University of Waterloo), Kejia Chen (Zhejiang University), Wen-jie Lu
  (Zhejiang University), Yinghao Wang (Zhejiang University), Xiaoyang Hou
  (Zhejiang University), Jian Liu (Zhejiang University), Kui Ren (Zhejiang
  University), Xiaohu Yang (Zhejiang University)
- Revisiting EM-based Estimation for Locally Differentially Private Protocols
  Yutong Ye (Institute of software, Chinese Academy of Sciences & Zhongguancun
  Laboratory, Beijing, PR.China.), Tianhao Wang (University of Virginia), Min
  Zhang (Institute of Software, Chinese Academy of Sciences), Dengguo Feng
  (Institute of Software, Chinese Academy of Sciences)
- BumbleBee: Secure Two-party Inference Framework for Large Transformers Wen-jie Lu (Ant Group), Zhicong Huang (Ant Group), Zhen Gu (Alibaba Group), Jingyu Li (Ant Group & Zhejiang University), Jian Liu (Zhejiang University), Cheng Hong (Ant Group), Kui Ren (Zhejiang University), Tao Wei (Ant Group), WenGuang Chen (Ant Group)
- Repurposing Neural Networks for Efficient Cryptographic Computation
  Ohio State University), Shiqing Ma (University of Massachusetts Amherst),
  Zhiqiang Lin (The Ohio State University)
- BumbleBee: Secure Two-party Inference Framework for Large Transformers Wen-jie Lu (Ant Group), Zhicong Huang (Ant Group), Zhen Gu (Alibaba Group), Jingyu Li (Ant Group & Zhejiang University), Jian Liu (Zhejiang University), Cheng Hong (Ant Group), Kui Ren (Zhejiang University), Tao Wei (Ant Group), WenGuang Chen (Ant Group)
- Repurposing Neural Networks for Efficient Cryptographic Computation

  Xin Jin (The Ohio State University), Shiqing Ma (University of Massachusetts

  Amherst), Zhiqiang Lin (The Ohio State University)

#### Session 4D: Blockchain Security 1 "Blockchain: Not Just for Cryptos"

Kronos: A Secure and Generic Sharding Blockchain Consensus with Optimized Overhead

Yizhong Liu (Beihang University), Andi Liu (Beihang University), Yuan Lu (Institute of Software Chinese Academy of Sciences), Zhuocheng Pan (Beihang University), Yinuo Li (Xi'an Jiaotong University), Jianwei Liu (Beihang University), Song Bian (Beihang University), Mauro Conti (University of Padua)

Manifoldchain: Maximizing Blockchain Throughput via Bandwidth-Clustered Sharding Chunjiang Che (The Hong Kong University of Science and Technology (Guangzhou)), Songze Li (Southeast University), Xuechao Wang (The Hong Kong University of Science and Technology (Guangzhou))

The Forking Way: When TEEs Meet Consensus

Annika Wilde (Ruhr University Bochum), Tim Niklas Gruel (Ruhr University Bochum), Claudio Soriente (NEC Laboratories Europe), Ghassan Karame (Ruhr University Bochum)

Eclipse Attacks on Monero's Peer-to-Peer Network

Ruisheng Shi (Beijing University of Posts and Telecommunications), Zhiyuan Peng (Beijing University of Posts and Telecommunications), Lina Lan (Beijing University of Posts and Telecommunications), Yulian Ge (Beijing University of Posts and Telecommunications), Peng Liu (Penn State University), Qin Wang (CSIRO Data61), Juan Wang (Wuhan University)

### Session 5B: Privacy & Anonymity "Mask On: Staying Anonymous in a World of Overexposure"

Delay-allowed Differentially Private Data Stream Release

Xiaochen Li (University of Virginia), Zhan Qin (Zhejiang University), Kui Ren (Zhejiang University), Chen Gong (University of Virginia), Shuya Feng (University of Connecticut), Yuan Hong (University of Connecticut), Tianhao Wang (University of Virginia)

Automated Expansion of Privacy Data Taxonomy for Compliant Data Breach Notification

Yue Qin (Indiana University Bloomington & Central University of Finance and Economics), Yue Xiao (Indiana University Bloomington & IBM Research), Xiaojing Liao (Indiana University Bloomington)

- Onion Franking: Abuse Reports for Mix-Based Private Messaging

  Matthew Gregoire (University of North Carolina at Chapel Hill), Margaret Pierce
  (University of North Carolina at Chapel Hill), Saba Eskandarian (University of
  North Carolina at Chapel Hill)
- Ring of Gyges: Accountable Anonymous Broadcast via Secret-Shared Shuffle Wentao Dong (City University of Hong Kong), Peipei Jiang (Wuhan University; City University of Hong Kong), Huayi Duan (ETH Zurich), Cong Wang (City University of Hong Kong), Lingchen Zhao (Wuhan University), Qian Wang (Wuhan University)

#### Session 5C: Federated Learning 1 "Learning Together, Securing Apart: The Federated Dilemma"

- Passive Inference Attacks on Split Learning via Adversarial Regularization
  Xiaochen Zhu (National University of Singapore & Massachusetts Institute of
  Technology), Xinjian Luo (National University of Singapore & Mohamed bin
  Zayed University of Artificial Intelligence), Yuncheng Wu (Renmin University of
  China), Yangfan Jiang (National University of Singapore), Xiaokui Xiao (National
  University of Singapore), Beng Chin Ooi (National University of Singapore)
- SafeSplit: A Novel Defense Against Client-Side Backdoor Attacks in Split Learning Phillip Rieger (Technical University of Darmstadt), Alessandro Pegoraro (Technical University of Darmstadt), Kavita Kumari (Technical University of

Darmstadt), Tigist Abera (Technical University of Darmstadt), Jonathan Knauer (Technical University of Darmstadt), Ahmad-Reza Sadeghi (Technical University of Darmstadt)

RAIFLE: Reconstruction Attacks on Interaction-based Federated Learning with Adversarial Data Manipulation

Dzung Pham (University of Massachusetts Amherst), Shreyas Kulkarni (University of Massachusetts Amherst), Amir Houmansadr (University of Massachusetts Amherst)

URVFL: Undetectable Data Reconstruction Attack on Vertical Federated Learning Duanyi Yao (Hong Kong University of Science and Technology), Songze Li (Southeast University), Xueluan Gong (Wuhan University), Sizai Hou (Hong Kong University of Science and Technology), Gaoning Pan (Hangzhou Dianzi University)

### Session 5D: Side Channels 1 "Leaking Secrets: Side Channels That Don't Have to Be Seen to Be Heard"

- A Systematic Evaluation of Novel and Existing Cache Side Channels
  Fabian Rauscher (Graz University of Technology), Carina Fiedler (Graz
  University of Technology), Andreas Kogler (Graz University of Technology),
  Daniel Gruss (Graz University of Technology)
- Secret Spilling Drive: Leaking User Behavior through SSD Contention Jonas Juffinger (Graz University of Technology), Fabian Rauscher (Graz University of Technology), Giuseppe La Manna (Amazon), Daniel Gruss (Graz University of Technology)
- KernelSnitch: Side Channel-Attacks on Kernel Data Structures
  Lukas Maar (Graz University of Technology), Jonas Juffinger (Graz University of Technology), Thomas Steinbauer (Graz University of Technology), Daniel Gruss (Graz University of Technology), Stefan Mangard (Graz University of Technology)

Non-intrusive and Unconstrained Keystroke Inference in VR Platforms via Infrared Side Channel

Tao Ni (City University of Hong Kong), Yuefeng Du (City University of Hong Kong), Qingchuan Zhao (City University of Hong Kong), Cong Wang (City University of Hong Kong)

# Session 6A: LLM Privacy and Usable Privacy "Large Language Models, Bigger Privacy Concerns"

Transparency or Information Overload? Evaluating Users' Comprehension and Perceptions of the iOS App Privacy Report

Xiaoyuan Wu (Carnegie Mellon University), Lydia Hu (Carnegie Mellon University), Eric Zeng (Carnegie Mellon University), Hana Habib (Carnegie Mellon University), Lujo Bauer (Carnegie Mellon University)

I Know What You Asked: Prompt Leakage via KV-Cache Sharing in Multi-Tenant LLM Serving

Guanlong Wu (Southern University of Science and Technology), Zheng Zhang (ByteDance Inc.), Yao Zhang (ByteDance Inc.), Weili Wang (Southern University of Science and Technolog), Jianyu Niu (Southern University of Science and Technolog), Ye Wu (ByteDance Inc.), Yinqian Zhang (Southern University of Science and Technology (SUSTech))

IsolateGPT: An Execution Isolation Architecture for LLM-Based Agentic Systems Yuhao Wu (Washington University in St. Louis), Franziska Roesner (University of Washington), Tadayoshi Kohno (University of Washington), Ning Zhang (Washington University in St. Louis), Umar Iqbal (Washington University in St. Louis)

#### Session 6B: Confidential Computing 1 "Shh! Keeping Secrets in the Cloud"

LeakLess: Selective Data Protection against Memory Leakage Attacks for Serverless Platforms

Maryam Rostamipoor (Stony Brook University), Seyedhamed Ghavamnia (University of Connecticut), Michalis Polychronakis (Stony Brook University)

- Blindfold: Confidential Memory Management by Untrusted Operating System

  Caihua Li (Yale University), Seung-seob Lee (Yale University), Lin Zhong (Yale University)
- TME-Box: Scalable In-Process Isolation through Intel TME-MK Memory Encryption
  Martin Unterguggenberger (Graz University of Technology), Lukas Lamster (Graz
  University of Technology), David Schrammel (Graz University of Technology),
  Martin Schwarzl (Cloudflare, Inc.), Stefan Mangard (Graz University of
  Technology)

#### Session 6C: Sensor Attacks "Your Sensors Are Watching...and They're Vulnerable"

- PhantomLiDAR: Cross-modality Signal Injection Attacks against LiDAR

  Zizhi Jin (Zhejiang University), Qinhong Jiang (Zhejiang University), Xuancun Lu
  (Zhejiang University), Chen Yan (Zhejiang University), Xiaoyu Ji (Zhejiang
  University), Wenyuan Xu (Zhejiang University)
- PowerRadio: Manipulate Sensor Measurement via Power GND Radiation Yan Jiang (Zhejiang University), Xiaoyu Ji (Zhejiang University), Yancheng Jiang (Zhejiang University), Kai Wang (Zhejiang University), Chenren Xu (Peking University), Wenyuan Xu (Zhejiang University)

Interventional Root Cause Analysis of Failures in Multi-Sensor Fusion Perception Systems

Shuguang Wang (City University of Hong Kong), Qian Zhou (City University of Hong Kong), Kui Wu (University of Victoria), Jinghuai Deng (City University of Hong Kong), Dapeng Wu (City University of Hong Kong), Wei-Bin Lee (Information Security Center, Hon Hai Research Institute), Jianping Wang (City University of Hong Kong)

### Session 6D: Software Security: Vulnerability Detection "Finding Bugs Before the Hackers Do"

Too Subtle to Notice: Investigating Executable Stack Issues in Linux Systems
Hengkai Ye (The Pennsylvania State University), Hong Hu (The Pennsylvania
State University)

RACONTEUR: A Knowledgeable, Insightful, and Portable LLM-Powered Shell Command Explainer

Jiangyi Deng (Zhejiang University), Xinfeng Li (Zhejiang University), Yanjiao Chen (Zhejiang University), Yijie Bai (Zhejiang University), Haiqin Weng (Ant Group), Yan Liu (Ant Group), Tao Wei (Ant Group), Wenyuan Xu (Zhejiang University)

GadgetMeter: Quantitatively and Accurately Gauging the Exploitability of Speculative Gadgets

Qi Ling (Purdue University), Yujun Liang (Tsinghua University), Yi Ren (Tsinghua University), Baris Kasikci (University of Washington and Google), Shuwen Deng (Tsinghua University)

### Session 7A: Network Security 2 "Not Your Average Network: A Deep Dive into Security"

ReDAN: An Empirical Study on Remote DoS Attacks against NAT Networks Xuewei Feng (Tsinghua University), Yuxiang Yang (Tsinghua University), Qi Li (Tsinghua University), Xingxiang Zhan (Zhongguancun Lab), Kun Sun (George Mason University), Ziqiang Wang (Southeast University), Ao Wang (Southeast University), Ganqiu Du (China Software Testing Center), Ke Xu (Tsinghua University)

A Large-Scale Measurement Study of the PROXY Protocol and its Security Implications Stijn Pletinckx (University of California, Santa Barbara), Christopher Kruegel (University of California, Santa Barbara), Giovanni Vigna (University of California, Santa Barbara)

ProvGuard: Detecting SDN Control Policy Manipulation via Contextual Semantics of Provenance Graphs

Ziwen Liu (Beihang University), Jian Mao (Beihang University; Tianmushan Laboratory; Hangzhou Innovation Institute, Beihang University), Jun Zeng (National University of Singapore), Jiawei Li (Beihang University; National University of Singapore), Qixiao Lin (Beihang University), Jiahao Liu (National University of Singapore), Jianwei Zhuge (Tsinghua University; Zhongguancun Laboratory), Zhenkai Liang (National University of Singapore)

LAMP: Lightweight Approaches for Latency Minimization in Mixnets with Practical Deployment Considerations

Mahdi Rahimi (KU Leuven), Piyush Kumar Sharma (University of Michigan), Claudia Diaz (KU Leuven)

Mysticeti: Reaching the Latency Limits with Uncertified DAGs
Kushal Babel (Cornell Tech & IC3), Andrey Chursin (Mysten Labs), George
Danezis (Mysten Labs & University College London (UCL)), Anastasios Kichidis

(Mysten Labs), Lefteris Kokoris-Kogias (Mysten Labs & IST Austria), Arun Koshy (Mysten Labs), Alberto Sonnino (Mysten Labs & University College London (UCL)), Mingwei Tian (Mysten Labs)

#### Session 7B: Trusted Hardware and Execution "The Trusted Hardware: No Secrets Left Inside"

- SCRUTINIZER: Towards Secure Forensics on Compromised TrustZone
  Yiming Zhang (Southern University of Science and Technology and The Hong
  Kong Polytechnic University), Fengwei Zhang (Southern University of Science
  and Technology), Xiapu Luo (The Hong Kong Polytechnic University), Rui Hou
  (Institute of Information Engineering, Chinese Academy of Sciences), Xuhua
  Ding (Singapore Management University), Zhenkai Liang (National University of
  Singapore), Shoumeng Yan (Ant Group), Tao Wei (Ant Group), Zhengyu He (Ant
  Group)
- A Formal Approach to Multi-Layered Privileges for Enclaves
  Ganxiang Yang (Shanghai Jiao Tong University), Chenyang Liu (Shanghai Jiao
  Tong University), Zhen Huang (Shanghai Jiao Tong University), Guoxing Chen
  (Shanghai Jiao Tong University), Hongfei Fu (Shanghai Jiao Tong University),
  Yuanyuan Zhang (Shanghai Jiao Tong University), Haojin Zhu (Shanghai Jiao
  Tong University)
- CounterSEVeillance: Performance-Counter Attacks on AMD SEV-SNP
  Stefan Gast (Graz University of Technology), Hannes Weissteiner (Graz
  University of Technology), Robin Leander Schröder (Fraunhofer SIT, Darmstadt,
  Germany and Fraunhofer Austria, Vienna, Austria), Daniel Gruss (Graz
  University of Technology)
- TZ-DATASHIELD: Automated Data Protection for Embedded Systems via Data-Flow-Based Compartmentalization

Zelun Kong (University of Texas at Dallas), Minkyung Park (University of Texas at Dallas), Le Guan (University of Georgia), Ning Zhang (Washington University in St. Louis), Chung Hwan Kim (University of Texas at Dallas)

The Road to Trust: Building Enclaves within Confidential VMs

Wenhao Wang (Key Laboratory of Cyberspace Security Defense, Institute of
Information Engineering, CAS), Linke Song (Key Laboratory of Cyberspace
Security Defense, Institute of Information Engineering, CAS), Benshan Mei (Key
Laboratory of Cyberspace Security Defense, Institute of Information Engineering,
CAS), Shuang Liu (Ant Group), Shijun Zhao (Key Laboratory of Cyberspace
Security Defense, Institute of Information Engineering, CAS), Shoumeng Yan
(Ant Group), XiaoFeng Wang (Indiana University Bloomington), Dan Meng
(Institute of Information Engineering, CAS), Rui Hou (Key Laboratory of
Cyberspace Security Defense, Institute of Information Engineering, CAS)

### Session 7C: Secure Protocols "Handshake With Caution: Securing the Digital Dialogue"

Rondo: Scalable and Reconfiguration-Friendly Randomness Beacon Xuanji Meng (Tsinghua University), Xiao Sui (Shandong University), Zhaoxin Yang (Tsinghua University), Kang Rong (Blockchain Platform Division, Ant Group), Wenbo Xu (Blockchain Platform Division, Ant Group), Shenglong Chen (Blockchain Platform Division, Ant Group), Ying Yan (Blockchain Platform Division, Ant Group), Sisi Duan (Tsinghua University)

#### Distributed Function Secret Sharing and Applications

Pengzhi Xing (University of Electronic Science and Technology of China), Hongwei Li (University of Electronic Science and Technology of China), Meng Hao (Singapore Management University), Hanxiao Chen (University of Electronic Science and Technology of China), Jia Hu (University of Electronic Science and Technology of China), Dongxiao Liu (University of Electronic Science and Technology of China)

#### PQConnect: Automated Post-Quantum End-to-End Tunnels

Daniel J. Bernstein (University of Illinois at Chicago and Academia Sinica), Tanja Lange (Eindhoven University of Technology amd Academia Sinica), Jonathan Levin (Academia Sinica and Eindhoven University of Technology), Bo-Yin Yang (Academia Sinica)

Impact Tracing: Identifying the Culprit of Misinformation in Encrypted Messaging Systems

Zhongming Wang (Chongqing University), Tao Xiang (Chongqing University), Xiaoguo Li (Chongqing University), Biwen Chen (Chongqing University), Guomin Yang (Singapore Management University), Chuan Ma (Chongqing University), Robert H. Deng (Singapore Management University)

DiStefano: Decentralized Infrastructure for Sharing Trusted Encrypted Facts and Nothing More

Sofia Celi (Brave Software), Alex Davidson (NOVA LINCS & Universidade NOVA de Lisboa), Hamed Haddadi (Imperial College London & Brave Software), Gonçalo Pestana (Hashmatter), Joe Rowell (Information Security Group, Royal Holloway, University of London)

#### Session 7D: ML Security "Machine Learning...When Machines Learn to Hack You"

AlphaDog: No-Box Camouflage Attacks via Alpha Channel Oversight

Qi Xia (University of Texas at San Antonio), Qian Chen (University of Texas at San Antonio)

Understanding Data Importance in Machine Learning Attacks: Does Valuable Data Pose Greater Harm?

Rui Wen (CISPA Helmholtz Center for Information Security), Michael Backes (CISPA Helmholtz Center for Information Security), Yang Zhang (CISPA Helmholtz Center for Information Security)

- DLBox: New Model Training Framework for Protecting Training Data
  Jaewon Hur (Seoul National University), Juheon Yi (Nokia Bell Labs, Cambridge,
  UK), Cheolwoo Myung (Seoul National University), Sangyun Kim (Seoul National
  University), Youngki Lee (Seoul National University), Byoungyoung Lee (Seoul
  National University)
- A New PPML Paradigm for Quantized Models

  Tianpei Lu (The State Key Laboratory of Blockchain and Data Security, Zhejiang
  University), Bingsheng Zhang (The State Key Laboratory of Blockchain and Data
  Security, Zhejiang University), Xiaoyuan Zhang (The State Key Laboratory of
  Blockchain and Data Security, Zhejiang University), Kui Ren (The State Key
  Laboratory of Blockchain and Data Security, Zhejiang University)
- Probe-Me-Not: Protecting Pre-trained Encoders from Malicious Probing
  Ruyi Ding (Northeastern University), Tong Zhou (Northeastern University), Lili Su
  (Northeastern University), Aidong Adam Ding (Northeastern University), Xiaolin
  Xu (Northeastern University), Yunsi Fei (Northeastern University)

#### Session 8A: Email Security "Phishing for Trouble: Don't Get Hooked"

Cascading Spy Sheets: Exploiting the Complexity of Modern CSS for Email and Browser Fingerprinting

Leon Trampert (CISPA Helmholtz Center for Information Security), Daniel Weber (CISPA Helmholtz Center for Information Security), Lukas Gerlach (CISPA Helmholtz Center for Information Security), Christian Rossow (CISPA Helmholtz Center for Information Security), Michael Schwarz (CISPA Helmholtz Center for Information Security)

- HADES Attack: Understanding and Evaluating Manipulation Risks of Email Blocklists Ruixuan Li (Tsinghua University), Chaoyi Lu (Tsinghua University), Baojun Liu (Tsinghua University; Zhongguancun Laboratory), Yunyi Zhang (Tsinghua University), Geng Hong (Fudan University), Haixin Duan (Tsinghua University; Zhongguancun Laboratory), Yanzhong Lin (Coremail Technology Co. Ltd), Qingfeng Pan (Coremail Technology Co. Ltd), Min Yang (Fudan University), Jun Shao (Zhejiang Gongshang University)
- Automatic Insecurity: Exploring Email Auto-configuration in the Wild Shushang Wen (School of Cyber Science and Technology, University of Science and Technology of China), Yiming Zhang (Tsinghua University), Yuxiang Shen (School of Cyber Science and Technology, University of Science and Technology of China), Bingyu Li (School of Cyber Science and Technology, Beihang University), Haixin Duan (Tsinghua University; Zhongguancun Laboratory), Jingqiang Lin (School of Cyber Science and Technology, University of Science and Technology of China)
- A Multifaceted Study on the Use of TLS and Auto-detect in Email Ecosystems
  Ka Fun Tang (The Chinese University of Hong Kong), Che Wei Tu (The Chinese
  University of Hong Kong), Sui Ling Angela Mak (The Chinese University of Hong
  Kong), Sze Yiu Chau (The Chinese University of Hong Kong)

#### Session 8B: Electromagnetic Attacks "Zap! The Shocking World of EMF Vulnerabilities"

ReThink: Reveal the Threat of Electromagnetic Interference on Power Inverters Fengchen Yang (Zhejiang University; ZJU QI-ANXIN IoT Security Joint Laboratory), Zihao Dan (Zhejiang University; ZJU QI-ANXIN IoT Security Joint Laboratory), Kaikai Pan (Zhejiang University; ZJU QI-ANXIN IoT Security Joint Laboratory), Chen Yan (Zhejiang University; ZJU QI-ANXIN IoT Security Joint Laboratory), Xiaoyu Ji (Zhejiang University; ZJU QI-ANXIN IoT Security Joint Laboratory), Wenyuan Xu (Zhejiang University; ZJU QI-ANXIN IoT Security Joint Laboratory)

LightAntenna: Characterizing the Limits of Fluorescent Lamp-Induced Electromagnetic Interference

Fengchen Yang (Zhejiang University), Wenze Cui (Zhejiang University), Xinfeng Li (Zhejiang University), Chen Yan (Zhejiang University), Xiaoyu Ji (Zhejiang University), Wenyuan Xu (Zhejiang University)

- GhostShot: Manipulating the Image of CCD Cameras with Electromagnetic Interference Yanze Ren (Zhejiang University), Qinhong Jiang (Zhejiang University), Chen Yan (Zhejiang University), Xiaoyu Ji (Zhejiang University), Wenyuan Xu (Zhejiang University)
- EMIRIS: Eavesdropping on Iris Information via Electromagnetic Side Channel Wenhao Li (Shandong University), Jiahao Wang (Shandong University), Guoming Zhang (Shandong University), Yanni Yang (Shandong University), Riccardo Spolaor (Shandong University), Xiuzhen Cheng (Shandong University), Pengfei Hu (Shandong University)

### Session 8C: Hard- & Firmware Security "The Bare Metal of Security: Protecting Hardware and Firmware"

- Mens Sana In Corpore Sano: Sound Firmware Corpora for Vulnerability Research René Helmke (Fraunhofer FKIE), Elmar Padilla (Fraunhofer FKIE), Nils Aschenbruck (University of Osnabrück)
- LLMPirate: LLMs for Black-box Hardware IP Piracy
  Vasudev Gohil (Texas A&M University), Matthew DeLorenzo (Texas A&M
  University), Veera Vishwa Achuta Sai Venkat Nallam (Texas A&M University),
  Joey See (Texas A&M University), Jeyavijayan Rajendran (Texas A&M
  University)
- CCTAG: Configurable and Combinable Tagged Architecture

  Zhanpeng Liu (Peking University), Yi Rong (Tsinghua University), Chenyang Li
  (Peking University), Wende Tan (Tsinghua University), Yuan Li (Zhongguancun
  Laboratory), Xinhui Han (Peking University), Songtao Yang (Zhongguancun
  Laboratory), Chao Zhang (Tsinghua University)
- A Comprehensive Memory Safety Analysis of Bootloaders
  Jianqiang Wang (CISPA Helmholtz Center for Information Security), Meng Wang
  (CISPA Helmholtz Center for Information Security), Qinying Wang (Zhejiang
  University), Nils Langius (Leibniz Universität Hannover), Li Shi (ETH Zurich), Ali

Abbasi (CISPA Helmholtz Center for Information Security), Thorsten Holz (CISPA Helmholtz Center for Information Security)

# Session 8D: Privacy & Usability 2 "Usability Meets Privacy: Can They Ever Get Along?"

Balancing Privacy and Data Utilization: A Comparative Vignette Study on User Acceptance of Data Trustees in Germany and the US

Leona Lassak (Ruhr University Bochum), Hanna Püschel (TU Dortmund University), Oliver D. Reithmaier (Leibniz University Hannover), Tobias Gostomzyk (TU Dortmund University), Markus Dürmuth (Leibniz University Hannover)

PolicyPulse: Precision Semantic Role Extraction for Enhanced Privacy Policy Comprehension

Andrick Adhikari (University of Denver), Sanchari Das (University of Denver), Rinku Dewri (University of Denver)

SKILLPoV: Towards Accessible and Effective Privacy Notice for Amazon Alexa Skills Jingwen Yan (Clemson University), Song Liao (Texas Tech University), Mohammed Aldeen (Clemson University), Luyi Xing (Indiana University Bloomington), Danfeng (Daphne) Yao (Virginia Tech), Long Cheng (Clemson University)

"Who is Trying to Access My Account?" Exploring User Perceptions and Reactions to Risk-based Authentication Notifications

Tongxin Wei (Nankai University), Ding Wang (Nankai University), Yutong Li (Nankai University), Yuehuan Wang (Nankai University)

# Session 9A: Android Security 2 "Appetizers and Exploits: The Secrets of Your Favorite Android Apps"

An Empirical Study on Fingerprint API Misuse with Lifecycle Analysis in Real-world Android Apps

Xin Zhang (Fudan University), Xiaohan Zhang (Fudan University), Zhichen Liu (Fudan University), Bo Zhao (Fudan University), Zhemin Yang (Fudan University), Min Yang (Fudan University)

Vulnerability, Where Art Thou? An Investigation of Vulnerability Management in Android Smartphone Chipsets

Daniel Klischies (Ruhr University Bochum), Philipp Mackensen (Ruhr University Bochum), Veelasha Moonsamy (Ruhr University Bochum)

ScopeVerif: Analyzing the Security of Android's Scoped Storage via Differential Analysis Zeyu Lei (Purdue University), Güliz Seray Tuncay (Google), Beatrice Carissa Williem (Purdue University), Z. Berkay Celik (Purdue University), Antonio Bianchi (Purdue University)

### Session 9B: DNN Attack Surfaces "Neural Networks Under Attack: When Deep Learning Gets Too Deep"

Compiled Models, Built-In Exploits: Uncovering Pervasive Bit-Flip Attack Surfaces in DNN Executables

Yanzuo Chen (The Hong Kong University of Science and Technology), Zhibo Liu (The Hong Kong University of Science and Technology), Yuanyuan Yuan (The Hong Kong University of Science and Technology), Sihang Hu (Huawei Technologies), Tianxiang Li (Huawei Technologies), Shuai Wang (The Hong Kong University of Science and Technology)

BitShield: Defending Against Bit-Flip Attacks on DNN Executables
Yanzuo Chen (The Hong Kong University of Science and Technology),
Yuanyuan Yuan (The Hong Kong University of Science and Technology), Zhibo
Liu (The Hong Kong University of Science and Technology), Sihang Hu (Huawei
Technologies), Tianxiang Li (Huawei Technologies), Shuai Wang (The Hong
Kong University of Science and Technology)

ASGARD: Protecting On-Device Deep Neural Networks with Virtualization-Based Trusted Execution Environments

Myungsuk Moon (Yonsei University), Minhee Kim (Yonsei University), Joonkyo Jung (Yonsei University), Dokyung Song (Yonsei University)

### Session 9C: Phishing & Fraud 2 "Too Good to Be True: How Frauds Get the Hook"

Ctrl+Alt+Deceive: Quantifying User Exposure to Online Scams

Platon Kotzias (Norton Research Group, BforeAl), Michalis Pachilakis (Norton
Research Group, Computer Science Department University of Crete), Javier
Aldana luit (Norton Research Group), Juan Caballero (IMDEA Software Institute),
Iskander Sanchez-Rola (Norton Research Group), Leyla Bilge (Norton Research

The Guardians of Name Street: Studying the Defensive Registration Practices of the Fortune 500

Group)

Boladji Vinny Adjibi (Georgia Tech), Athanasios Avgetidis (Georgia Tech), Manos Antonakakis (Georgia Tech), Michael Bailey (Georgia Tech), Fabian Monrose (Georgia Tech)

Dissecting Payload-based Transaction Phishing on Ethereum

Zhuo Chen (Zhejiang University), Yufeng Hu (Zhejiang University), Bowen He
(Zhejiang University), Dong Luo (Zhejiang University), Lei Wu (Zhejiang
University), Yajin Zhou (Zhejiang University)

#### Session 9D: Github + OSN Security "Code, Commit, and Commit to Security"

Tweezers: A Framework for Security Event Detection via Event Attribution-centric Tweet Embedding

Jian Cui (Indiana University), Hanna Kim (KAIST), Eugene Jang (S2W Inc.), Dayeon Yim (S2W Inc.), Kicheol Kim (S2W Inc.), Yongjae Lee (S2W Inc.), Jin-

Woo Chung (S2W Inc.), Seungwon Shin (KAIST), Xiaojing Liao (Indiana University)

#### Rethinking Trust in Forge-Based Git Security

Technology)

Aditya Sirish A Yelgundhalli (New York University), Patrick Zielinski (New York University), Reza Curtmola (New Jersey Institute of Technology), Justin Cappos (New York University)

Attributing Open-Source Contributions is Critical but Difficult: A Systematic Analysis of GitHub Practices and Their Impact on Software Supply Chain Security

Jan-Ulrich Holtgrave (CISPA Helmholtz Center for Information Security), Kay Friedrich (CISPA Helmholtz Center for Information Security), Fabian Fischer (CISPA Helmholtz Center for Information Security), Nicolas Huaman (Leibniz University Hannover), Niklas Busch (CISPA Helmholtz Center for Information Security), Jan H. Klemmer (CISPA Helmholtz Center for Information Security), Marcel Fourné (Paderborn University), Oliver Wiese (CISPA Helmholtz Center for Information Security), Sascha Fahl (CISPA Helmholtz Center for Information Security)

### Session 10A: Confidential Computing 2 "Sealed Envelopes: How Secure Is Your Data in the Box?"

WAVEN: WebAssembly Memory Virtualization for Enclaves
Weili Wang (Southern University of Science and Technology), Honghan Ji
(ByteDance Inc.), Peixuan He (ByteDance Inc.), Yao Zhang (ByteDance Inc.), Ye
Wu (ByteDance Inc.), Yinqian Zhang (Southern University of Science and

Secure Data Analytics in Apache Spark with Fine-grained Policy Enforcement and Isolated Execution

Byeongwook Kim (Seoul National University), Jaewon Hur (Seoul National University), Adil Ahmad (Arizona State University), Byoungyoung Lee (Seoul National University)

RContainer: A Secure Container Architecture through Extending ARM CCA Hardware Primitives

Qihang Zhou (Institute of Information Engineering, Chinese Academy of Sciences), Wenzhuo Cao (Institute of Information Engineering, Chinese Academy of Sciences; School of Cyberspace Security, University of Chinese Academy of Sciences), Xiaoqi Jia (Institute of Information Engineering, Chinese Academy of Sciences), Peng Liu (The Pennsylvania State University, USA), Shengzhi Zhang (Department of Computer Science, Metropolitan College, Boston University, USA), Jiayun Chen (Institute of Information Engineering, Chinese Academy of Sciences; School of Cyberspace Security, University of Chinese Academy of Sciences; School of Cyberspace Security, University of Chinese Academy of Sciences), Zhenyu Song (Institute of Information Engineering, Chinese Academy of Science)

#### Session 10B: Ransomware "When the Hacker's Got the Key and You Don't"

ERW-Radar: An Adaptive Detection System against Evasive Ransomware by
Contextual Behavior Detection and Fine-grained Content Analysis

Lingbo Zhao (Institute of Information Engineering, Chinese Academy of
Sciences), Yuhui Zhang (Institute of Information Engineering, Chinese Academy
of Sciences), Zhilu Wang (Institute of Information Engineering, Chinese Academy
of Sciences), Fengkai Yuan (Institute of Information Engineering, CAS), Rui Hou
(Institute of Information Engineering, Chinese Academy of Sciences)

- All your (data)base are belong to us: Characterizing Database Ransom(ware) Attacks Kevin van Liebergen (IMDEA Software Institute), Gibran Gomez (IMDEA Software Institute), Srdjan Matic (IMDEA Software Institute), Juan Caballero (IMDEA Software Institute)
- Detecting Ransomware Despite I/O Overhead: A Practical Multi-Staged Approach
  Christian van Sloun (RWTH Aachen University), Vincent Woeste (RWTH Aachen
  University), Konrad Wolsing (RWTH Aachen University & Fraunhofer FKIE), Jan
  Pennekamp (RWTH Aachen University), Klaus Wehrle (RWTH Aachen
  University)

### Session 10C: Privacy Preservation "How to Keep Secrets...Without Telling Anyone"

On the Robustness of LDP Protocols for Numerical Attributes under Data Poisoning Attacks

Xiaoguang Li (Xidian University, Purdue University), Zitao Li (Alibaba Group (U.S.) Inc.), Ninghui Li (Purdue University), Wenhai Sun (Purdue University, West Lafayette, USA)

Iris: Dynamic Privacy Preserving Search in Authenticated Chord Peer-to-Peer Networks Angeliki Aktypi (University of Oxford), Kasper Rasmussen (University of Oxford)

Recurrent Private Set Intersection for Unbalanced Databases with Cuckoo Hashing and Leveled FHE

Eduardo Chielle (New York University Abu Dhabi), Michail Maniatakos (New York University Abu Dhabi)

### Session 10D: Machine Unlearning "Undoing the Machine's Memory: A Cyber Therapist's Guide"

TrajDeleter: Enabling Trajectory Forgetting in Offline Reinforcement Learning Agents
Chen Gong (University of Vriginia), Kecen Li (Chinese Academy of Sciences), Jin
Yao (University of Virginia), Tianhao Wang (University of Virginia)

#### Reinforcement Unlearning

Dayong Ye (University of Technology Sydney), Tianqing Zhu (City University of Macau), Congcong Zhu (City University of Macau), Derui Wang (CSIRO's Data61), Kun Gao (University of Technology Sydney), Zewei Shi (CSIRO's Data61), Sheng Shen (Torrens University Australia), Wanlei Zhou (City University of Macau), Minhui Xue (CSIRO's Data61)

#### Provably Unlearnable Data Examples

Derui Wang (CSIRO's Data61), Minhui Xue (CSIRO's Data61), Bo Li (The University of Chicago), Seyit Camtepe (CSIRO's Data61), Liming Zhu (CSIRO's Data61)

### Session 11A: Blockchain Security 2 "The Ledger of Lies: Securing the Blockchain Wild West"

Silence False Alarms: Identifying Anti-Reentrancy Patterns on Ethereum to Refine Smart Contract Reentrancy Detection

Qiyang Song (Institute of Information Engineering, Chinese Academy of Sciences; School of Cyber Security, University of Chinese Academy of Sciences), Heqing Huang (Institute of Information Engineering, Chinese Academy of Sciences), Xiaoqi Jia (Institute of Information Engineering, Chinese Academy of Sciences; School of Cyber Security, University of Chinese Academy of Sciences), Yuanbo Xie (Institute of Information Engineering, Chinese Academy of Sciences; School of Cyber Security, University of Chinese Academy of Sciences), Jiahao Cao (Institute for Network Sciences and Cyberspace, Tsinghua University)

PropertyGPT: LLM-driven Formal Verification of Smart Contracts through Retrieval-Augmented Property Generation

Ye Liu (Singapore Management University), Yue Xue (MetaTrust Labs), Daoyuan Wu (The Hong Kong University of Science and Technology), Yuqiang Sun (Nanyang Technological University), Yi Li (Nanyang Technological University), Miaolei Shi (MetaTrust Labs), Yang Liu (Nanyang Technological University)

Alba: The Dawn of Scalable Bridges for Blockchains

Giulia Scaffino (TU Wien), Lukas Aumayr (TU Wien), Mahsa Bastankhah (Princeton University), Zeta Avarikioti (TU Wien), Matteo Maffei (TU Wien)

Horcrux: Synthesize, Split, Shift and Stay Alive; Preventing Channel Depletion via Universal and Enhanced Multi-hop Payments

Anqi Tian (Institute of Software, Chinese Academy of Sciences; School of Computer Science and Technology, University of Chinese Academy of Sciences), Peifang Ni (Institute of Software, Chinese Academy of Sciences; Zhongguancun Laboratory, Beijing, P.R.China), Yingzi Gao (Institute of Software, Chinese Academy of Sciences; University of Chinese Academy of Sciences), Jing Xu (Institute of Software, Chinese Academy of Sciences; University of Chinese Academy of Sciences; Zhongguancun Laboratory, Beijing, P.R.China)

# Session 11B: Binary Analysis "Byte-Sized Mysteries: Decoding the Binary Jungle"

VeriBin: Adaptive Verification of Patches at the Binary Level
Hongwei Wu (Purdue University), Jianliang Wu (Simon Fraser University), Ruoyu
Wu (Purdue University), Ayushi Sharma (Purdue University), Aravind Machiry
(Purdue University), Antonio Bianchi (Purdue University)

Beyond Classification: Inferring Function Names in Stripped Binaries via Domain Adapted LLMs

Linxi Jiang (The Ohio State University), Xin Jin (The Ohio State University), Zhiqiang Lin (The Ohio State University)

BinEnhance: An Enhancement Framework Based on External Environment Semantics for Binary Code Search

Yongpan Wang (Institute of Information Engineering Chinese Academy of Sciences & University of Chinese Academy of Sciences, China), Hong Li (Institute of Information Engineering Chinese Academy of Sciences & University of Chinese Academy of Sciences, China), Xiaojie Zhu (King Abdullah University of Science and Technology, Thuwal, Saudi Arabia), Siyuan Li (Institute of Information Engineering Chinese Academy of Sciences & University of Chinese Academy of Sciences, China), Chaopeng Dong (Institute of Information Engineering Chinese Academy of Sciences & University of Chinese Academy of Sciences, China), Shouguo Yang (Zhongguancun Laboratory, Beijing, China), Kangyuan Qin (Institute of Information Engineering Chinese Academy of Sciences & University of Chinese Academy of Sciences, China)

Unleashing the Power of Generative Model in Recovering Variable Names from Stripped Binary

Xiangzhe Xu (Purdue University), Zhuo Zhang (Purdue University), Zian Su (Purdue University), Ziyang Huang (Purdue University), Shiwei Feng (Purdue University), Yapeng Ye (Purdue University), Nan Jiang (Purdue University), Danning Xie (Purdue University), Siyuan Cheng (Purdue University), Lin Tan (Purdue University), Xiangyu Zhang (Purdue University)

### Session 11C: Web Exploitation "The Web: It's Full of Exploits and You Don't Even Know"

- Cross-Origin Web Attacks via HTTP/2 Server Push and Signed HTTP Exchange Pinji Chen (Tsinghua University), Jianjun Chen (Tsinghua University & Zhongguancun Laboratory), Mingming Zhang (Zhongguancun Laboratory), Qi Wang (Tsinghua University), Yiming Zhang (Tsinghua University), Mingwei Xu (Tsinghua University), Haixin Duan (Tsinghua University)
- Misdirection of Trust: Demystifying the Abuse of Dedicated URL Shortening Service Zhibo Zhang (Fudan University), Lei Zhang (Fudan University), Zhangyue Zhang (Fudan University), Geng Hong (Fudan University), Yuan Zhang (Fudan University), Min Yang (Fudan University)
- Do (Not) Follow the White Rabbit: Challenging the Myth of Harmless Open Redirection Soheil Khodayari (CISPA Helmholtz Center for Information Security), Kai Glauber (Saarland University), Giancarlo Pellegrino (CISPA Helmholtz Center for Information Security)

#### Session 11D: Fuzzing 2 "More Fuzz, More Fun: Unleashing Chaos on Code"

Blackbox Fuzzing of Distributed Systems with Multi-Dimensional Inputs and Symmetry-Based Feedback Pruning

Yonghao Zou (Beihang University and Peking University), Jia-Ju Bai (Beihang University), Zu-Ming Jiang (ETH Zurich), Ming Zhao (Arizona State University), Diyu Zhou (Peking University)

- QMSan: Efficiently Detecting Uninitialized Memory Errors During Fuzzing

  Matteo Marini (Sapienza University of Rome), Daniele Cono D'Elia (Sapienza

  University of Rome), Mathias Payer (EPFL), Leonardo Querzoni (Sapienza

  University of Rome)
- Automatic Library Fuzzing through API Relation Evolvement
  Jiayi Lin (The University of Hong Kong), Qingyu Zhang (The University of Hong
  Kong), Junzhe Li (The University of Hong Kong), Chenxin Sun (The University of
  Hong Kong), Hao Zhou (The Hong Kong Polytechnic University), Changhua Luo
  (The University of Hong Kong), Chenxiong Qian (The University of Hong Kong)
- TWINFUZZ: Differential Testing of Video Hardware Acceleration Stacks
  Matteo Leonelli (CISPA Helmholtz Center for Information Security), Addison
  Crump (CISPA Helmholtz Center for Information Security), Meng Wang (CISPA
  Helmholtz Center for Information Security), Florian Bauckholt (CISPA Helmholtz
  Center for Information Security), Keno Hassler (CISPA Helmholtz Center for
  Information Security), Ali Abbasi (CISPA Helmholtz Center for Information
  Security), Thorsten Holz (CISPA Helmholtz Center for Information Security)

### Session 12A: Federated Learning 2 "Distributed Learning: Where Privacy Goes to Collaborate"

CENSOR: Defense Against Gradient Inversion via Orthogonal Subspace Bayesian Sampling

Kaiyuan Zhang (Purdue University), Siyuan Cheng (Purdue University), Guangyu Shen (Purdue University), Bruno Ribeiro (Purdue University), Shengwei An (Purdue University), Pin-Yu Chen (IBM Research AI), Xiangyu Zhang (Purdue University), Ninghui Li (Purdue University)

Do We Really Need to Design New Byzantine-robust Aggregation Rules?

Minghong Fang (University of Louisville), Seyedsina Nabavirazavi (Florida International University), Zhuqing Liu (University of North Texas), Wei Sun (Wichita State University), Sundararaja Iyengar (Florida International University), Haibo Yang (Rochester Institute of Technology)

Scale-MIA: A Scalable Model Inversion Attack against Secure Federated Learning via Latent Space Reconstruction

Shanghao Shi (Virginia Tech), Ning Wang (University of South Florida), Yang Xiao (University of Kentucky), Chaoyu Zhang (Virginia Tech), Yi Shi (Virginia Tech), Y. Thomas Hou (Virginia Polytechnic Institute and State University), Wenjing Lou (Virginia Polytechnic Institute and State University)

Privacy-Preserving Data Deduplication for Enhancing Federated Learning of Language Models

Aydin Abadi (Newcastle University), Vishnu Asutosh Dasu (Pennsylvania State University), Sumanta Sarkar (University of Warwick)

MingledPie: A Cluster Mingling Approach for Mitigating Preference Profiling in CFL Cheng Zhang (Hunan University), Yang Xu (Hunan University), Jianghao Tan (Hunan University), Jiajie An (Hunan University), Wenqiang Jin (Hunan University)

### Session 12B: Malware "Malware: The Gift That Keeps on Giving (but in a Bad Way)"

Careful About What App Promotion Ads Recommend! Detecting and Explaining Malware Promotion via App Promotion Graph

Shang Ma (University of Notre Dame), Chaoran Chen (University of Notre Dame), Shao Yang (Case Western Reserve University), Shifu Hou (University of Notre Dame), Toby Jia-Jun Li (University of Notre Dame), Xusheng Xiao (Arizona State University), Tao Xie (Peking University), Yanfang Ye (University of Notre Dame)

Revisiting Concept Drift in Windows Malware Detection: Adaptation to Real Drifted Malware with Minimal Samples

Adrian Shuai Li (Purdue University), Arun Iyengar (Intelligent Data Management and Analytics, LLC), Ashish Kundu (Cisco Research), Elisa Bertino (Purdue University)

PBP: Post-training Backdoor Purification for Malware Classifiers

Dung Thuy Nguyen (Vanderbilt University), Ngoc N. Tran (Vanderbilt University),

Taylor T. Johnson (Vanderbilt University), Kevin Leach (Vanderbilt University)

Density Boosts Everything: A One-stop Strategy for Improving Performance, Robustness, and Sustainability of Malware Detectors

Jianwen Tian (Academy of Military Sciences), Wei Kong (Zhejiang Sci-Tech University), Debin Gao (Singapore Management University), Tong Wang (Academy of Military Sciences), Taotao Gu (Academy of Military Sciences), Kefan Qiu (Beijing Institute of Technology), Zhi Wang (Nankai University), Xiaohui Kuang (Academy of Military Sciences)

Automated Mass Malware Factory: The Convergence of Piggybacking and Adversarial Example in Android Malicious Software Generation

Heng Li (Huazhong University of Science and Technology), Zhiyuan Yao (Huazhong University of Science and Technology), Bang Wu (Huazhong University of Science and Technology), Cuiying Gao (Huazhong University of Science and Technology), Teng Xu (Huazhong University of Science and Technology), Wei Yuan (Huazhong University of Science and Technology), Xiapu Luo (The Hong Kong Polytechnic University)

### Session 12C: Membership Inference "Who's in the Club? Finding Out If You're Targeted"

- Black-box Membership Inference Attacks against Fine-tuned Diffusion Models Yan Pang (University of Virginia), Tianhao Wang (University of Virginia)
- Diffence: Fencing Membership Privacy With Diffusion Models
  Yuefeng Peng (University of Massachusetts Amherst), Ali Naseh (University of Massachusetts Amherst), Amir Houmansadr (University of Massachusetts Amherst)
- A Method to Facilitate Membership Inference Attacks in Deep Learning Models

  Zitao Chen (University of British Columbia), Karthik Pattabiraman (University of British Columbia)
- SIGuard: Guarding Secure Inference with Post Data Privacy
  Xinqian Wang (RMIT University), Xiaoning Liu (RMIT University), Shangqi Lai
  (CSIRO Data61), Xun Yi (RMIT University), Xingliang Yuan (University of
  Melbourne)

Defending Against Membership Inference Attacks on Iteratively Pruned Deep Neural Networks

Jing Shang (Beijing Jiaotong University), Jian Wang (Beijing Jiaotong University), Kailun Wang (Beijing Jiaotong University), Jiqiang Liu (Beijing Jiaotong University), Nan Jiang (Beijing University of Technology), Md Armanuzzaman (Northeastern University), Ziming Zhao (Northeastern University)

### Session 12D: ML Backdoors "Backdoors in ML: When the Algorithm Gets Tricked"

- CLIBE: Detecting Dynamic Backdoors in Transformer-based NLP Models
  Rui Zeng (Zhejiang University), Xi Chen (Zhejiang University), Yuwen Pu
  (Zhejiang University), Xuhong Zhang (Zhejiang University), Tianyu Du (Zhejiang
  University), Shouling Ji (Zhejiang University)
- Try to Poison My Deep Learning Data? Nowhere to Hide Your Trajectory Spectrum! Yansong Gao (The University of Western Australia), Huaibing Peng (Nanjing University of Science and Technology), Hua Ma (CSIRO's Data61), Zhi Zhang (The University of Western Australia), Shuo Wang (Shanghai Jiao Tong University), Rayne Holland (CSIRO's Data61), Anmin Fu (Nanjing University of Science and Technology), Minhui Xue (CSIRO's Data61), Derek Abbott (The University of Adelaide, Australia)
- LADDER: Multi-Objective Backdoor Attack via Evolutionary Algorithm

  Dazhuang Liu (Delft University of Technology), Yanqi Qiao (Delft University of Technology), Rui Wang (Delft University of Technology), Kaitai Liang (Delft University of Technology), Georgios Smaragdakis (Delft University of Technology)

DShield: Defending against Backdoor Attacks on Graph Neural Networks via Discrepancy Learning

Hao Yu (National University of Defense Technology), Chuan Ma (Chongqing University), Xinhang Wan (National University of Defense Technology), Jun Wang (National University of Defense Technology), Tao Xiang (Chongqing University), Meng Shen (Beijing Institute of Technology, Beijing, China), Xinwang Liu (National University of Defense Technology)

BARBIE: Robust Backdoor Detection Based on Latent Separability

Hanlei Zhang (Zhejiang University), Yijie Bai (Zhejiang University), Yanjiao Chen
(Zhejiang University), Zhongming Ma (Zhejiang University), Wenyuan Xu
(Zhejiang University)

### Session 13A: JavaScript Security "Script Kiddies Beware: Securing the Web's Wild West"

Welcome to Jurassic Park: A Comprehensive Study of Security Risks in Deno and its Ecosystem

Abdullah AlHamdan (CISPA Helmholtz Center for Information Security), Cristian-Alexandru Staicu (CISPA Helmholtz Center for Information Security)

- NodeMedic-FINE: Automatic Detection and Exploit Synthesis for Node.js Vulnerabilities Darion Cassel (Carnegie Mellon University), Nuno Sabino (IST & CMU), Min-Chien Hsu (Carnegie Mellon University), Ruben Martins (Carnegie Mellon University), Limin Jia (Carnegie Mellon University)
- DUMPLING: Fine-grained Differential JavaScript Engine Fuzzing

  Liam Wachter (EPFL), Julian Gremminger (EPFL), Christian Wressnegger

  (Karlsruhe Institute of Technology (KIT)), Mathias Payer (EPFL), Flavio Toffalini

  (EPFL)

#### Session 13B: API Security "Behind the Curtain: Securing the Magic of APIs"

- The Midas Touch: Triggering the Capability of LLMs for RM-API Misuse Detection Yi Yang (Institute of Information Engineering, Chinese Academy of Sciences, Beijing, China; School of Cyber Security, University of Chinese Academy of Sciences, China), Jinghua Liu (Institute of Information Engineering, Chinese Academy of Sciences, Beijing, China; School of Cyber Security, University of Chinese Academy of Sciences, China), Kai Chen (Institute of Information Engineering, Chinese Academy of Sciences, Beijing, China; School of Cyber Security, University of Chinese Academy of Sciences, China), Miaoqian Lin (Institute of Information Engineering, Chinese Academy of Sciences, Beijing, China; School of Cyber Security, University of Chinese Academy of Sciences, China)
- Generating API Parameter Security Rules with LLM for API Misuse Detection
  Jinghua Liu (Institute of Information Engineering, Chinese Academy of Sciences,
  Beijing, China; School of Cyber Security, University of Chinese Academy of
  Sciences, China), Yi Yang (Institute of Information Engineering, Chinese
  Academy of Sciences, Beijing, China; School of Cyber Security, University of

Chinese Academy of Sciences, China), Kai Chen (Institute of Information Engineering, Chinese Academy of Sciences, Beijing, China; School of Cyber Security, University of Chinese Academy of Sciences, China), Miaoqian Lin (Institute of Information Engineering, Chinese Academy of Sciences, Beijing, China; School of Cyber Security, University of Chinese Academy of Sciences, China)

Uncovering the iceberg from the tip: Generating API Specifications for Bug Detection via Specification Propagation Analysis

Miaoqian Lin (Institute of Information Engineering, Chinese Academy of Sciences, Beijing, China; School of Cyber Security, University of Chinese Academy of Sciences, China), Kai Chen (Institute of Information Engineering, Chinese Academy of Sciences, Beijing, China; School of Cyber Security, University of Chinese Academy of Sciences, China), Yi Yang (Institute of Information Engineering, Chinese Academy of Sciences, Beijing, China; School of Cyber Security, University of Chinese Academy of Sciences, China), Jinghua Liu (Institute of Information Engineering, Chinese Academy of Sciences, Beijing, China; School of Cyber Security, University of Chinese Academy of Sciences, China)

#### Session 13C: Side Channels 2 "More Than You Bargained for: The Sneaky Side Channels"

- RadSee: See Your Handwriting Through Walls Using FMCW Radar Shichen Zhang (Michigan State University), Qijun Wang (Michigan State University), Maolin Gan (Michigan State University), Zhichao Cao (Michigan State University), Huacheng Zeng (Michigan State University)
- Crosstalk-induced Side Channel Threats in Multi-Tenant NISQ Computers
  Ruixuan Li (Choudhury), Chaithanya Naik Mude (University of Wisconsin-Madison), Sanjay Das (The University of Texas at Dallas), Preetham Chandra Tikkireddi (University of Wisconsin-Madison), Swamit Tannu (University of Wisconsin, Madison), Kanad Basu (University of Texas at Dallas)
- On Borrowed Time Preventing Static Side-Channel Analysis
  Robert Dumitru (Ruhr University Bochum and The University of Adelaide),
  Thorben Moos (UCLouvain), Andrew Wabnitz (Defence Science and Technology
  Group), Yuval Yarom (Ruhr University Bochum)

#### Session 13D: Software Security: Code and Compiler "Compiling a Plan to Secure Your Code"

- type++: Prohibiting Type Confusion with Inline Type Information
  Nicolas Badoux (EPFL), Flavio Toffalini (Ruhr-Universität Bochum, EPFL),
  Yuseok Jeon (UNIST), Mathias Payer (EPFL)
- Translating C To Rust: Lessons from a User Study
  Ruishi Li (National University of Singapore), Bo Wang (National University of Singapore), Tianyu Li (National University of Singapore), Prateek Saxena (National University of Singapore), Ashish Kundu (Cisco Research)

Retrofitting XoM for Stripped Binaries without Embedded Data Relocation

Chenke Luo (Wuhan University), Jiang Ming (Tulane University), Mengfei Xie
(Wuhan University), Guojun Peng (Wuhan University), Jianming Fu (Wuhan

University)

### Session 14A: Software Security: Applications & Policies "Apps, Rules, and the Never-Ending Game of Security"

Enhancing Security in Third-Party Library Reuse - Comprehensive Detection of 1-day Vulnerability through Code Patch Analysis

Shangzhi Xu (The University of New South Wales), Jialiang Dong (The University of New South Wales), Weiting Cai (Delft University of Technology), Juanru Li (Feiyu Tech), Arash Shaghaghi (The University of New South Wales), Nan Sun (The University of New South Wales), Siqi Ma (The University of New South Wales)

CASPR: Context-Aware Security Policy Recommendation

Lifang Xiao (Institute of Information Engineering, Chinese Academy of Sciences), Hanyu Wang (Institute of Information Engineering, Chinese Academy of Sciences), Aimin Yu (Institute of Information Engineering, Chinese Academy of Sciences), Lixin Zhao (Institute of Information Engineering, Chinese Academy of Sciences), Dan Meng (Institute of Information Engineering, Chinese Academy of Sciences)

JBomAudit: Assessing the Landscape, Compliance, and Security Implications of Java SBOMs

Yue Xiao (IBM Research), Dhilung Kirat (IBM Research), Douglas Lee Schales (IBM Research), Jiyong Jang (IBM Research), Luyi Xing (Indiana University Bloomington), Xiaojing Liao (Indiana University)

### Session 14B: Privacy & Cryptography 2 "Crypto's Secret: Keeping It Safe, Keeping It Quiet"

MTZK: Testing and Exploring Bugs in Zero-Knowledge (ZK) Compilers

Dongwei Xiao (The Hong Kong University of Science and Technology), Zhibo Liu

(The Hong Kong University of Science and Technology), Yiteng Peng (The Hong

Kong University of Science and Technology), Shuai Wang (The Hong Kong

University of Science and Technology)

SHAFT: Secure, Handy, Accurate and Fast Transformer Inference Andes Y. L. Kei (Chinese University of Hong Kong), Sherman S. M. Chow (Chinese University of Hong Kong)

Siniel: Distributed Privacy-Preserving zkSNARK

Yunbo Yang (The State Key Laboratory of Blockchain and Data Security, Zhejiang University), Yuejia Cheng (Shanghai DeCareer Consulting Co., Ltd), Kailun Wang (Beijing Jiaotong University), Xiaoguo Li (College of Computer Science, Chongqing University), Jianfei Sun (School of Computing and Information Systems, Singapore Management University), Jiachen Shen (Shanghai Key Laboratory of Trustworthy Computing, East China Normal University), Xiaolei Dong (Shanghai Key Laboratory of Trustworthy Computing,

East China Normal University), Zhenfu Cao (Shanghai Key Laboratory of Trustworthy Computing, East China Normal University), Guomin Yang (School of Computing and Information Systems, Singapore Management University), Robert H. Deng (School of Computing and Information Systems, Singapore Management University)

#### Session 14C: Vulnerability Detection "Vulnerability Hunting: The Quest for the Perfect Patch"

Be Careful of What You Embed: Demystifying OLE Vulnerabilities

Yunpeng Tian (Huazhong University of Science and Technology), Feng Dong (Huazhong University of Science and Technology), Haoyi Liu (Huazhong University of Science and Technology), Meng Xu (University of Waterloo), Zhiniang Peng (Huazhong University of Science and Technology; Sangfor Technologies Inc.), Zesen Ye (Sangfor Technologies Inc.), Shenghui Li (Huazhong University of Science and Technology), Xiapu Luo (The Hong Kong Polytechnic University), Haoyu Wang (Huazhong University of Science and Technology)

From Large to Mammoth: A Comparative Evaluation of Large Language Models in Vulnerability Detection

Jie Lin (University of Central Florida), David Mohaisen (University of Central Florida)

Sheep's Clothing, Wolf's Data: Detecting Server-Induced Client Vulnerabilities in Windows Remote IPC

Fangming Gu (Institute of Information Engineering, Chinese Academy of Sciences), Qingli Guo (Institute of Information Engineering, Chinese Academy of Sciences), Jie Lu (Institute of Computing Technology, Chinese Academy of Sciences), Qinghe Xie (Institute of Information Engineering, Chinese Academy of Sciences), Beibei Zhao (Institute of Information Engineering, Chinese Academy of Sciences), Kangjie Lu (University of Minnesota), Hong Li (Institute of information engineering, Chinese Academy of Sciences), Xiaorui Gong (Institute of information engineering, Chinese Academy of Sciences)

#### Session 14D: Autonomous Vehicles "Hacking the Wheel: When Self-Driving Cars Get 'Lost'"

On the Realism of LiDAR Spoofing Attacks against Autonomous Driving Vehicle at High Speed and Long Distance

Takami Sato (University of California, Irvine), Ryo Suzuki (Keio University), Yuki Hayakawa (Keio University), Kazuma Ikeda (Keio University), Ozora Sako (Keio University), Rokuto Nagata (Keio University), Ryo Yoshida (Keio University), Qi Alfred Chen (University of California, Irvine), Kentaro Yoshioka (Keio University)

Revisiting Physical-World Adversarial Attack on Traffic Sign Recognition: A Commercial Systems Perspective

Ningfei Wang (University of California, Irvine), Shaoyuan Xie (University of California, Irvine), Takami Sato (University of California, Irvine), Yunpeng Luo

(University of California, Irvine), Kaidi Xu (Drexel University), Qi Alfred Chen (University of California, Irvine)

L-HAWK: A Controllable Physical Adversarial Patch Against a Long-Distance Target Taifeng Liu (Xidian University), Yang Liu (Xidian University), Zhuo Ma (Xidian University), Tong Yang (Peking University), Xinjing Liu (Xidian University), Teng Li (Xidian University), Jianfeng Ma (Xidian University)

#### **Message from the General Chairs**

Welcome to the 2025 Network and Distributed System Security (NDSS) Symposium!

This year, the organizing and technical program committees have put together an exceptional program featuring 211 papers, two distinguished keynotes—Johanna Sepúlveda, Senior Expert and Technical Domain Manager for Quantum and Quantum-Secure Technologies at Airbus Defence and Space, and Kathleen Fisher, Director of DARPA/I2O—along with a poster session showcasing 37 posters and eight co-hosted events.

A program of this scale would not be possible without the dedication of numerous volunteers, and we extend our deepest gratitude to them.

First, we thank our Technical Program Committee Co-Chairs, Christina Pöpper and Hamed Okhravi, for curating an outstanding technical program. NDSS 2025 had two submission cycles, and we appreciate the program committee members and external reviewers for their meticulous work in reviewing submissions, guiding authors through revisions, and selecting the best papers for presentation.

Second, we are grateful to Daniele Cono D'Elia and Mathy Vanhoef for leading the artifact evaluation initiative, which evaluated 63 artifacts. We also extend a huge thanks to Mridula Singh and Hyungsub Kim, our publications chairs, for ensuring the collection and timely publication of camera-ready papers.

Additionally, we appreciate Jelena Mirkovic and Sébastien Bardin for organizing an impressive set of co-located events this year, including:

- 1. Security and Privacy of Next-Generation Networks (FutureG)
- 2. Security and Privacy in Standardized IoT (SDIoTSec)
- 3. Security of Space and Satellite Systems (SpaceSec)
- 4. Usable Security and Privacy (USEC)
- 5. SOC Operations and Construction (WOSOC)
- 6. Binary Analysis Research (BAR)
- 7. Innovation in Metadata Privacy: Analysis and Construction Techniques (IMPACT)
- 8. Measurements, Attacks, and Defenses for the Web (MADWeb)

We also extend our thanks to Tianshi Li and Kaushal Kafle for coordinating a fantastic poster session, and for organizing the Best Poster Awards. Special appreciation goes to Tingting Chen and her team for reviewing student fellowship applications—this year, 31 students received NDSS fellowships and travel support.

Further thanks to Yue Xiao, our publicity chair, and Tom Hutton, our local arrangements chair. We also acknowledge the NDSS Steering Group led by Yongdae Kim for their guidance and active participation in making this symposium a success.

#### **Acknowledging Our Sponsors**

NDSS is made possible through the generous support of our sponsors. We extend our gratitude to:

Gold Sponsor TikTok; Coffee Break Sponsor Google; Silver Sponsors Ant Group, Amazon Science, FutureWei Technologies, and Palo Alto Networks; and our lanyard sponsor Qualcomm. Palo Alto Networks also sponsored a Best Paper award for the MADWeb workshop.

We also thank our sponsorship coordinators—Yongdae Kim, Heng Yin, and Mauro Conti—for their efforts in helping identify potential sponsors around the globe.

#### Thank You to ISOC & AMS

NDSS would not happen without the invaluable support of the ISOC team—Raquel Kroich, Sally Harvey, Robin Wilton, Robbie Mitchell, and Ivana Trbovic. We sincerely appreciate the Internet Society's continued support of NDSS, as well as the Association Management Solutions (AMS) staff for their ongoing efforts in managing this event.

#### And Finally, Thank You!

Most importantly, thank you to all of you—our participants! NDSS exists because of your contributions. Whether you are submitting and presenting papers and posters, attending sessions, or engaging in discussions, your participation strengthens our community in network and distributed system security.

We hope you enjoy NDSS 2025!

David Balenson and Heng Yin General Chairs, NDSS 2025

# **Message from the Program Committee Co-Chairs**

We are delighted to present the technical program of the 2025 Network and Distributed System Security (NDSS) symposium, held as an in-person event between February 24 and 28, 2025. Now in its 33rd edition and hosted by the Internet Society (ISOC) from the start, NDSS has established itself as a top-tier academic conference focused on cybersecurity research, particularly in network and system security. NDSS emphasizes practical and impactful security solutions for research and practice, making it highly relevant to both academia and industry.

The field of cybersecurity is experiencing rapid growth and transformation. This year, a total of 1311 submissions entered the peer review process over two submission cycles (this does not count papers that clearly violated the submission guidelines or were judged as out of scope by a PC subcommittee). The submissions were evaluated on the basis of their technical quality, novelty, and significance. Two rounds of reviewing (and in some cases additional reviews) in each cycle and additional assessments by the newly established Ethics Review Board (if applicable) were conducted. Papers with two clearly negative reviews were early rejected after the first round, the others advanced to the second round for another set of reviews. More than 83% of the 544 papers entering the second review round received a total of four reviews (or more), the others three reviews. We strove to make the review process competitive but constructive and insightful for the authors, including a rebuttal and interactive discussion phase. Program Committee (PC) members were regularly reminded to identify positive points in the submission and provide concrete suggestions to improve each paper; 103 papers were accepted after major revisions. At the end of the review process and after intense online discussions, 211 papers (16.1% acceptance rate) were selected to appear in the program. 68 of the accepted papers additionally submitted their artifacts for review of the Artifact Evaluation committee, 63 of which were evaluated in their entirety. Navigating the use of Generative Al and enforcing integrity and review ethics throughout the review process were two aspects where we devoted particular attention.

We would like to extend our sincere thanks to the PC members and external reviewers. The task of the PC members was substantial as we asked them to contribute significant time and effort in the expert selection of papers. 167 experts accepted our invitation to join the NDSS '25 Technical Program Committee, 119 of whom participated in both review cycles. The PC members wrote up to 10 reviews in the Summer Cycle and up to 18 reviews in the Fall cycle. In addition, they participated in the online PC discussion, in the interactive discussion phase with the authors, and many served as shepherds for minor revisions or discussion leads for major revisions (where the revisions were reassessed by all reviewers). We would like to express our sincere gratitude to them - without their service NDSS would not be possible. We also extend our thanks to the members of the Artifact Evaluation Committee who each assessed three or more artifacts.

Organizing a conference as large as NDSS is a substantial endeavor, and we would like to extend our sincere thanks to everyone who contributed their time and effort. We would like to specifically name a few individuals who made particular contributions to NDSS 2025. David Balenson served as Chair of the Organization Committee and was an invaluable

source of information and institutional knowledge, guiding us with his expertise. Steering Committee Chair Yongdae Kim provided strategic oversight and worked closely with us on key decisions and navigating complex cases where additional insight was needed—our sincere thanks to him and the entire Steering Committee. Robin Wilton played a pivotal role as a bridge between the Program Co-Chairs, the Organizing Committee, and ISOC and was crucial to ensuring that every moving part stayed in sync—all while infusing the process with enthusiasm. From ISOC, Joseph Hall offered valuable support, and Ivana Trbovic did an excellent job regarding website management. Artifact Evaluation Co-Chairs Daniele Cono D'Elia and Mathy Vanhoef ran the artifact evaluation process with exceptional diligence, reinforcing its role as a cornerstone of rigorous research and marking the second time NDSS has embraced this initiative. Mridula Singh and Hyungsub Kim expertly managed the intricate details of proceedings production. It has been an honor to work with all of you!

Finally, we thank all authors who submitted to NDSS 2025 and all attendees who are joining us in person—without you, NDSS would not be possible. We also thank the selected presenters joining us online; we are sorry you could not make it in person for reasons beyond your control.

We hope you will enjoy the new location in San Diego and are accepting a few possible relocation hiccups. Enjoy the conference!

Christina Pöpper and Hamed Okhravi Program Committee Co-Chairs, NDSS 2025

## **Message from the Internet Society**

The Internet Society is once again proud to host the Network and Distributed System Security (NDSS) Symposium in 2025, continuing our decades-long commitment to NDSS. The Symposium remains in the top four global security conferences, which is a testament to the impact of your research both in academia and industry.

The Internet Society's mission of an open, globally-connected, secure and trustworthy Internet depends on the work you do here. Our work is enabled and supported by the research you carry out, the leaders you develop, and the breakthroughs you achieve. Through your efforts and NDSS' open publication policy, the state of the art in network and distributed systems security is advanced, world wide. Thank you.

In 2025, NDSS continues to set new records. Paper submissions doubled (again!), from 700 to 1372, and by expanding NDSS from three tracks to four, for the first time, we have been able to accommodate 211 accepted papers: an increase of one third over 2024. With an acceptance rate of just over 15%, that meant competition to present papers at NDSS 2025 was extremely tough: congratulations to the successful teams.

Those record numbers have, of course, meant a sharp increase in workload for the huge number of volunteers from the community who put together this high-quality program. The Program Committee alone, this year, consisted of almost 170 volunteers, peer reviewing and scoring the record number of submissions.

We are grateful for the hard work undertaken by General Co-Chairs David Balenson and Heng Yin, Program Committee Co-Chairs Christina Pöpper and Hamed Okhravi, and the Organizing and Program Committee members who have invested countless hours to review papers and posters, evaluate research artifacts, publish the proceedings, organize co-located sessions, and improve the NDSS student support program.

As ever, the Program Committee has lined up two world-class keynote speakers, in Dr Johanna Sepúlveda (Airbus Defence and Space) and Dr Kathleen Fisher (DARPA), who will share their insights on cutting-edge technologies in a turbulent geo-political environment.

Finally, I am profoundly grateful to the sponsors without whom this event would not be possible. This includes our Gold Sponsor TikTok; Coffee Break Sponsor Google; Silver Sponsors Ant Group, Amazon Science, FutureWei Technologies, and Palo Alto Networks; and our lanyard sponsor Qualcomm. Palo Alto Networks have also sponsored a Best Paper award for the MADWeb workshop.

On behalf of the Internet Society, I welcome you to the busiest ever NDSS. The opportunities to learn, network, and develop are almost limitless: I hope you find time to have some fun too!

Sally Wentworth
President and CEO, Internet Society

# **Program Committee**

Christina Pöpper, New York University Abu Dhabi (Co-Chair)
Hamed Okhravi, MIT Lincoln Laboratory (Co-Chair)

Abhishta Abhishta, *University of Twente* Adam Bates, University of Illinois at Urbana-Champaign Adwait Nadkarni, William & Mary Ahmad-Reza Sadeghi, TU Darmstadt Alessandro Sorniotti, IBM Research Europe Alexandra Dmitrienko, University of Wuerzburg Ali Abbasi, CISPA Helmholtz Center for Information Security Alvaro Cardenas, University of California, Santa Cruz Amy Babay, University of Pittsburgh Ang Li, The University of Michigan-Dearborn Angelos Stavrou, Virginia Tech Antonio Villani, Retooling Aolin Ding, Accenture Labs Aravind Machiry, Purdue University Awais Rashid, *University of Bristol* Bahruz Jabiyev, Dartmouth College Bart Coppens, Ghent University Ben Stock, CISPA Helmholtz Center for Information Security Benjamin Ujcich, Georgetown University Benjamin Andow, Google Binbin Zhao, Georgia Institute of Technology Brendan Saltaformaggio, Georgia Institute of Technology Christine Utz. Radboud University Christof Ferreira Torres, ETH Zurich Christophe Hauser, Dartmouth College Christopher Kruegel, UC Santa Barbara Claudio Soriente, NEC Laboratories Europe Coby Wang, Visa Research Daniel Gruss, Graz University of Technology Daniele Cono D'Elia, Sapienza University of Rome Daoyuan Wu, Hong Kong University of Science and Technology David Mohaisen, University of Central Florida Derrick McKee, MIT Lincoln Laboratory Derui Wang, CSIRO's Data61 Ding Wang, Nankai University Doowon Kim, University of Tennessee, Knoxville Eleonora Losiouk, University of Padua Erik van der Kouwe Vrije, Universiteit Amsterdam

Faysal Hossain Shezan, University of Texas at Arlington

Fengwei Zhang, Southern University of Science and Technology Flavio Toffalini, EPFL

> Gang Qu, University of Maryland Gary Tan, Pennsylvania State University Ghassan Karame, Ruhr University Bochum Giovanni Apruzzese, University of Liechtenstein Guangdong Bai, The University of Queensland

Guofei Gu, Texas A&M University

Habiba Farrukh, University of California, Irvine

Haibin Zhang, Yangtze Delta Region Institute of Tsinghua University

Haipeng Cai, Washington State University
Han Qiu, Tsinghua University

Haojin Zhu, Shanghai Jiao Tong University

Hong Hu, *Pennsylvania State University* Hongxin Hu, *University at Buffalo* 

Hossein Fereidooni, KOBIL GmbH

Houman Homayoun, University of California Davis

Hyungsub Kim, Indiana University

Imtiaz Karim, *Purdue University* Insu Yun, *KAIST* 

Ivan Martinovic, *University of Oxford* 

Jason (Minhui) Xue, CSIRO's Data61

Jianjun Chen, Tsinghua University

Juan Tapiador, Carlos III University of Madrid

Jun Xu, *University of Utah* 

Juraj Somorovsky, Paderborn University

JV Rajendran, Texas A&M University

Kai Li, San Diego State University Kaihua Qin, Yale University

Kaushal Kafle, University of South Florida

Kevin Borgolte, Ruhr University Bochum

Kevin Leach, Vanderbilt University

Kun Sun, George Mason University

Kyungtae Kim, Dartmouth College

Lannan Lisa Luo, George Mason University

Le Guan, University of Georgia

Lejla Batina, Radboud University

Lingyu Wang, Concordia University

Lorenzo Cavallaro, University College London

Manuel Egele, Boston University

Marcus Botacin, *Texas A&M University*Marcus Peinado, *Microsoft Research* 

Marko Vukolic, ConsensusLab

Martin Strohmeier, Cyber-Defence Campus, armasuisse Science + Technology Martin Henze, RWTH Aachen University & Fraunhofer FKIE

Martin Johns, *TU Braunschweig*Mathias Payer, *EPFL* 

Matteo Grosse-Kampmann, Rhine-Waal University / AWARE7 GmbH Meng Luo, Zhejiang University

Meng Xu, University of Waterloo

Michael Schwarz, CISPA Helmholtz Center for Information Security

Mihalis Maniatakos, NYU Abu Dhabi

Min Suk Kang, KAIST

Ming Li, The University of Texas at Arlington

Minghong Fang, Duke University

Mingxue Zhang, Zhejiang University

Mitsuaki Akiyama, NTT

Mohammad Islam, University of Texas at Arlington

Mu Zhang, University of Utah

Murtuza Jadliwala, *University of Texas at San Antonio* 

Nader Sehatbakhsh, UCLA

Nadim Kobeissi, Cure53, Symbolic Software

Nathan Burow, MIT Lincoln Laboratory

Neil Gong, Duke University

Nick Nikiforakis, Stony Brook University

Nidhi Rastogi, Rochester Institute of Technology

Ning Wang, University of South Florida

Omar Chowdhury, Stony Brook University

Paria Shirani, University of Ottawa

Peng Gao, Virginia Tech

Per Larsen, Immunant, Inc.

Phani Vadrevu, Louisiana State University

Prashast Srivastava, Columbia University

Qi Li, Tsinghua University

Qiang Tang, The University of Sydney

Qiben Yan, Michigan State University

Qingchuan Zhao, City University of Hong Kong

Qiushi Wu, IBM Research

Rachel Greenstadt, New York University

Raghavendran Ramakrishnan, Snowflake Inc.

Rajvardhan Oak, University of California Davis / Microsoft Corporation

René Mayrhofer, Johannes Kepler University Linz

Rob Cunningham, University of Pittsburgh

Ruoyu "Fish" Wang, Arizona State University

Saman Zonouz, Georgia Institute of Technology

Samuel Jero, MIT Lincoln Laboratory

Sandra Siby, Imperial College London Sang Kil Cha, KAIST Santosh Nagarakatte, Rutgers University Sebastian Köhler, University of Oxford Sébastien Bardin, CEA List, Université Paris Saclay Shagufta Mehnaz, Pennsylvania State University Shahin Tajik, Worcester Polytechnic Institute Sherman S. M. Chow, Chinese University of Hong Kong Shweta Shinde, ETH Zurich Sisi Duan, Tsinghua University Soheil Salehi, The University of Arizona Srdjan Čapkun, *ETH Zurich* Stephen Herwig, William & Mary Stjepan Picek, Radboud University Survadipta Majumdar, Concordia University Syed Rafiul Hussain, Pennsylvania State University Takuya Watanabe, Deloitte Tohmatsu Cyber LLC Tatsuya Mori, Waseda University Theodor Schnitzler, Maastricht University Tianhao Wang, University of Virginia Ting Wang, Stony Brook University Tuba Yavuz, University of Florida Veelasha Moonsamy, Ruhr University Bochum Wajih Ul Hassan, University of Virginia Wenke Lee, Georgia Institute of Technology William Robertson, Northeastern University Xiaokuan Zhang, George Mason University Xingliang Yuan, The University of Melbourne Xinwen Fu, University of Massachusetts Lowell Xinyang Ge, Databricks Xinyu Xing, Northwestern University Yang Zhang, CISPA Helmholtz Center for Information Security Yongdae Kim, KAIST Yonghwi Kwon, *University of Maryland* Yuan Hong, University of Connecticut Yue Zhang, Drexel University Yuzhe Tang, Syracuse University Z. Berkay Celik, Purdue University Zephyr Yao, New Jersey Institute of Technology Zhikun Zhang, Stanford & CISPA Zhiyun Qian, University of California, Riverside

Zhou Li, University of California, Irvine

## **External Reviewers**

Aashutosh Poudel, William & Mary Abdullah Al Ishtiag, Pennsylvania State University Alan Liu, *University of Maryland* Alexander Herzog, *University College London* Aliai Eusebi, University College London Alireza Moghaddas Borhan, Concordia University Amit Seal Ami, William & Mary Ananth Shreekumar, Purdue University Andes Y. L. Kei, The Chinese University of Hong Kong Andreas Kogler, *Graz University of Technology* Andrei Homescu. Immunant. Inc. Arash Daneshmand, Concordia University Atri Bhattacharyya, Oracle Azadeh Tabiban, University of Manitoba Baohang Huang, Beijing Institute of Technology Beomseok Oh, KAIST Burak Sahin, Georgia Institute of Technology Chathura Rajapaksha, Boston University Chen Gong, University of Virginia Chengkai Weng, Arizona State University CheolJun Park, Kyung Hee University Christoforos Vasilatos, New York University Abu Dhabi Congyu Liu, *Purdue University* Daniel Klischies, Ruhr University Bochum Danyu Sun, University of California, Irvine Dohyun Kim, KAIST Duckwoo Kim, KAIST Dunia Mahboobeh, New York University Abu Dhabi Eduardo Chielle, New York University Abu Dhabi Elisa Braconaro, Università degli Studi di Padova Emily Shen, MIT Lincoln Laboratory Eric Wagner, Fraunhofer FKIE & RWTH Aachen University Fabian Rauscher, Graz University of Technology Felix Lange, Paderborn University Florian Hantke, CISPA

Gianluca Capozzi, *Università Roma "La Sapienza"* and *University College London*Hamid Bostani, *Radboud University* 

Han Zheng, EPFL

Hannes Weissteiner, *Graz University of Technology*Hansung Bae, *KAIST* 

Haochen Wang, Tsinghua University
Haoran Yang, Washington State University

Harry W. H. Wong, The Chinese University of Hong Kong Hengkai Ye, *Pennsylvania State University* Hinddeep Purohit, Concordia University Hithem Lamri, New York University Abu Dhabi Homer Gamil, New York University Abu Dhabi Huancheng Zhou, Texas A&M University Hugo Kermabon-Bobinnec, Concordia University Hyeonmin Lee, University of Virginia Hyunmin Ju, KAIST Ioannis Angelakopoulos, *Boston University* Jack P. K. Ma, The Chinese University of Hong Kong Jaehoon Kim, KAIST Jan Horacek, Johannes Kepler University Linz Jan Pennekamp, RWTH Aachen University Jannis Rautenstrauch, CISPA Jiacen Xu, University of California, Irvine Jiafan Wang, CSIRO's Data61 Jianwei Huang, Texas A&M University Jiawei Guo, University at Buffalo Jing Xu, Chinese Academy of Sciences Joann Chen, University of California, Irvine Jonas Juffinger, Graz University of Technology Jose Miguel Moreno, University Carlos III of Madrid Ju Chen, Meta Juanita Gomez, University of California, Santa Cruz Juliana Furgala, MIT Lincoln Laboratory Jung Hyun Kim, KAIST Jungwoo Lee, KAIST Kai Tu, Pennsylvania State University Kailun Yan, George Mason University Keerthi Koneru, University of California, Santa Cruz Keika Mori, Deloitte Tohmatsu Cyber LLC Keyan Guo, University at Buffalo Konrad Wolsing, Fraunhofer FKIE & RWTH Aachen University Kwangmin Kim, KAIST Lucien K. L. Ng, Georgia Institute of Technology Luis Burbano, University of California, Santa Cruz Lukas Giner, Graz University of Technology Manaar Alam, New York University Abu Dhabi Manki Cho, KAIST Mario Lins, Johannes Kepler University Linz Maximilian Radoy, *Paderborn University* Mengxiao Wang, Texas A&M University Michael Roland, Johannes Kepler University Linz

Mincheol Son, KAIST Mingfei Zhang, Shandong University Minxin Du, Hong Kong Polytechnic University Mohammed Nabeel, New York University Abu Dhabi Mujtahid Al Akon, Pennsylvania State University Nicholas Miazzo, Università degli Studi di Padova Nico Heitmann, Paderborn University Niklas Niere, Paderborn University Pankaj Niroula, William & Mary Peiyang Li, Tsinghua University Philipp Mackensen, Ruhr University Bochum Prianka Mandal, William & Mary Qifan Zhang, University of California, Irvine Qiging Huang, University at Buffalo Raymond Muller, *Purdue University* Ritik Roongta, New York University Roland Czerny, Graz University of Technology Ruixuan Liu, Emory University Rujia Li, Tsinghua University Ruoyu Song, Purdue University Rupam Patir, University at Buffalo Saleh Khalaj Monfared, Worcester Polytechnic Institute Samuele Doria, Università degli Studi di Padova Sangmin Woo, KAIST Sangwook Bae, Cape Sareh Mohammadi, Concordia University Sebastian Castro, University of California, Santa Cruz Seyed Mohammadjavad Seyed Talebi, Pyte Shreyas Kumar, Texas A&M University Shuangpeng Bai, Pennsylvania State University Shubham Agarwal, CISPA Shujaat Mirza, ML Alignment & Theory Scholars (MATS) Siji Chen, Tsinghua University Song Liu, Pennsylvania State University Soomin Kim, KAIST Stefan Gast, Graz University of Technology Stefan Saroiu, Microsoft Research Sven Hebrok, Paderborn University Syed Md Mukit Rashid, Pennsylvania State University Taekkyung Oh, KAIST Tianchang Yang, Pennsylvania State University Tianwei Wu, Pennsylvania State University Tobias Höller, Johannes Kepler University Linz

Tuan Dinh Hoang, KAIST

Vamsi Simhadri, George Mason University Victor Olaiya, William & Mary Vishnu Teja Kandalam, George Mason University Wanda Guo, Texas A&M University Wanlun Ma, Swinburne University of Technology Wei Zhou, Huazhong University of Science and Technology Wen Li. Utah State University Xiao Sui, Tsinghua University Xiaochen Li, University of Virginia Xiaoyun Xu, Radboud University Xin Wang, Tsinghua University Xingzhi Qian, University College London Xinhao Deng, Tsinghua University Xinran Zheng, University College London Xuanji Meng, Tsinghua University Xuesong Bai, University of California, Irvine Yan Pang, University of Virginia Yichang Xiong, George Mason University Yihao Chen, Tsinghua University Yilu Dong, Pennsylvania State University Yixin Sun, University of Virginia Youwei Shu, National University of Singapore Yu Liang, Pennsylvania State University Yu Nong, University at Buffalo Yu Zheng, University of California, Irvine Yu Zheng, University of California, Irvine Yucheng Fu, University of Virginia Yuji Sakurai, Deloitte Tohmatsu Cyber LLC Yunpeng Liu, Tsinghua University Yuqi Qing, Tsinghua University Yuxin Cao, National University of Singapore Zhaoyang Xie, Beijing Institute of Technology Zhechang Zhang, Pennsylvania State University Zhengyuan Jiang, University of South Florida Zhiyong Fang, Texas A&M University Zihang Xiang, KAUST

## **Artifact Evaluation Committee**

Advije Rizvani, *University of Liechtenstein* Ahmed Lekssays, Qatar Computing Research Institute Alessandro Erba, Karlsruhe Institute of Technology Amit Samanta, University of Utah Andrew Roberts, Tallinn University of Technology Aolin Ding, Accenture Labs Ayomide Akinsanya, Stevens Institute of Technology Cen Zhang, Nanyang Technological University CheolJun Park, Kyung Hee University Christoph Sendner, University of Würzburg Cristian Assaiante, Sapienza University of Rome Dipsy Desai, University of Southern California Dongwei Xiao, The Hong Kong University of Science and Technology Evangelos Bitsikas, Northeastern University Felix Lange, Paderborn University Fuman Xie, The University of Queensland Gertjan Franken, DistriNet at KU Leuven Guangjing Wang, University of South Florida Hao Cui, University of California, Irvine Héloïse Gollier, DistriNet at KU Leuven Hengkai Ye, Penn State University Hongyan Chang, National University of Singapore Jan Jancar, Masaryk University Jeroen Robben, DistriNet at KU Leuven Jessy Ayala, University of California, Irvine Jiahao Yu, Northwestern University Jing Liu, UC Irvine & MPI-SP Kelly Kaoudis, Trail of Bits Marc Damie, University of Twente/Inria Marton Bognar, DistriNet at KU Leuven Matteo Marini, Sapienza University of Rome Mir Masood Ali, University of Illinois Chicago Nico Heitmann, Paderborn University Naman Gupta, University of Wisconsin-Madison Niklas Niere, Paderborn University Paul Staat, Max Planck Institute for Security and Privacy Pedro Bernardo, TU Wien Prajwal Panzade, Old Dominion University Qifan Zhang, University of California, Irvine Rajrup Ghosh, University of Southern California Rishit Saiya, PwC

Ryan Vrecenar, Sandia National Laboratories Salvatore Signorello, Telefonica Research Spain Shaofeng Li, Peng Cheng Laboratory Shenghan Zheng, UC Riverside Steven Ngo, University of California, Irvine Tillson Galloway, Georgia Institute of Technology Tolga Atalay, Virginia Tech Torsten Krauß, University of Würzburg Tristan Benoit, Universität der Bundeswehr München Vik Vanderlinden, DistriNet at KU Leuven Vinny Adjibi, Georgia Institute of Technology Xu He, George Mason University Xuan Xie, University of Alberta Xuesong Bai, University of California, Irvine Yi Liu, City University of Hong Kong Yiming Zhang, Tsinghua University Yirui He, University of California, Irvine Yu Nong, Washington State University Yujin Huang, The University of Melbourne Zheng Yu, *Northwestern University* Zhengxiong Luo, National University of Singapore Zilong Lin, Indiana University Bloomington

# **Ethical Review Board (ERB) Members**

Srdjan Čapkun, ETH Zurich (Chair)
Aravind Machiry, Purdue University
Juan Tapiador, Carlos III University of Madrid
Rachel Greenstadt, New York University
René Mayrhofer, Johannes Kepler University Linz
William Robertson, Northeastern University

# **Organizing Committee**

#### **General Chairs**

**David Balenson** 

Heng Yin

USC Information Sciences Institute

University of California, Riverside

### **Program Committee Co-Chairs**

Christina Pöpper NYU Abu Dhabi **Hamed Okhravi** 

MIT Lincoln Laboratory

#### **Artifact Evaluation Committee Co-Chairs**

Daniele Cono D'Elia

Mathy Vanhoef
KU Leuven

Sapienza University

**Workshop Co-Chairs** 

Jelena Mirkovic

Sébastien Bardin

USC Information Sciences Institute

CEA LIst

#### **Poster Session Co-Chairs**

Tianshi Li

Kaushal Kafle

Northeastern University

University of South Florida

### **Publicity Chair**

Yue Xiao

Indiana University Bloomington

#### **Publications Co-Chairs**

Mridula Singh
CISPA

Hyungsub Kim

Indiana University Bloomington

### Local Arrangements Chair

**Tom Hutton** 

San Diego Supercomputer Center

### **Sponsorship Coordinators**

Yongdae Kim

Heng Yin

KAIST

University of California, Riverside

Mauro Conti

University of Padua

## The Internet Society/Foundation Staff

Raquel KroichSally HarveyEvent ManagerSponsorships

Robin WiltonRobbie MitchellProgram LiaisonPublicity

Ivana Trbovic
Website Manager

## **Student Support Committee**

Tingting Chen (Chair) Eric Chan-Tin
Cal Poly Pomona Loyola University Chicago

Younghee Park
San Jose State University
Huirong Fu
Oakland University

**Lei Yu** Rensselaer Polytechnic Institute

# **Steering Group**

### **Co-Chairs**

Yongdae Kim KAIST

Robin Wilton
Internet Society

## **Steering Group Members**

Christopher Kruegel UC Santa Barbara

**Wenyuan Xu** *Zhejiang University* 

Gabriela Ciocarlie University of Texas at San Antonio

**Daphne Yao** *Virginia Tech* 

Ahmad-Reza Sadeghi TU Darmstadt Michael Reiter

Duke University

Gene Tsudik UC Irvine

Lorenzo Cavallaro University College London

Anita Nikolich
UIUC