Dave (Jing) Tian

Curriculum Vitae (2022-12-14)

Interests

Embedded Systems Security, Operating Systems Security, Trusted and Confidential Computing, Hardware Security and Trust

Work

2019.08–	**Assistant Professor**, *Purdue University*, West Lafayette, IN, Department of Computer Science.	
	Systems Security	
2018.05– 2018.08	**Security Research Engineer Intern**, *Fortanix*, Mountain View, CA, Runtime Encryption.	
	Intel SGX for Containers	
2017.05– 2017.08	**Security Research Engineer Intern**, *Samsung Research America (SRA)*, Mountain View, CA, Android Security.	
	Android USB Security	
2009.07– 2012.08	**Software Engineer**, *Nokia R&D*, Qingdao, China, Linux Control Platform (LCP).	
	Software Development for Linux	
2008.12– 2009.06	**Software Engineer Intern**, *Nokia R&D*, Qingdao, China, Linux Control Platform (LCP).	
	Software Development for Linux	
2006.03– 2006.04	**POS Tester Intern**, *Hisense R&D*, Qingdao, China, POS Testing.	
	POS Testing	

Education

2015.01– 2019.08	**Ph.D.**, *University of Florida*, Gainesville, FL, Computer & Information Science & Engineering. Systems Security and Trusted Computing
2012.08– 2014.07	**Ph.D. student**, *University of Oregon*, Eugene, OR, Computer & Information Science. Machine Learning and Systems Security
2006.08– 2009.06	**ME**, *Ocean University of China*, Qingdao, China, Electrical Engineering. Digital Signal Processing and Machine Learning
2002.08– 2006.06	**BS**, *Qingdao University of Technology*, Qingdao, China, Electrical & Information Science. Electrical Engineering

Publications

Journals:

6. **ENCIDER: Detecting Timing and Cache Side Channels in SGX Enclaves and Cryptographic APIs**; Tuba Yavuz, Farhaan Fowze, Ken (Yihang) Bai, Grant Hernandez, Kevin Butler, Dave (Jing) Tian; IEEE Transactions on Dependable and Secure Computing (TDSC'22); Intel Security Conference (iSecCon'22), 2022

5. **ProXray: Protocol Model Learning and Guided Firmware Analysis**; Farhaan Fowze, Dave (Jing) Tian, Grant Hernandez, Kevin Butler, Tuba Yavuz; IEEE Transactions on Software Engineering (TSE'19), 2019; International Conference on Software Engineering (ICSE'20, Journal First), 2020; Selected for Journal-First presentation at ICSE'20

4. **Towards Automated Firmware Analysis in the IoT Era**; Grant Hernandez, Dave (Jing) Tian, Farhaan Fowze, Tuba Yavuz, Patrick Traynor, Kevin Butler; IEEE Security & Privacy, 2019

3. **Characterizing the Security of the SMS Ecosystem with Public Gateways**; Bradly Reaves, Luis Vargas, Nolen Scaife, Dave Tian, Logan Blue, Patrick Traynor, Kevin Butler; ACM Transactions on Privacy and Security (TOPS), 2018

2. **Securing ARP/NDP From the Ground Up**; Dave (Jing) Tian, Kevin R. B. Butler, Joseph I. Choi, Patrick D. McDaniel, Padma Krishnaswamy; IEEE Transactions on Information Forensics and Security (TIFS), 2017

1 **Taming the Costs of Trustworthy Provenance through Policy Reduction**; Adam Bates, Dave (Jing) Tian, Grant Hernandez, Thomas Moyer, Kevin R. B. Butler, Trent Jaeger; ACM Transactions on Internet Technology (TOIT), 2017

Conferences:

37 **DnD: Decompiling Deep Neural Network Compiled Binary**; Ruoyu Wu, Taegyu Kim, Dave (Jing) Tian, Antonio Bianchi, Dongyan Xu; Black Hat Europe (BH-EU'22), 2022; Acceptance Rate=TBD%

36 **GLeeFuzz: Fuzzing WebGL Through Error Message Guided Mutation**; Hui Peng, Zhihao Yao, Ardalan Amiri Sani, Dave (Jing) Tian, Mathias Payer; USENIX Security Symposium (Security'23), 2023; Acceptance Rate=TBD%

35 **TruEMU: An Extensible, Open-Source, Whole-System iOS Emulator**; Trung Nguyen, Kyungtae Kim, Antonio Bianchi, Dave (Jing) Tian; Black Hat USA (BH-USA'22), 2022; Acceptance Rate=TBD%

34 **DnD: A Cross-Architecture Deep Neural Network Decompiler**; Ruoyu Wu, Taegyu Kim, Dave (Jing) Tian, Antonio Bianchi, Dongyan Xu; USENIX Security Symposium (Security'22), 2022; Acceptance Rate=17.2%

33 **Reverse Engineering and Retrofitting Robotic Aerial Vehicle Control Firmware using DisPatch**; Taegyu Kim, Aolin Ding, Sriharsha Etigowni, Pengfei Sun, Jizhou Chen, Luis Garcia, Saman Zonouz, Dongyan Xu, Dave (Jing) Tian; ACM International Conference on Mobile Systems, Applications, and Services (MobiSys'22), 2022; Acceptance Rate=21.6%

32 **ShadowAuth: Backward-Compatible Automatic CAN Authentication for Legacy ECUs**; Sungwoo Kim, Gisu Yeo, Taegyu Kim, Junghwan "John" Rhee, Yuseok Jeon, Antonio Bianchi, Dongyan Xu, Dave (Jing) Tian; ACM ASIA Conference on Computer and Communications Security (ASIACCS'22), 2022; Acceptance Rate=18.4%

31 **Formal Model-Driven Discovery of Bluetooth Protocol Design Vulnerabilities**; Jianliang Wu, Ruoyu Wu, Dongyan Xu, Dave (Jing) Tian, Antonio Bianchi; IEEE Symposium on Security and Privacy (Oakland'22), 2022; Acceptance Rate=14.5%

30 **FuzzUSB: Hybrid Stateful Fuzzing of USB Gadget Stacks**; Kyungtae Kim, Taegyu Kim, Ertza Warraich, Byoungyoung Lee, Kevin Butler, Antonio Bianchi, Dave (Jing) Tian; IEEE Symposium on Security and Privacy (Oakland'22), 2022; Acceptance Rate=14.5%

29 **Privacy-Preserving Localization Using Enclaves**; Arslan Khan, Joseph I.Choi, Dave (Jing) Tian, Tyler Ward, Kevin Butler; Patrick Traynor, John Shea, Tan Wong; IEEE Annual Ubiquitous Computing, Electronics & Mobile Communication Conference (UEMCON'21), 2021; Acceptance Rate=TBD%, Best Presentation Award

28 **Towards Improving Container Security by Preventing Runtime Escapes**; Michael Reeves, Dave (Jing) Tian, Antonio Bianchi, Berkay Celik; IEEE Secure Development Conference (SecDev'21), 2021; Acceptance Rate=TBD%

27 **LIGHTBLUE: Automatic Profile-Aware Debloating of Bluetooth Stacks**; Jianliang Wu, Ruoyu Wu, Daniele Antonioli, Mathias Payer, Nils Ole Tippenhauer, Dongyan Xu, Dave (Jing) Tian, Antonio Bianchi; USENIX Security Symposium, 2021; Acceptance Rate = 18.8%

26 **M2MON: Building an MMIO-based Security Reference Monitor for Unmanned Vehicles**; Arslan Khan, Hyungsub Kim, Byoungyoung Lee, Dongyan Xu, Antonio Bianchi, Dave (Jing) Tian; USENIX Security Symposium, 2021; Acceptance Rate = 18.8%

25 **PASAN: Detecting Peripheral Access Concurrency Bugs within Bare-metal Embedded Applications**; Taegyu Kim, Vireshwar Kumar, Junghwan Rhee, Jizhou Chen, Kyungtae Kim, Chung Hwan Kim, Dongyan Xu, Dave (Jing) Tian; USENIX Security Symposium, 2021; Acceptance Rate = 18.8%

24 **Generic, Sparse Tensor Core for Neural Networks**; Xiaolong Wu, Yang Yi, Dave Tian, Jiajia Li; International Workshop on Machine Learning for Software Hardware Co-Design (MLSH'20), 2020; Acceptance Rate = TBD%

23 **Vessels: Efficient and Scalable Deep Learning Prediction on Trusted Processors**; Kyungtae Kim, Chung Hwan Kim, Junghwan Rhee, Xiao Yu, Haifeng Chen, Dave Tian, Byoungyoung Lee; ACM Symposium on Cloud Computing 2020 (SoCC'20), 2020; Acceptance Rate = 24.5%

22 **Logging to the Danger Zone: Race Condition Attacks and Defenses on System Audit Frameworks**; Riccardo Paccagnella, Kevin Liao, Dave Tian, Adam Bates; ACM Conference on Computer and Communications Security (CCS'20), 2020; Acceptance Rate = 16.9%

21 **BLESA: Spoofing Attacks against Reconnections in Bluetooth Low Energy**; Jianliang Wu, Yuhong Nan, Vireshwar Kumar, Dave (Jing) Tian, Antonio Bianchi, Mathias Payer, Dongyan Xu; USENIX Workshop on Offensive Technologies (WOOT'20), 2020; Acceptance Rate = 33.3%, Best Paper Award

20 **From Control Model to Program: Investigating Robotic Aerial Vehicle Accidents with MAY-DAY**; Taegyu Kim, Chung Hwan Kim, Altay Ozen, Fan Fei, Zhan Tu, Xiangyu Zhang, Xinyan Deng, Dave (Jing) Tian, Dongyan Xu; USENIX Security Symposium, 2020; Acceptance Rate = 16.3%

19 **Custos: Practical Tamper-Evident Auditing of Operating Systems Using Trusted Execution**; Riccardo Paccagnella, Pubali Datta, Wajih Ul Hassan, Adam Bates, Christopher Fletcher, Andrew Miller, Dave (Jing) Tian; The Network and Distributed System Security Symposium (NDSS'20), 2020; Acceptance Rate = 17.4%

18 **BigMAC: Fine-Grained Policy Analysis of Android Firmware**; Grant Hernandez, Dave (Jing) Tian, Anurag Swarnim Yadav, Byron J. Williams, Kevin Butler; USENIX Security Symposium, 2020; Acceptance Rate = 16.3%

17 **Examining DES-based Cipher Suite Support within the TLS Ecosystem**; Vanessa Frost, Dave Tian, Christie Ruales, Vijay Prakash, Kevin Butler, Patrick Traynor; ACM ASIA Conference on Computer and Communications Security (ASIACCS'19), 2019; Acceptance Rate = 22% short paper

16 **A Hybrid Approach to Secure Function Evaluation using SGX**; Joseph Choi, Dave Tian, Grant Hernandez, Christopher Patton, Benjamin Mood, Thomas Shrimpton, Kevin Butler, Patrick Traynor; ACM ASIA Conference on Computer and Communications Security (ASIACCS'19), 2019; Acceptance Rate = 17%

15 **A Practical Intel SGX Setting for Linux Containers in the Cloud**; Dave (Jing) Tian, Joseph Choi, Grant Hernandez, Patrick Traynor, Kevin Butler; ACM Conference on Data and Application Security and Privacy (CODASPY'19), 2019; Acceptance Rate = 23.5%, Distinguished Poster Award (for poster accompanying the full paper)

14 **LBM: A Security Framework for Peripherals within the Linux Kernel**; Dave (Jing) Tian, Grant Hernandez, Joesph Choi, Vanessa Frost, Peter Johnson, Kevin Butler; IEEE Symposium on Security and Privacy (S&P'19), 2019; Acceptance Rate = 12.5%

13 **ATtention Spanned: Comprehensive Vulnerability Analysis of AT Commands Within the Android Ecosystem**; Dave (Jing) Tian, Grant Hernandez, Joesph Choi, Vanessa Frost, Christie Ruales, Patrick Traynor, Hayawardh Vijaykumar, Lee Harrison, Amir Rahmati, Mike Grace, Kevin Butler; USENIX Security Symposium, 2018; Acceptance Rate = 19.1%

12 **SoK: "Plug & Pray" Today – Understanding USB Insecurity in Versions 1 through C**; Dave (Jing) Tian, Nolen Scaife, Deepak Kumar, Michael Bailey, Adam Bates, Kevin Butler; IEEE Symposium on Security and Privacy (S&P'18), 2018; Acceptance Rate = 11.5%

11 **FirmUSB: Vetting USB Device Firmware using Domain Informed Symbolic Execution**; Grant Hernandez, Farhaan Fowze, Dave Tian, Tuba Yavuz, Kevin Butler; ACM Conference on Computer and Communications Security (CCS'17), 2017; Acceptance Rate = 18.1%

10 **CPAC: Securing Critical Infrastructure with Cyber-Physical Access Control**; Sriharsha Etigowni, Dave Tian, Grant Hernandez, Kevin Butler, Saman Zonouz; Annual Computer Security Applications Conference (ACSAC'16), 2016; Acceptance Rate = 22.8%

9 **ProvUSB: Block-level Provenance-Based Data Protection for USB Storage Devices**; Dave (Jing) Tian, Adam Bates, Kevin Butler, Raju Rangaswami; ACM Conference on Computer and Communications Security (CCS'16), 2016; Acceptance Rate = 16.5%

8 **Making USB Great Again with USBFILTER**; Dave (Jing) Tian, Nolen Scaife, Adam Bates, Kevin Butler, Patrick Traynor; USENIX Security Symposium, 2016; Acceptance Rate = 15.5%

7 **Detecting SMS Spam in the Age of Legitimate Bulk Messaging**; Bradley Reaves, Logan Blue, Dave Tian, Patrick Traynor, Kevin Butler; ACM Conference on Security and Privacy in Wireless and Mobile Networks (WiSec'16), 2016; Acceptance Rate = 35.0%

6 **Sending out an SMS: Characterizing the Security of the SMS Ecosystem with Public Gateways**; Bradley Reaves, Nolen Scaife, Dave Tian, Logan Blue, Patrick Traynor, Kevin Butler; IEEE Symposium on Security and Privacy (S&P'16), 2016; Acceptance Rate = 13.3%

5 **Defending Against Malicious USB Firmware with GoodUSB**; Dave (Jing) Tian, Adam Bates, Kevin Butler; Annual Computer Security Applications Conference (ACSAC'15), 2015; Acceptance Rate = 24.3%

4 **Trustworthy Whole-System Provenance for the Linux Kernel**; Adam Bates, Dave Tian, Kevin Butler, Thomas Moyer; USENIX Security Symposium, 2015; Acceptance Rate = 15.7%

3 **More Guidelines Than Rules: CSRF Vulnerabilities from Noncompliant OAuth 2.0 Implementations**; Ethan Shernan, Henry Carter, Dave Tian, Patrick Traynor, Kevin Butler; International Conference on Detection of Intrusions and Malware & Vulnerability Assessment (DIMVA'15), 2015; Acceptance Rate = 22.7%

2 **Securing ARP from the Ground Up**; Jing (Dave) Tian, Kevin R.B. Butler, Patrick D. McDaniel, Padma Krishnaswamy; ACM Conference on Data and Application Security and Privacy (CODASPY'15), 2015; Acceptance Rate = 33.3%

1 **Securing SSL Certificate Validation through Dynamic Linking**; Adam Bates, Joe Pletcher, Tyler Nichols, Braden Hollembaek, Jing (Dave) Tian, Abdulrahman Alkhelaifi, Kevin R. B. Butler; ACM Conference on Computer and Communications Security (CCS'14), 2014; Acceptance Rate = 19.5%

Patents:

2 **Protocol Model Learning and Guided Firmware Analysis**; United States Patent Application 20200380124

1 **Method and Apparatus For Vetting Universal Serial Bus Device Firmware**; United States Patent Application 20190286817

Service

Organizing Committee

- Midwest Security Workshop (MSW): '20
- EAI SecureComm: '20 (Poster Chair)
- ACSAC: '21 (Student Conferenceship Coordinator)
- USENIX Security: '21 (Session Co-chair)
- IEEE SafeThings: '22 (TPC Co-chair), '23 (General Co-Chair)

Technical Program Committee

- USENIX Security: '19, '21, '22
- USENIX RAID: '20
- ISOC NDSS: '21
- ISOC NDSS BAR: '20, '22, '23
- ISOC NDSS AutoSec: '22
- ISOC NDSS VehicleSec: '22
- ESORICS: '20, '21, '22
- EAI SecureComm: '20
- ACM AsiaCCS: '21, '22
- ACSAC: '21, '22
- IEEE Security & Privacy (Oakland): '23
- IEEE CNS: '21
- IEEE SafeThings: '22 (co-chair)
- IEEE SecDev: '22

Conference External Review

- IEEE S&P: '16, '17, '18, '20
- USENIX Security: '14, '15, '17, '18, '20, '23
- ISOC NDSS: '16, '17, '18, '19
- ACM CCS: '14, '15, '16
- USENIX OSDI: '16
- ACM AsiaCCS: '15, '17, '18
- USENIX Woot: '16
- ACSAC: '16
- PETS: '15
- IEEE MOST: '15
- IEEE CNS: '17

Journal Review

- Security and Communication Networks (SCN): '17
- Journal of Network and Systems Management (JONS): '17, '21
- Journal of Information Security and Applications (JISA): '20, '22
- Journal of Information Science and Engineering (JISE): '20
- Journal of Computer & Security (JCS): '20
- IEEE Internet of Things Journal (IoT): '19
- IEEE Transactions on Dependable and Secure Computing (TDSC): '20, '21, '22
- Journal of Purdue Undergrad Research (JPUR): '22

Others

- NSF Panel: '22

Fundings

ONR	Bringing Fuzzing to the Cyber-Physical World; $800K, co-PI
DARPA	AMP - DICER: Directed Compilation for Assured Patching; $3.9M, co-PI
ONR	IoT-D: Towards Internets of Dialect-Speaking Things; $6M, Senior Personnel
NSF	Faculty Early Career Development Program (CAREER); $520K, sole-PI
ONR	An Integrated Toolkit for IoT Protocol Dialecting with Formal Verification; $620K, co-PI
Wistron	Securing AI Workload on Edge/IoT Devices; $248K, co-PI
Wistron	Securing Hardware and Firmware Supply Chain; $248K, PI
ONR	Semantic Decompilation of Deep Neural Network Binaries and Its Adversarial and Defensive Implications; $750K, PI

Invited Talks

Nov 2018	Defending Operating Systems from Malicious Peripherals, Pennsylvania State University, Host: Patrick McDaniel
Nov 2018	Defending Operating Systems from Malicious Peripherals, University of Illinois Urbana-Champaign, Host: Adam Bates
Feb 2019	Defending Operating Systems from Malicious Peripherals, Drexel University, Host: Dario Salvucci
Feb 2019	Defending Operating Systems from Malicious Peripherals, Duke University, Host: Benjamin Lee
Feb 2019	Defending Operating Systems from Malicious Peripherals, Purdue University, Host: Dongyan Xu
Feb 2019	Defending Operating Systems from Malicious Peripherals, Virginia Tech, Host: Matthew Hicks
Mar 2019	Defending Operating Systems from Malicious Peripherals, University of California Santa Cruz, Host: Owen Arden
Mar 2019	Defending Operating Systems from Malicious Peripherals, University of Texas Dallas, Host: Murat Kantarcioglu
Mar 2019	Defending Operating Systems from Malicious Peripherals, Georgetown University, Host: Clay Shields
Aug 2021	DisPatch: Patching Control-Semantic Bugs in RAV Firmware, DARPA ReMath PI Meeting, Host: Sergey Bratus

Awards

2022	NSF CAREER Award, NSF
2021	Best Presentation Award, IEEE Annual Ubiquitous Computing, Electronics & Mobile Communication Conference
2020	Cyber Security Awareness Week (CSAW) Applied Research Award, (Top-10) Finalist
2020	Best Paper Award, USENIX Workshop on Offensive Technologies
2019	Student Travel Grant, IEEE Symposium on Security and Privacy
2019	Distinguished Poster Award, ACM Conference on Data and Application Security and Privacy
2018	Second Place Award, SEC Academic Conference (Cybersecurity) Student Poster Presentation
2017	Best Poster Award, FICS Annual Research Conference
2017	Gartner Group Info Tech Scholarship, University of Florida
2016	Best Poster Award, FICS Annual Research Conference
2015	ACSAC Student Conferenceship Award, ACSA
2015	CISE Travel Grant, University of Florida
2015	USENIX Security Student Grant, USENIX
2014	Gartner Group Graduate Fellowship, University of Florida
2011	Alcatel-Lucent R&D Well Done Award, Alcatel-Lucent
2009	Alcatel-Lucent R&D Innovation Award, Alcatel-Lucent
2009	Comprehensive Award of Excellent Graduate Scholarship, Ocean University of China
2009	Excellent Graduate Student Scholarship, Ocean University of China
2006	Full Graduate Scholarship, Ocean University of China
2004	Outstanding Student Cadre Scholarship, Qingdao Technological University

Teaching

2019.08–   **Assistant Professor**, *Dept. of Computer Science, Purdue University*, West Lafayette, IN.
- CS59000-OSS Operating System Security (Fall 2019)
- CS52800 Network Security (Spring 2020, Spring 2023)
- CS59100 CERIAS Security Seminar (Spring 2020)
- CS50300 Operating Systems (Fall 2020)
- CS42600 Computer Security (Spring 2021, Fall 2022)
- CS59200-TCC Trusted and Confidential Computing (Fall 2021)
- CS59200-PES Peripheral and Embedded Security (TBD)

2018.09–   **Guest Lecturer**, *Dept. of Computer & Information Science & Engineering, University of Florida*, Gainesville,
2019.07   FL.
- CNT 5410 Computer and Network Security (Fall 2018)
- CIS 5370 Computer and Information Security (Spring 2019)

2012.09–   **Graduate Teaching Fellow**, *Dept. of Computer & Information Science, University of Oregon*, Eugene, OR.
2013.06
- CIS 122 Intro to Programming & Problem Solving Using Python (Fall 2012, Winter 2013, Lab)
- CIS 415 Operating Systems (Spring 2013, Lab)

Book Review

2013.12–   **Technical Reviewer**, *Packt Publishing*, Birmingham, UK.
Present
- Mastering Python Regular Expressions
- Python 3 Text Processing with NLTK 3 Cookbook
- Building Probabilistic Graphical Models with Python
- Mastering Probabilistic Graphical Models with Python
- Embedded Linux Projects Using Yocto Project Cookbook
- Yocto for Raspberry Pi
- LLVM Cookbook

Certifications

2011	AIX certification (AN10, AN12), IBM
2010	Project Management, ChoiZe Management Consulting
2010	Linux Debugging and Performance, JOHN BRYCE
2008	Sun Certified Java Programmer (SCJP), Sun Microsystems
2008	Solaris OS Architecture, Sun ERI & OpenTech
2008	Solaris 10 Admin Training, Sun Developer Network (China) & Unix-Center
2007	Sun Studio Hands-on Training with Unix/Linux Commands, Sun Developer Network (China) & Unix-Center
2004	National Computer Rank Examination (NCRE), Rank 2, C programming, China Education Ministry
1998	Microcomputer Operation Certification for Adult (DOS, Foxbase), Pute Computer Training Center of Qingdao Technological University

Media Coverage

Slashdot	"Billions of Devices Vulnerable To New 'BLESA' Bluetooth Spoofing Attack", https://it.slashdot.org/story/20/09/16/220211/billions-of-devices-vulnerable-to-new-blesa-bluetooth-spoofing-attack
ZDNet	"Billions of devices vulnerable to new 'BLESA' Bluetooth security flaw", https://www.zdnet.com/article/billions-of-devices-vulnerable-to-new-blesa-bluetooth-security-flaw/
NetSec.news	"Billions of Devices Vulnerable to 'BLESA' Bluetooth Spoofing Vulnerability", https://www.netsec.news/billions-of-devices-vulnerable-to-blesa-bluetooth-spoofing-vulnerability/
ThreatPost	"Bluetooth Spoofing Bug Affects Billions of IoT Devices", https://threatpost.com/bluetooth-spoofing-bug-iot-devices/159291/
Tom's Guide	"Billions of Android phones and smart devices open to attack – what to do now", https://www.tomsguide.com/news/blesa-bluetooth-attack
SysDVD	"Billions of Bluetooth Devices Vulnerable to BLESA Attack – Hacker", http://sysdvd.com/billions-of-bluetooth-devices-vulnerable-to-blesa-attack-hacker/
TechRadar	"Critical Bluetooth security vulnerability could affect billions of devices worldwide", https://www.techradar.com/news/critical-bluetooth-security-vulnerability-could-affect-billions-of-devices-worldwide

International Business Times	"What Is BLESA? Hackers Can Potentially Target Billions of Devices with Bluetooth Security Flaw", `https://www.ibtimes.sg/what-blesa-hackers-can-potentially-target-billions-devices-bluetooth-security-flaw-51582`
Silicon Angle	"Vulnerability in the Bluetooth software stack opens the door to hackers", `https://siliconangle.com/2020/09/16/vulnerability-bluetooth-software-stack-opens-door-hackers/`
Sensors Tech Forum	"Bluetooth Low Energy Spoofing Attack Endangers Billions of Devices", `https://sensorstechforum.com/blesa-attack-endangers-billions-devices/`
How To Fix	"Experts discovered BLESA attack, to which are vulnerable billions of Bluetooth devices", `https://howtofix.guide/experts-discovered-blesa-attack-to-which-are-vulnerable-bluetooth-devices/`
Google News Post	"Critical Bluetooth safety vulnerability may just have an effect on billions of gadgets international", `http://googlenewspost.com/2020/09/16/critical-bluetooth-security-vulnerability-could-affect-billions-of-devices-worldwide/`
Cyware	"Cyware Daily Threat Intelligence, September 16, 2020", `https://cyware.com/daily-threat-briefing/cyware-daily-threat-intelligence-september-16-2020-bc5d`
Threats Hub	"Billions of devices vulnerable to new 'BLESA' Bluetooth security flaw", `https://www.threatshub.org/blog/billions-of-devices-vulnerable-to-new-blesa-bluetooth-security-flaw/`
Editorials 360	"Billions of Units Susceptible To New 'BLESA' Bluetooth Spoofing Assault", `https://www.editorials360.com/2020/09/17/billions-of-units-susceptible-to-new-blesa-bluetooth-spoofing-assault/`
Sec News	"BLESA: billions of devices vulnerable to Bluetooth security flaw", `https://en.secnews.gr/267536/bluetooth-flash/`
Remark Board	"Billions of devices vulnerable to new 'BLESA' Bluetooth security flaw", `https://remarkboard.com/m/researchers-unveil-a-bluetooth-le-attack-impacting-billions/1eztwiylfko6v`
Security Boulevard	"Bluetooth Reconnection Flaw Could Lead to Spoofing Attacks", `https://securityboulevard.com/2020/07/bluetooth-reconnection-flaw-could-lead-to-spoofing-attacks/`
ESET	"ESET discovers Attor, a spy platform with curious GSM fingerprinting", `https://www.welivesecurity.com/2019/10/10/eset-discovers-attor-spy-platform/`
Firmware Security	"USB Fuzzing: A USB Perspective", `https://firmwaresecurity.com/2019/07/20/usb-fuzzing-a-usb-perspective/`
Hacker News	"USB Fuzzing: A USB Perspective", `https://news.ycombinator.com/item?id=20478548`
LWN.net	"Revenge of the modems", `https://lwn.net/Articles/766766/`
Wired	"Exploiting Decades-Old Telephone Tech to Break into Android Devices", `https://www.wired.com/story/at-commands-android-vulnerability/`
Threatpost	"AT Command Hitch Leaves Android Phones Open to Attack", `https://threatpost.com/at-command-hitch-leaves-android-phones-open-to-attack/136938/`
UF News	"Smartphone security risk compared to 'having a ghost user on your phone'", `http://news.ufl.edu/articles/2018/08/smartphone-security-risk-compared-to-having-a-ghost-user-on-your-phone.php`
independent florida alligator	"What the hack: UF research reveals smartphones can be hacked via USB", `https://www.alligator.org/news/what-the-hack-uf-research-reveals-smartphones-can-be-hacked/article_4480693e-aced-11e8-b68e-675760f71388.html`
Bleeping Computer	"Smartphones From 11 OEMs Vulnerable to Attacks via Hidden AT Commands", `https://www.bleepingcomputer.com/news/security/smartphones-from-11-oems-vulnerable-to-attacks-via-hidden-at-commands/`
How-To Geek	"How to Protect Yourself From Public USB Charging Ports", `https://www.howtogeek.com/364032/how-to-protect-yourself-from-public-usb-charging-ports/`
Slashdot	"Smartphones from 11 OEMs, Including Google, Samsung, HTC, Lenovo and Sony, Vulnerable to Attacks Via Hidden AT Commands", `https://mobile.slashdot.org/story/18/08/26/1910246/smartphones-from-11-oems-including-google-samsung-htc-lenovo-and-sony-vulnerable-to-attacks-via-hidden-at-commands`
Hacker News	"ATtention Spanned: Comprehensive Android Vulnerability Analysis of AT Commands", `https://news.ycombinator.com/item?id=17837035`
Security Affairs	"Android mobile devices from 11 vendors are exposed to AT Commands attacks", `https://securityaffairs.co/wordpress/75683/hacking/at-commands-attacks-android.html`
Fudzilla	"Android at the mercy of AT Commands", `https://www.fudzilla.com/news/mobile/47037-android-at-the-mercy-of-at-commands`

Tech Worm	"Android smartphones can be hacked with AT commands attacks", https://www.techworm.net/2018/08/android-smartphones-hacked-at-commands-attacks.html
Fossbytes	"How These Android Smartphone Can Be Hacked With Simple AT commands", https://fossbytes.com/android-smartphone-can-be-hacked-with-at-commands/
Kim Komando Show	"Modern smartphones vulnerable to old-school attack", https://www.komando.com/happening-now/483269/modern-smartphones-vulnerable-to-old-school-attack
Hacker Combat	"Open AT Commands: a Huge Loophole Exploit in Android Revealed", https://hackercombat.com/open-at-commands-a-huge-loophole-exploit-in-android-revealed/
SecurePoint	"Vulnerability Found in Major Manufacturers of Android Phones", https://www.securepointtech.com/2018/09/07/vulnerability-found-in-major-manufacturers-of-android-phones/
Hybrid Techcar	"Smartphones are vulnerable to hacking commands for ancient modems", https://hybridtechcar.com/2018/08/28/smartphones-are-vulnerable-to-hacking-commands-for-ancient-modems/
Android Community	"New security risk for smartphones brings you a "ghost user"", https://androidcommunity.com/new-security-risk-for-smartphones-brings-you-a-ghost-user-20180827/
SANS	"AT Commands", https://isc.sans.edu/podcastdetail.html?id=6140
golem.de	"Android-Smartphones durch Modem-Befehle verwundbar", https://www.golem.de/news/at-commands-android-smartphones-durch-modem-befehle-verwundbar-1808-136205.html
Tproger	"11 manufacturers of Android smartphones have discovered a vulnerability to AT-commands", https://tproger.ru/news/at-commands-deface-smartphones/
habr	"Attackers can get full remote access to the Android device through a public USB charging port", https://habr.com/company/crossover/blog/421295/
Niebezpiecznik	"Miliony smartfonów można zhackować ukrytymi komendami AT", https://niebezpiecznik.pl/post/miliony-smartfonow-mozna-zhackowac-ukrytymi-komendami-at/
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Students

Ph.D. Students	Arslan Khan (CS, Fall 2019 -, co-advised with Prof. Dongyan Xu), Muqi Zou (CS, Fall 2020 -), Xiaolong Wu (ECE, Fall 2020 -), Jiwon Kim (CS, Fall 2020 -), Zheng Zhong (CS, Spring 2021 -), Dikaimin Simon (CS, Spring 2021 -), Sungwoo Kim (CS, Fall 2021 -, co-advised with Prof. Dongyan Xu), Gisu Yeo (CS, Fall 2022 -)
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Links

My web	https://davejingtian.org
My code	https://github.com/daveti
AT command	https://atcommands.org/
Provenance	https://linuxprovenance.org/
FW analysis	https://firmware-analysis.org/
OS Sec	https://ossec.home.blog
OS	https://os1.home.blog
Network Sec	https://netsec.travel.blog
PurSec Lab	https://pursec.cs.purdue.edu
Peri Sec	https://perisec.org