**USENIX Security '22 Summer Accepted Papers**

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USENIX Security '22 has three submission deadlines. Prepublication versions of the accepted papers from the summer submission deadline are available below. The full program will be available in May 2022.

[An Audit of Facebook's Political Ad Policy Enforcement](https://www.usenix.org/conference/usenixsecurity22/presentation/lepochat)

Victor Le Pochat, *imec-DistriNet, KU Leuven;* Laura Edelson, *New York University;* Tom Van Goethem and Wouter Joosen, *imec-DistriNet, KU Leuven;* Damon McCoy and Tobias Lauinger, *New York University*

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[Helping hands: Measuring the impact of a large threat intelligence sharing community](https://www.usenix.org/conference/usenixsecurity22/presentation/bouwman)

Xander Bouwman, *Delft University of Technology;* Victor Le Pochat, *imec-DistriNet, KU Leuven;* Pawel Foremski, *Farsight Security, Inc. / IITiS PAN;* Tom Van Goethem, *imec-DistriNet, KU Leuven;* Carlos H. Gañán, *Delft University of Technology and ICANN;* Giovane C. M. Moura, *SIDN Labs;* Samaneh Tajalizadehkhoob, *ICANN;* Wouter Joosen, *imec-DistriNet, KU Leuven;* Michel van Eeten, *Delft University of Technology*

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[Back-Propagating System Dependency Impact for Attack Investigation](https://www.usenix.org/conference/usenixsecurity22/presentation/fang)

Pengcheng Fang, *Case Western Reserve University;* Peng Gao, *Virginia Tech;* Changlin Liu and Erman Ayday, *Case Western Reserve University;* Kangkook Jee, *University of Texas at Dallas;* Ting Wang, *Penn State University;* Yanfang (Fanny) Ye, *Case Western Reserve University;* Zhuotao Liu, *Tsinghua University;* Xusheng Xiao, *Case Western Reserve University*

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[SecSMT: Securing SMT Processors against Contention-Based Covert Channels](https://www.usenix.org/conference/usenixsecurity22/presentation/taram)

Mohammadkazem Taram, *University of California San Diego;* Xida Ren and Ashish Venkat, *University of Virginia;* Dean Tullsen, *University of California San Diego*

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[Increasing Adversarial Uncertainty to Scale Private Similarity Testing](https://www.usenix.org/conference/usenixsecurity22/presentation/hua)

Yiqing Hua and Armin Namavari, *Cornell Tech, Cornell University;* Kaishuo Cheng, *Cornell University;* Mor Naaman and Thomas Ristenpart, *Cornell Tech, Cornell University*

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["How Do You Not Lose Friends?": Synthesizing a Design Space of Social Controls for Securing Shared Digital Resources Via Participatory Design Jams](https://www.usenix.org/conference/usenixsecurity22/presentation/moju-igbene)

Eyitemi Moju-Igbene, Hanan Abdi, Alan Lu, and Sauvik Das, *Georgia Institute of Technology*

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[Your Microphone Array Retains Your Identity: A Robust Voice Liveness Detection System for Smart Speakers](https://www.usenix.org/conference/usenixsecurity22/presentation/meng)

Yan Meng and Jiachun Li, *Shanghai Jiao Tong University;* Matthew Pillari, Arjun Deopujari, Liam Brennan, and Hafsah Shamsie, *University of Virginia;* Haojin Zhu, *Shanghai Jiao Tong University;* Yuan Tian, *University of Virginia*

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[Aardvark: An Asynchronous Authenticated Dictionary with Applications to Account-based Cryptocurrencies](https://www.usenix.org/conference/usenixsecurity22/presentation/leung)

Derek Leung, *MIT CSAIL;* Yossi Gilad, *Hebrew University of Jerusalem;* Sergey Gorbunov, *University of Waterloo;* Leonid Reyzin, *Boston University;* Nickolai Zeldovich, *MIT CSAIL*

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[OVRseen: Auditing Network Traffic and Privacy Policies in Oculus VR](https://www.usenix.org/conference/usenixsecurity22/presentation/trimananda)

Rahmadi Trimananda, Hieu Le, Hao Cui, and Janice Tran Ho, *University of California, Irvine;* Anastasia Shuba, *Independent Researcher;* Athina Markopoulou, *University of California, Irvine*

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[Lumos: Identifying and Localizing Diverse Hidden IoT Devices in an Unfamiliar Environment](https://www.usenix.org/conference/usenixsecurity22/presentation/sharma-rahul)

Rahul Anand Sharma, Elahe Soltanaghaei, Anthony Rowe, and Vyas Sekar, *Carnegie Mellon University*

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[AMD Prefetch Attacks through Power and Time](https://www.usenix.org/conference/usenixsecurity22/presentation/lipp)

Moritz Lipp and Daniel Gruss, *Graz University of Technology;* Michael Schwarz, *CISPA Helmholtz Center for Information Security*

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[ML-Doctor: Holistic Risk Assessment of Inference Attacks Against Machine Learning Models](https://www.usenix.org/conference/usenixsecurity22/presentation/liu-yugeng)

Yugeng Liu, Rui Wen, Xinlei He, Ahmed Salem, Zhikun Zhang, and Michael Backes, *CISPA Helmholtz Center for Information Security;* Emiliano De Cristofaro, *UCL;* Mario Fritz and Yang Zhang, *CISPA Helmholtz Center for Information Security*

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[Jenny: Securing Syscalls for PKU-based Memory Isolation Systems](https://www.usenix.org/conference/usenixsecurity22/presentation/schrammel)

David Schrammel, Samuel Weiser, Richard Sadek, and Stefan Mangard, *Graz University of Technology*

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[DoubleStar: Long-Range Attack Towards Depth Estimation based Obstacle Avoidance in Autonomous Systems](https://www.usenix.org/conference/usenixsecurity22/presentation/zhou-ce)

Ce Zhou, Qiben Yan, and Yan Shi, *Michigan State University;* Lichao Sun, *Lehigh University*

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[PrivGuard: Privacy Regulation Compliance Made Easier](https://www.usenix.org/conference/usenixsecurity22/presentation/wang-lun)

Lun Wang, *UC Berkeley;* Usmann Khan, *Georgia Tech;* Joseph Near, *University of Vermont;* Qi Pang, *Zhejiang University;* Jithendaraa Subramanian, *NIT Tiruchirappalli;* Neel Somani, *UC Berkeley;* Peng Gao, *Virginia Tech;* Andrew Low and Dawn Song, *UC Berkeley*

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[DeepDi: Learning a Relational Graph Convolutional Network Model on Instructions for Fast and Accurate Disassembly](https://www.usenix.org/conference/usenixsecurity22/presentation/yu-sheng)

Sheng Yu, *University of California Riverside and Deepbits Technology Inc.;* Yu Qu, *University of California Riverside;* Xunchao Hu, *Deepbits Technology Inc.;* Heng Yin, *University of California Riverside and Deepbits Technology Inc.*

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[Understanding and Improving Usability of Data Dashboards for Simplified Privacy Control of Voice Assistant Data](https://www.usenix.org/conference/usenixsecurity22/presentation/sharma-vandit)

Vandit Sharma and Mainack Mondal, *Indian Institute of Technology Kharagpur*

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[A Large-scale Temporal Measurement of Android Malicious Apps: Persistence, Migration, and Lessons Learned](https://www.usenix.org/conference/usenixsecurity22/presentation/shen)

Yun Shen and Pierre-Antoine Vervier, *Norton Research Group;* Gianluca Stringhini, *Boston University*

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[Midas: Systematic Kernel TOCTTOU Protection](https://www.usenix.org/conference/usenixsecurity22/presentation/bhattacharyya)

Atri Bhattacharyya, *EPFL;* Uros Tesic, *Nvidia;* Mathias Payer, *EPFL*

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[Repurposing Segmentation as a Practical LVI-NULL Mitigation in SGX](https://www.usenix.org/conference/usenixsecurity22/presentation/giner)

Lukas Giner, Andreas Kogler, and Claudio Canella, *Graz University of Technology;* Michael Schwarz, *CISPA Helmholtz Center for Information Security;* Daniel Gruss, *Graz University of Technology*

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[Orca: Blocklisting in Sender-Anonymous Messaging](https://www.usenix.org/conference/usenixsecurity22/presentation/tyagi)

Nirvan Tyagi and Julia Len, *Cornell University;* Ian Miers, *University of Maryland;* Thomas Ristenpart, *Cornell Tech*

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[Rendering Contention Channel Made Practical in Web Browsers](https://www.usenix.org/conference/usenixsecurity22/presentation/wu-shujiang)

Shujiang Wu and Jianjia Yu, *Johns Hopkins University;* Min Yang, *Fudan University;* Yinzhi Cao, *Johns Hopkins University*

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[OpenSSLNTRU: Faster post-quantum TLS key exchange](https://www.usenix.org/conference/usenixsecurity22/presentation/bernstein)

Daniel J. Bernstein, *University of Illinois at Chicago and Ruhr University Bochum;* Billy Bob Brumley, *Tampere University;* Ming-Shing Chen, *Ruhr University Bochum;* Nicola Tuveri, *Tampere University*

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["OK, Siri" or "Hey, Google": Evaluating Voiceprint Distinctiveness via Content-based PROLE Score](https://www.usenix.org/conference/usenixsecurity22/presentation/he-ruiwen)

Ruiwen He, Xiaoyu Ji, and Xinfeng Li, *Zhejiang University;* Yushi Cheng, *Tsinghua University;* Wenyuan Xu, *Zhejiang University*

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[PISTIS: Trusted Computing Architecture for Low-end Embedded Systems](https://www.usenix.org/conference/usenixsecurity22/presentation/grisafi)

Michele Grisafi, *University of Trento;* Mahmoud Ammar, *Huawei Technologies;* Marco Roveri and Bruno Crispo, *University of Trento*

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[Stick It to The Man: Correcting for Non-Cooperative Behavior of Subjects in Experiments on Social Networks](https://www.usenix.org/conference/usenixsecurity22/presentation/clary)

Kaleigh Clary, *University of Massachusetts Amherst;* Emma Tosch and Jeremiah Onaolapo, *University of Vermont;* David D. Jensen, *University of Massachusetts Amherst*

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[Mining Node.js Vulnerabilities via Object Dependence Graph and Query](https://www.usenix.org/conference/usenixsecurity22/presentation/li-song)

Song Li and Mingqing Kang, *Johns Hopkins University;* Jianwei Hou, *Johns Hopkins University/Renmin University of China;* Yinzhi Cao, *Johns Hopkins University*

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[Security and Privacy Perceptions of Third-Party Application Access for Google Accounts](https://www.usenix.org/conference/usenixsecurity22/presentation/balash)

David G. Balash, Xiaoyuan Wu, and Miles Grant, *The George Washington University;* Irwin Reyes, *Two Six Technologies;* Adam J. Aviv, *The George Washington University*

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[Online Website Fingerprinting: Evaluating Website Fingerprinting Attacks on Tor in the Real World](https://www.usenix.org/conference/usenixsecurity22/presentation/cherubin)

Giovanni Cherubin, *Alan Turing Institute;* Rob Jansen, *U.S. Naval Research Laboratory;* Carmela Troncoso, *EPFL SPRING Lab*

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[Rapid Prototyping for Microarchitectural Attacks](https://www.usenix.org/conference/usenixsecurity22/presentation/easdon)

Catherine Easdon, *Dynatrace Research and Graz University of Technology;* Michael Schwarz, *CISPA Helmholtz Center for Information Security;* Martin Schwarzl and Daniel Gruss, *Graz University of Technology*

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[Caring about Sharing: User Perceptions of Multiparty Data Sharing](https://www.usenix.org/conference/usenixsecurity22/presentation/kacsmar)

Bailey Kacsmar, Kyle Tilbury, Miti Mazmudar, and Florian Kerschbaum, *University of Waterloo*

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[Spoki: Unveiling a New Wave of Scanners through a Reactive Network Telescope](https://www.usenix.org/conference/usenixsecurity22/presentation/hiesgen)

Raphael Hiesgen, *HAW Hamburg;* Marcin Nawrocki, *Freie Universität Berlin;* Alistair King, *Kentik;* Alberto Dainotti, *CAIDA, UC San Diego and Georgia Institute of Technology;* Thomas C. Schmidt, *HAW Hamburg;* Matthias Wählisch, *Freie Universität Berlin*

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[Holistic Control-Flow Protection on Real-Time Embedded Systems with Kage](https://www.usenix.org/conference/usenixsecurity22/presentation/du)

Yufei Du, *University of North Carolina at Chapel Hill;* Zhuojia Shen, Komail Dharsee, and Jie Zhou, *University of Rochester;* Robert J. Walls, *Worcester Polytechnic Institute;* John Criswell, *University of Rochester*

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["I feel invaded, annoyed, anxious and I may protect myself": Individuals' Feelings about Online Tracking and their Protective Behaviour across Gender and Country](https://www.usenix.org/conference/usenixsecurity22/presentation/coopamootoo)

Kovila P.L. Coopamootoo and Maryam Mehrnezhad, *Newcastle University;* Ehsan Toreini, *Durham University*

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[Mistrust Plugins You Must: A Large-Scale Study Of Malicious Plugins In WordPress Marketplaces](https://www.usenix.org/conference/usenixsecurity22/presentation/kasturi)

Ranjita Pai Kasturi, Jonathan Fuller, Yiting Sun, Omar Chabklo, Andres Rodriguez, Jeman Park, and Brendan Saltaformaggio, *Georgia Institute of Technology*

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[On the Security Risks of AutoML](https://www.usenix.org/conference/usenixsecurity22/presentation/pang)

Ren Pang and Zhaohan Xi, *Pennsylvania State University;* Shouling Ji, *Zhejiang University;* Xiapu Luo, *Hong Kong Polytechnic University;* Ting Wang, *Pennsylvania State University*

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[Morphuzz: Bending (Input) Space to Fuzz Virtual Devices](https://www.usenix.org/conference/usenixsecurity22/presentation/bulekov)

Alexander Bulekov, *Boston University and Red Hat;* Bandan Das and Stefan Hajnoczi, *Red Hat;* Manuel Egele, *Boston University*

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[Towards More Robust Keyword Spotting for Voice Assistants](https://www.usenix.org/conference/usenixsecurity22/presentation/ahmed)

Shimaa Ahmed, *University of Wisconsin-Madison;* Ilia Shumailov, *University of Cambridge;* Nicolas Papernot, *University of Toronto and Vector Institute;* Kassem Fawaz, *University of Wisconsin-Madison*

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[Web Cache Deception Escalates!](https://www.usenix.org/conference/usenixsecurity22/presentation/mirheidari)

Seyed Ali Mirheidari, *University of Trento & Splunk Inc.;* Matteo Golinelli, *University of Trento;* Kaan Onarlioglu, *Akamai Technologies;* Engin Kirda, *Northeastern University;* Bruno Crispo, *University of Trento*

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[Exploring the Unchartered Space of Container Registry Typosquatting](https://www.usenix.org/conference/usenixsecurity22/presentation/liu-guannan)

Guannan Liu, *Virginia Tech;* Xing Gao, *University of Delaware;* Haining Wang, *Virginia Tech;* Kun Sun, *George Mason University*

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[Can one hear the shape of a neural network?: Snooping the GPU via Magnetic Side Channel](https://www.usenix.org/conference/usenixsecurity22/presentation/maia)

Henrique Teles Maia and Chang Xiao, *Columbia University;* Dingzeyu Li, *Adobe Research;* Eitan Grinspun, *Columbia University & University of Toronto;* Changxi Zheng, *Columbia University*

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[Augmenting Decompiler Output with Learned Variable Names and Types](https://www.usenix.org/conference/usenixsecurity22/presentation/chen-qibin)

Qibin Chen and Jeremy Lacomis, *Carnegie Mellon University;* Edward J. Schwartz, *Carnegie Mellon University Software Engineering Institute;* Claire Le Goues, Graham Neubig, and Bogdan Vasilescu, *Carnegie Mellon University*

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[Inference Attacks Against Graph Neural Networks](https://www.usenix.org/conference/usenixsecurity22/presentation/zhang-zhikun)

Zhikun Zhang, Min Chen, and Michael Backes, *CISPA Helmholtz Center for Information Security;* Yun Shen, *Norton Research Group;* Yang Zhang, *CISPA Helmholtz Center for Information Security*

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[LinKRID: Vetting Imbalance Reference Counting in Linux kernel with Symbolic Execution](https://www.usenix.org/conference/usenixsecurity22/presentation/liu-jian)

Jian Liu, *{CAS-KLONAT, BKLONSPT}, Institute of Information Engineering, Chinese Academy of Sciences and School of Cyber Security, University of Chinese Academy of Sciences;* Lin Yi, *{CAS-KLONAT, BKLONSPT}, Institute of Information Engineering, Chinese Academy of Sciences;* Weiteng Chen, Chenyu Song, and Zhiyun Qian, *UC Riverside;* Qiuping Yi, *Beijing University of Posts and Telecommunications and Beijing Key Lab of Intelligent Telecommunication Software and Multimedia*

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[Total Eclipse of the Heart – Disrupting the InterPlanetary File System](https://www.usenix.org/conference/usenixsecurity22/presentation/prunster)

Bernd Prünster, *Institute of Applied Information Processing and Communications (IAIK), Graz University of Technology;* Alexander Marsalek, *A-SIT Secure Information Technology Center Austria;* Thomas Zefferer, *A-SIT Plus GmbH*

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[Post-Quantum Cryptography with Contemporary Co-Processors: Beyond Kronecker, Schönhage-Strassen & Nussbaumer](https://www.usenix.org/conference/usenixsecurity22/presentation/bos)

Joppe W. Bos, Joost Renes, and Christine van Vredendaal, *NXP Semiconductors*

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[MAGE: Mutual Attestation for a Group of Enclaves without Trusted Third Parties](https://www.usenix.org/conference/usenixsecurity22/presentation/chen-guoxing)

Guoxing Chen, *Shanghai Jiao Tong University;* Yinqian Zhang, *Southern University of Science and Technology*

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[Debloating Address Sanitizer](https://www.usenix.org/conference/usenixsecurity22/presentation/zhang-yuchen)

Yuchen Zhang, *Stevens Institute of Technology;* Chengbin Pang, *Nanjing University;* Georgios Portokalidis, Nikos Triandopoulos, and Jun Xu, *Stevens Institute of Technology*

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[Synthetic Data – Anonymisation Groundhog Day](https://www.usenix.org/conference/usenixsecurity22/presentation/stadler)

Theresa Stadler, *EPFL;* Bristena Oprisanu, *UCL;* Carmela Troncoso, *EPFL*

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[FReD: Identifying File Re-Delegation in Android System Services](https://www.usenix.org/conference/usenixsecurity22/presentation/gorski)

Sigmund Albert Gorski III, Seaver Thorn, and William Enck, *North Carolina State University;* Haining Chen, *Google*

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[WebGraph: Capturing Advertising and Tracking Information Flows for Robust Blocking](https://www.usenix.org/conference/usenixsecurity22/presentation/siby)

Sandra Siby, *EPFL;* Umar Iqbal, *University of Iowa;* Steven Englehardt, *DuckDuckGo;* Zubair Shafiq, *UC Davis;* Carmela Troncoso, *EPFL*

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[Adversarial Detection Avoidance Attacks: Evaluating the robustness of perceptual hashing-based client-side scanning](https://www.usenix.org/conference/usenixsecurity22/presentation/jain)

Shubham Jain, Ana-Maria Crețu, and Yves-Alexandre de Montjoye, *Imperial College London*

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[Elasticlave: An Efficient Memory Model for Enclaves](https://www.usenix.org/conference/usenixsecurity22/presentation/yu-jason)

Jason Zhijingcheng Yu, *National University of Singapore;* Shweta Shinde, *ETH Zurich;* Trevor E. Carlson and Prateek Saxena, *National University of Singapore*

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[Practical Data Access Minimization in Trigger-Action Platforms](https://www.usenix.org/conference/usenixsecurity22/presentation/chen-yunang)

Yunang Chen and Mohannad Alhanahnah, *University of Wisconsin–Madison;* Andrei Sabelfeld, *Chalmers University of Technology;* Rahul Chatterjee and Earlence Fernandes, *University of Wisconsin–Madison*

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[Bedrock: Programmable Network Support for Secure RDMA Systems](https://www.usenix.org/conference/usenixsecurity22/presentation/xing)

Jiarong Xing, Kuo-Feng Hsu, Yiming Qiu, Ziyang Yang, Hongyi Liu, and Ang Chen, *Rice University*

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