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## EDUCATION

### Ph.D. in Computer Science

Aug 2021 - May 2026 (expected)

*Georgia Institute of Technology, Atlanta, GA*

GPA 4.0 / 4.0. Advised by Prof. Daniel Genkin in the School of Cybersecurity and Privacy.

### B.S.E. in Computer Science

Sep 2017 - May 2021

*University of Michigan, Ann Arbor, MI*

GPA 3.944 / 4.0. Summa Cum Laude and Minor in Biology.

## PUBLICATIONS

- I. Kang, W. Wang, **J. Kim**, S. van Schaik, Y. Tobah, D. Genkin, A. Kwong, Y. Yarom.  
**SledgeHammer: Amplifying Rowhammer via Bank-level Parallelism.**  
USENIX Security Symposium, 2024.
- H. Taneja, **J. Kim**, J. Xu, S. van Schaik, D. Genkin, Y. Yarom.  
**Hot Pixels: Frequency, Power, and Temperature Attacks on GPUs and ARM SoCs.**  
USENIX Security Symposium, 2023.  
CSAW Applied Research Competition (North America), 2023, Finalist.  
([ArXiv](#)) ([USENIX](#)) ([PDF](#))
- A. Kwong, W. Wang, **J. Kim**, J. Berger, D. Genkin, E. Ronen, H. Shacham, R. Wahby, Y. Yarom.  
**Checking Passwords on Leaky Computers: A Side Channel Analysis of Chrome's Password Leak Detection Protocol.**  
USENIX Security Symposium, 2023.  
([USENIX](#)) ([PDF](#))
- **J. Kim**, S. van Schaik, D. Genkin, Y. Yarom.  
**iLeakage: Browser-based Timerless Speculative Execution Attacks on Apple Devices.**  
ACM Conference on Computer and Communications Security (CCS), 2023.  
CSAW Applied Research Competition (North America), 2023, Finalist.  
([PDF](#)) ([Website](#))
- **J. Kim**, D. Genkin, K. Leach.  
**Revisiting Lightweight Compiler Provenance Recovery on ARM Binaries.**  
International Conference on Program Comprehension (ICPC), RENE Track, 2023.  
([ArXiv](#)) ([PDF](#))
- A. Agarwal, S. O'Connell, **J. Kim**, S. Yehezkel, D. Genkin, E. Ronen, Y. Yarom.  
**Spook.js: Attacking Chrome Strict Site Isolation via Speculative Execution.**  
IEEE Symposium on Security and Privacy (S&P), 2022.  
([IEEE Xplore](#)) ([PDF](#)) ([Website](#))

## PRESENTATIONS

- **J. Kim.**  
**iLeakage: Browser-based Timerless Speculative Execution Attacks on Apple Devices.**  
Presentation at ACM Conference on Computer and Communications Security (CCS), 2023.

- **J. Kim.**  
**Checking Passwords on Leaky Computers: A Side Channel Analysis of Chrome’s Password Leak Detection Protocol.**  
Presentation at USENIX Security Symposium, 2023.
- **J. Kim.**  
**Spook.js: Attacking Chrome Strict Site Isolation via Speculative Execution.**  
Presentation at IEEE Symposium on Security and Privacy (S&P), 2022. ([Video](#))

## EXPERIENCE

**Graduate Research Assistant** **Aug 2021 - Present**  
*Georgia Institute of Technology* *Atlanta, GA*

- Investigated side-channel attack surfaces and corresponding mitigations on webpages and password leak detection mechanisms for the Google Chrome and Apple Safari web browsers with Prof. Daniel Genkin.
- In conjunction, investigated microarchitectural side-channel primitives for Apple processors.

**Undergraduate Research Assistant** **Jul 2020 - May 2021**  
*University of Michigan* *Ann Arbor, MI*

- Developed a shallow-learning model to recover the compiler provenance of stripped binaries with Prof. Kevin Leach, with accuracy on par with state of the art and runtime three orders of magnitude faster.
- Presented demos and reports of the above model for DARPA’s Assured Micropatching Program.

**Research Assistant Sponsored by Aptiv PLC** **Jan 2020 - Jan 2021**  
*University of Michigan Multidisciplinary Design Program* *Ann Arbor, MI*

- Evaluated the adaptability of open-source network intrusion detection systems to Aptiv PLC’s requirements for connected vehicle gateways as a seven-person team advised by Prof. Shai Revzen.
- Developed automated testing frameworks and test benches, and presented periodic reports, executive summaries, and design reviews to program directors and Aptiv. Responsible for experiments on Snort.

## TEACHING

**CS 4235/6035, Introduction to Information Security** **Jan 2023 - Dec 2023**  
*Georgia Institute of Technology* *Atlanta, GA*

- Graduate Teaching Assistant supervised by Profs. Daniel Genkin and Paul Pearce (Jan 2023 - May 2023).
- Responsibilities as Head TA: agenda writing, exam drafting and testing, project development and testing, course communications, student accommodations, and scheduling reservations.

**EECS 388, Introduction to Computer Security** **Sep 2019 - May 2021**  
*University of Michigan* *Ann Arbor, MI*

- Undergraduate Instructional Aide supervised by Profs. Peter Honeyman and J. Alex Halderman (Sep 2019 - Apr 2020), Daniel Genkin (Sep 2019 - May 2021), and Z. Morley Mao (May 2020 - Dec 2020).
- Responsibilities ([Winter 2020 Evaluations](#)) ([Fall 2019 Evaluations](#))
  - Regular: weekly discussion, office hours, grading, answering student questions over email and Piazza.
  - Seasonal: cheat checking, revising course projects, autograders, and infrastructure.

## GRADUATE COURSEWORK

Advanced Network Security and Measurement, Applied Cryptography, Algorithms, Advanced Computer Architecture, Computer Vision, Machine Learning, Operating Systems, Secure Computer Systems

## HONORS

- **CSAW Applied Research Competition (North America), Finalist, 2023**  
iLeakage and Hot Pixels were 2 of 10 selected papers out of 161 submissions. CSAW ARC is a poster competition for the real and potential impact of top-tier security papers.
- **CVE-2023-38599 (NIST NVD)**  
CVE assigned by Apple as part of Hot Pixels, where SVG filters on anchor elements could disclose whether a target has visited a link or not previously.
- **Google Chrome Vulnerability Reward Program, 2021**  
Received a bug bounty of 3,000 USD as part of our disclosure for Spook.js, for a bug where HttpOnly cookies would be copied into the rendering process upon opening Chrome's developer tools.
- **EECS Scholar; James B. Angell Scholar; University Honors and Dean's List, 2017-2021**  
Collection of undergraduate awards at the University of Michigan for distinguished academic records.
- **Multidisciplinary Design Program, Summer Research Fellowship, 2020**  
Received a grant of 5,000 USD to continue research with the University of Michigan and Aptiv PLC over the Summer of 2020. Built a test bench with a network of Raspberry Pi devices.
- **William J. Branstrom Freshman Prize, 2018**  
Awarded to the top five percent of the freshman class at the University of Michigan.

## TRIVIA

- **Fluent** in C/C++, Python (Flask, PyTorch, scikit-learn, SciPy), JavaScript, English, and Korean.
- **Intermediately Proficient** in x86 and ARM assembly, HTML/CSS, Rust, and Spanish.
- Citizenship: United States.

## PROJECTS (ON GITHUB)

- **JasonDrive**: Replica of Google Drive to use as a home file server. ([Link](#))
- **Rosalind**: Platform for competitive bioinformatics programming maintained by the University of California, San Diego. Ranked in top 1% of approx. 74,000 users in Aug 2019. ([Link](#))
- **ZeroSteg**: JavaScript web app to create steganographic text using zero-width Unicode characters. ([Link](#))
- **BitmapParser/EasyLSB**: Lightweight C++ library to read and edit bitmap images, and a program that embeds messages in them using least significant bit steganography. ([Link 1](#)) ([Link 2](#))