# Sam G. Havron

## Contact Information

Cornell Tech – 2 West Loop Road
New York, NY 10044

Email: havron@cs.cornell.edu
Web: https://havron.dev

## Research Interests

I study computer security and privacy problems in the context of intimate partner violence (https://ipvtechresearch.org). Interests include human-centered security, digital safety, and privacy, especially in the context of marginalized and vulnerable communities.

## Education

**Cornell University** — New York, NY
Ph.D. and M.S. in Computer Science — August 2017 - present
In residence at Cornell Tech, NYC.
Advisors: Thomas Ristenpart and Nicola Dell.

**University of Virginia** — Charlottesville, VA
B.S. in Computer Science — August 2014 - May 2017

## Awards

- Advocate of New York City Award — 2019
- Best Paper Honorable Mention for [C4] at ACM CSCW — November 2019
- Cornell Graduate School Fellowship. Approximately 20% of Cornell doctoral students receive this fellowship — August 2017
- Louis T. Rader Award for Outstanding Undergraduate Education at the University of Virginia — May 2017

## Conference Publications

[C4] Diana Freed*, Sam Havron*, Rahul Chatterjee, Emily Tseng, Andrea Gallardo, Thomas Ristenpart, Nicola Dell. "Is my phone hacked?" Analyzing Clinical Computer Security Interventions with Survivors of Intimate Partner Violence. *ACM CSCW, 2019.* Best Paper Honorable Mention Award. *co-equal first authors.

[C3] Sam Havron*, Diana Freed*, Rahul Chatterjee, Damon McCoy, Nicola Dell, Thomas Ristenpart. Clinical Computer Security for Victims of Intimate Partner Violence. *28th USENIX Security Symposium, 2019.* *co-equal first authors.

[C2] Rahul Chatterjee, Periwinkle Doerfler, Hadas Orgad, Sam Havron, Jackeline Palmer, Diana Freed, Karen Levy, Nicola Dell, Damon McCoy, Thomas Ristenpart. The Spyware Used in Intimate Partner Violence. *39th IEEE Symposium on Security and Privacy 2018.*

[C1] Sam Havron, David Evans. Poster: Secure Multi-Party Computation as a Tool for Privacy-Preserving Data Analysis. *37th IEEE Symposium on Security and Privacy 2016.*

## Posters

[P1] Sam Havron, David Evans. Poster: Secure Multi-Party Computation as a Tool for Privacy-Preserving Data Analysis. *37th IEEE Symposium on Security and Privacy 2016.*

## Presentations

- *Lawyers Committee Against Domestic Violence (LCADV), New York, NY*, "Clinical Computer Security for Victims of Intimate Partner Violence" September 12th, 2019
- *28th USENIX Security Symposium, Santa Clara, CA*, "Clinical Computer Security for Victims of Intimate Partner Violence" August 14th, 2019
- *Empire Hacking, New York, NY*, "Clinical Computer Security for Victims of Intimate Partner Violence" June 11th, 2019
  - "This was one of the best-reviewed talks of any recent @EmpireHacking," Dan Guido (CEO, Trail of Bits) https://twitter.com/dguido/status/1178734756747468800
- *Bronx Legal Services, The Bronx, NY*, "Clinical Computer Security for Victims of Intimate Partner Violence" June 4th, 2019

## Research Impact

- Led direct interventions to help over 118 victims (to-date) of intimate partner violence navigate technology abuse 3.
- Based on our study 2, Google stopped serving advertisements on search terms relating to intimate partner violence and increased enforcement of Play Store policies.

## Select Press Coverage

Titles are clickable. Full list is available at: https://havron.dev/media

- U.S. Senator Kamala Harris (D-CA) tweeted about an NPR (WBUR) podcast featuring our team (podcast published November 27, 2019)
- "NYC Has Hired Hackers to Hit Back at Stalkerware," *MIT Technology Review* (August 14, 2019)
- "New Tools Help Detect Digital Domestic Abuse," *Cornell Chronicle* (August 13, 2019)
- "How 'Stalkerware' Apps are Letting Abusive Partners Spy on Their Victims," *MIT Technology Review* (July 10, 2019)
- "The Simple Way Apple and Google Let Domestic Abusers Stalk Victims," *WIRED* (July 2, 2019)
- "Tech Can Impact Domestic Violence – Not Always in a Positive Way," *Smart Cities Dive* (May 30, 2019)
- "Hacker Eva Galperin Has a Plan to Eradicate Stalkerware," *WIRED* (April 3, 2019)
- "Hundreds of Apps Can Empower Stalkers to Track Their Victims," *The New York Times* (May 19, 2018)

## Teaching Experience

- Graduate Teaching Assistant, Cornell CS 5435 — Fall 2018
  Computer Security and Privacy in the Wild (by Prof. Ari Juels)
- Undergraduate Teaching Assistant, UVA CS 2150 — Spring 2016 - Spring 2017
  Data Structures and C++ (by Prof. Aaron Bloomfield)
- Undergraduate Teaching Assistant, UVA CS/ECE 2330 — Fall 2015 - Fall 2016
  Digital Logic Design (by Prof. Joanne Dugan)

## Department and Community Service

- Technology Consultant - Computer Security Clinic for IPV Survivors — New York, NY
  Help lead a computer security clinic for over 118 IPV survivors to-date. — November 2018 - present

- Instructor - Expanding Your Horizons (EYH) — Ithaca, NY
  Taught middle school girls from at-risk communities about computer programming, e.g., using paper airplanes as an analogy for TCP/IP protocols. 500+ girls attend EYH. — April 2018
- Contest Judge - UVA High School Programming Contest — Charlottesville, VA
  Helped create coding problems and run the largest programming competition for high school students in the mid-Atlantic region of the U.S. — Spring 2015 - Spring 2017
- Social Chair of PhD student association at Cornell Tech (PACT). — New York, NY, December 2019 - present
- Secretary of Cornell Computer Science Graduate Organization (CSGO). — Ithaca, NY, August 2017 - May 2018

## Undergraduate Student Research Advising

| | |
|---|---|
| 2019 | Julio Poveda |
| 2019 | Chantelle Levy |

## Relevant Courses Taken

| | |
|---|---|
| Security & Privacy Technologies (CS 6431) | Advanced Algorithms (CS 6820) |
| Advanced Programming Languages (CS 6110) | Applied Machine Learning (CS 5785) |
| Designing Secure Cryptography (CS 6831) | |

## Skills

- Select pinned GitHub repositories: `https://github.com/havron`
  - havron/daas: Marketplace app implemented with tiered Docker microservices, including search and recommendation engines, load balancing, CI staging & deployment, and more.
  - stopipv/isdi: Non-invasive spyware and stalkerware scanning tool for iOS and Android.
- Programmming Languages:
  - Standard proficiency: Python, Java, C++
  - Cursory proficiency: OCaml, C, JavaScript, SQL
- Technologies/frameworks:
  - Systems: Bash scripting, Linux, Git, Vim
  - Data Analysis: Jupyter Notebooks, scikit-learn, pandas
  - Modern Web Development: Docker, Django, Travis CI, Flask, AWS (EC2, S3, DynamoDB, $\lambda$, etc), Hugo static web compiler
  - Technical Writing: LaTeX, Overleaf

## References

- Nicola Dell, Assistant Professor, Jacobs Technion-Cornell Institute, Cornell University
- Thomas Ristenpart, Associate Professor, Cornell Tech, Cornell University