Sam G. Havron

Contact Information

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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., Computer Science — August 2017 - present
In residence at Cornell Tech, NYC.
Advisors: Thomas Ristenpart and Nicola Dell.

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

Academic Awards

- Best Paper Honorable Mention for [1] 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

Publications

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

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

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

[4] Poster: Secure Multi-Party Computation as a Tool for Privacy-Preserving Data Analysis. Sam Havron, David Evans. *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 99 victims (to-date) of intimate partner violence navigate technology abuse [2].
- Based on our study [3], 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

- "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

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

Relevant Courses Taken

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

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, λ, 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