

SARAH H HARVEY

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Toronto • Canada

SUMMARY

14 years in security/privacy x software engineering; 5 years in management.

7 years of conference organizing experience (BSidesSF); 3 years as program chair.

Experienced in building and leading high-performing teams, and developing and executing on strategic initiatives. Passionate about developing talent, fostering inclusive and collaborative environments, and giving back to the community.

EXPERIENCE

AGILEBITS, INC. DBA 1PASSWORD

TORONTO, ON

DIRECTOR

JAN '24 – JUN '25

- Grew Security Engineering from 10 to 20+ engineers; redefined vision/mission and adjusted staffing to incorporate increased infrastructure/platform presence. Developed organizational roadmap with 3-, 5-, and 10-year plans.
- Built out infrastructure security function, retrained staff, and hired manager + tech lead to support major initiatives such as centralized AWS access management. Replaced Lacework with Wiz for cloud security posture management, and implemented comprehensive security observability and detections. Reduced IAM tech debt; removed 100% of stale accounts and groups, and removed 100% of standalone user access credentials.
- Consolidated application security function, bringing in a manager and staff from outside the department, and doubling the size of the team. Migrated bug bounty program from BugCrowd to HackerOne, and improved/automated triage processes and responses; saved \$40k/yr through migration. Consolidated and scaled security reviews of PRs and eng design docs, avoiding increase in staffing. Embarked on SAST tooling evaluation.
- Consolidated cryptography engineering function, focused on cryptographic protocol design and implementation. Brought in staff from outside the department. Engineers participated in various industry efforts/working groups such as the FIDO Alliance, Internet Identity Workshop, and Real World Crypto. Contributed to security architecture design of Confidential Computing systems, incorporating secure enclaves.
- Provided support to the rest of the security department in midst of VP changes from Feb '24-Aug '24; helped interview/hire new VP/CISO. Supported CTO in the interim, providing security operations and incident response leadership/support. Contributed departmental MBR process changes, improvements to security hiring. Led significant changes to organizational culture and way of operation for department; reduced prevalence of organizational cynicism to zero. Mentored managers and senior managers.
- Led the largest public security incident in the company's history, involving multiple CVEs reported in by the Robinhood Red Team. Coordinated with product engineering teams to test and release fixes in the client application; coordinate with legal, PR, and customer support to ensure timely and accurate communication with customers and stakeholders. Coordinated with Robinhood Red Team on presentation of their findings at DEFCON 32: "Finding & exploiting local attacks on 1Password Mac desktop app".

PRINCIPAL SECURITY ENGINEER

JUL '25 – AUG '25

- I took a 3 month break (April-June) to handle some personal matters, and returned to 1Password as a Principal Security Engineer.
- Built out technical program for Engineering Excellence, including evaluation of tooling for centralized asset catalog (service, code, infra), with ownership, and scorecarding for security risk and production readiness. Aligned program with BCP buildout, and handed off program to TPM.
- Supported leadership team in developing consolidated departmental roadmap and vision.

SHOPIFY, INC.

SENIOR ENGINEERING MANAGER

TORONTO, ON

JUL '22 – NOV '23

- Led Infrastructure Security: 21 security SWEs (including Staff/Sr Staff), 3 managers. Infrastructure Security is responsible for the security of the clouds (GCP, AWS).
- Redefined org vision/mission to account for growth from 10 to 24. Positioned staff+ engineers to lead infrasec workstreams, including championing company-wide initiatives for software supply chain security, and AI/data platform security. Introduced larger initiatives such as comprehensive security observability/detections (in Security Chronicle), and unified infrastructure access control.
- Migrated internal secrets management/PKI from HashiCorp Vault to Google Cloud Platform (GCP) Secret Manager and Certificate Manager, respectively. This included migrating 100k+ certs, 1000+ secrets, and 100+ PKI roles. Reduced operational overhead by 50% and improved security posture.
- Rolled out significant improvements to software supply chain security, including: binary authorization; centralized SBOM sources (rubygems, OS packages, etc.); automated infra security config reviews.
- Serve as primary liaison with GCP partner for Shopify production security needs, including negotiating discounts/contracts; participate in Google security technical advisory committees to provide early product feedback.
- Maintained high morale and performance through some particularly difficult challenges within first year, including org staff reductions/layoffs, loss of director, multiple changes in upper management, and major shifts in company-wide infrastructure and security strategy.

BLOCK, INC. (FKA SQUARE INC.)

ENGINEERING MANAGER

TORONTO, ON

SEP '20 – JUN '22

- Led Privacy Engineering: 5-8 security SWEs. Split the team into two: Privacy Infrastructure; Data Inventory, Visibility and Attestation. Hired 3, promoted 3. Trained and positioned a SWE as tech lead/strategist.
- Explored automated data inventory/classification and columnar-based access control as means of data protection. Increased automation DSAR processes across all product verticals (Square, CashApp, Capital, etc) by 50%. Built out cookie compliance/consent management, and automated vendor security and data flow management. Collaborated with Privacy Legal to develop centralized privacy program.
- Served as: panelist on senior/staff SWE IC promotion committees; SWE IC barometer (reviewed hiring and issued hire/no-hire decisions); calibrated technical interviewer for pair programming, software architecture, security architecture; SWE management interviewer.
- Advised security directors/leads on hiring strategy and interview panels. Conducted 200+ interviews (SWE interns to security directors); helped hire 25-30% of InfoSec from 2015-2022 (growth from 20 to 200).

BLOCK, INC. (FKA SQUARE INC.)

SENIOR SOFTWARE/SECURITY ENGINEER

SAN FRANCISCO, CA

MAY '15 – AUG '20

- Served as first hire and tech lead on Privacy Engineering in 2018. Designed/implemented/tested cryptographic scheme for data protection in automated DSAR processes across all product verticals (Square POS, Cash App, Square Capital). Designed/implemented automated JIRA-based DSAR workflow and process management. Designed/implemented vendor and dataflow inventorying/management; connected this to strong egress controls.
- Designed and built a robust service backfill framework; still used (as of 2022) for data migration for many critical Java backend services.
- Scaled up cross-DC distributed card tokenization service supporting card transactions; debugged and solved performance issues: race conditions, cross-DC replication, redundancy/automated failover.
- Contributed to internal CA/PKI administration (X.509 certificate issuance, key/certificate rotation and deployment, secrets management) at scale (100k+ certs!); debug certificate issues across various software libraries and tech stacks.
- Served as primary PCI PIN process manager, and supported on-site PCI PIN audits in datacenters; occasional HSM siteops duties in the datacenter.
- Other general duties: bug bounty, vulnerability management, vendor security assessment, infosec helpdesk.

COMMUNITY WORK

BSidesSF (SECURITY B-SIDES)

SAN FRANCISCO, CA

CONFERENCE ORGANIZER

NOV '18 – PRESENT

"BSidesSF is a non-profit organization designed to advance the body of Information Security knowledge by providing an annual, two-day, open forum for discussion and debate for security engineers and their affiliates. ... We're a 100% volunteer-organized event, put on by and for the community, and we truly strive to keep information easily accessible."

- 2000+ attendees; 3-4 tracks. \$xxxk budget. Part of 5-person core-organizer team, with 25 supporting.
- Responsible for "hiring" and supporting planning through the year: budget, artwork, venue layout, program design, people flow, staffing and equipment requirements.
- Volunteer Operations (2019–2022): Managed volunteer recruitment/scheduling (200+ volunteers over 1000+ hours).
- Program Operations (2023–present): Served as program chair. Ran CFP/CFW, wrangled program review committee, accepted/rejected/waitlisted submissions, designed talk/workshop schedule, reviewed 50+ slidedecks for technical content and organizational flow, conducted 10+ dry-runs, selected keynotes. Put out day-of fires: last-minute no-shows, schedule changes, special accommodations, real-time track overflow.

EDUCATION

UNIVERSITY OF WATERLOO

WATERLOO, ON

SOME PH.D. (COMPUTER SCIENCE)

2011 – 2015

Cryptography, Security and Privacy; Information Retrieval.

SOUTHERN ILLINOIS UNIVERSITY – CARBONDALE

CARBONDALE, IL

B.Sc. (COMPUTER SCIENCE)

2008 – 2011

Mathematics Minor. Summa Cum Laude, Honors, Dean's List.

SELECTED PUBLICATIONS

PRESENTATION: **Privacy Engineering for your Privacy Program**, *BSidesTO* (2023)

PODCAST: **SOC2 with Sarah Harvey**, *Security, Cryptography, Whatever* (2022)

PRESENTATION: **Third-Party Integrations: Friend or Foe?**, *USENIX Enigma* (2020)

PRESENTATION: **Anti-Privacy Anti-Patterns**, *BSidesSF* (2019)

WORKSHOP + CTF: **Capture The Flag: Learning to Hack for Fun and Profit**, *Grace Hopper Celebration* (2017)