

PROFESSIONAL EXPERIENCE **Square Inc., Toronto, ON, Canada**

September 2020 - present

Engineering Manager/Lead, Privacy Engineering

People management for 6-7 engineers. Conducted annual planning and roadmap strategy/vision for the team, in coordination with other security management. Facilitate cross-functional projects and collaborations across product, engineering, security, and legal teams. Conduct performance review, promotion cycle, coaching of reports/peers, etc. Successfully advocated for funding for new types of data risk visualization projects.

Square Inc., San Francisco, CA, USA

May 2015 - August 2020

Senior Software Engineer, Information Security

Privacy Engineering: Coordinated data inventory software development based on Amundsen. Performed vendor security assessments, and designed/built traffic egress controls with review systems to support vendor integrations. Designed/built GDPR/CCPA automation tooling that supports product teams across a variety of verticals to automatically serve privacy deletion/export requests.

Mobile Security: Reworked portions of the data pipeline and performed a first-pass at production-izing experimental code via converting jobs from pure Hadoop to Spark for a 5x speedup; moved from generating anomaly detection models by hand to automating model generation daily. Built data administrative panels.

Security Infrastructure: Migrated tokenization system to use HSM-backed fingerprints. Built robust, shardable backfill system with administrative UI and metrics for Java services. Managed internal PKI including certificates management/distribution; created custom secrets tooling and automation. Provided advice for scoping out privacy initiatives for the data infrastructure team. Served as primary key manager for PCI PIN tasks; aided in various PCI audits.

BSidesSF, San Francisco, CA, USA

November 2018 - present

Conference Organizer (Volunteers/Staffing)

Managed staffing of 350+ volunteer shifts with close to 200 volunteers, for a total of 1200+ hours. This includes volunteer registration, coordinating with other leads for staffing requirements (especially Public Safety), managing communications with volunteers around expectations and training, and making any last-minute decisions around staffing during the conference itself. Provided support to other leads related to shirt design, venue layout planning, incident response.

2020 pulled in over 2300 attendees, including members of press and various corporate sponsors. Presentations were in 4 main tracks, with notable features being several Off-The-Record talks, livestreaming, a track entirely in an IMAX theatre, several villages, and an on-site CTF.

Google, Square, Facebook; Bay Area, CA, USA

2013 - 2014

Misc internships.

EDUCATION*Unfinished PhD, Computer Science*

September 2011 - May 2015

Research Areas: Stylometry, Deanonymization, General user privacy
University of Waterloo, Waterloo, ON, Canada

Bachelor of Science, Computer Science (GPA = 4.00)

August 2008 - May 2011

Concentrations: Networks, Security, Software Engineering, Artificial Intelligence
Southern Illinois University, Carbondale, IL, USA

SELECTED TALKS

“Third-Party Integrations: Friend or Foe” *USENIX Enigma 2020*

“Anti-Privacy Anti-Patterns” *BSidesSF 2019*

“From Zero To Cool: Lessons Learnt from Running CTFs” *NBT4Con*

“You Can’t Secure What You Can’t See” *sqr00t 2017/2018, OWASP meetup 2019*

“Making Use of Visualization to Understand Traffic/Data Flow” *Hear + Now 2017*

“Capture The Flag: Learning to Hack for Fun and Profit” *Workshop, GHC 2017*