# **Arthur Borem**

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## **EDUCATION**

PhD in Computer Science, University of Chicago. Chicago, IL.

Thesis Focus: Developing visualization, access, and measurement tools for businesses to best present personal data that a user obtains by making a Data Subject Access Request via GDPR, CCPA, etc.

MS in Computer Science, University of Chicago. Chicago, IL.

09/2021 - 06/2024

09/2021 - (exp) 07/2026

BS in Computer Science, Brown University. Providence, RI.

## PUBLICATIONS

- Kevin Bryson, **Arthur Borem**, Phoebe Moh, Omer Akgul, Michelle L. Mazurek, Blase Ur. "Evaluating and Taxonomizing Ad Transparency Systems." *In IEEE Symposium on Security and Privacy* (**S&P 2025**).
- Kelly B. Wagman, **Arthur Borem**, Lan Gao, Marshini Chetty. "Examining Black Older Adults' Perceptions and Use of Digital Voice Assistants for Exercise." *In review.*
- Kevin Bryson, Arthur Borem, Phoebe Moh, Omer Akgul, Laura Edelson, Chris Geeng, Tobias Lauinger, Michelle L. Mazurek, Damon McCoy, Blase Ur. "Evaluation of Ad Transparency Systems." In Workshop on Technology and Consumer Protection (ConPro 2024).
- Arthur Borem, Elleen Pan, Olufunmilola Obielodan, Aurelie Roubinowitz, Luca Dovichi, Michelle L. Mazurek, Blase Ur. "<u>Data Subjects' Reactions to Exercising Their Right of Access</u>." In USENIX Security Symposium (USENIX Security 2024).
- Galen Harrison, Kevin Bryson, Ahmed E. B. Bamba, Luca Dovichi, Aleksander H. Binion, Arthur Borem, Blase Ur. "JupyterLab in Retrograde: Contextual Notifications That Highlight Fairness and Bias Issues for Data Scientists." In ACM Conference on Human Factors in Computing Systems (CHI 2024).
  Best Paper Award.
- Alexandra Nisenoff, **Arthur Borem**, Madison Pickering, Grant Nakanishi, Maya Thumpasery, Blase Ur. "Defining Broken: UX and Remediation Tactics When Ad-Blocking or Tracking-Protection Tools Break a Website's User Experience." In USENIX Security Symposium (**USENIX Security 2023**).
- Arthur Borem, Elleen Pan. "Privacy & Contextual Integrity in a Crowdsourced Gig Work Knowledge Sharing Platform." In Symposium on Applications of Contextual Integrity (**PrivaCI 2023**).
- Nediyana Daskalova, Eindra Kyi, Kevin Ouyang, Arthur Borem, Sally Chen, Sung H. Park, Nicole Nugent, Jeff Huang. "<u>Smartphone-Supported Guidance for Customizable Self-Experimentation</u>." In ACM Conference on Human Factors in Computing Systems (CHI 2021).
- Arthur Borem, Christina Smith. "Developing and Supporting STEM Underg TAs as Partners in Teaching." In IEEE Frontiers in Education Conference (FIE 2021).

# EXPERIENCE

UChicago Usable Security & Privacy Lab. Research Assistant. Chicago, IL.

• Designed, conducted, and published on several measurement and user studies relating to Data Subject Rights, ad transparency systems, and privacy-promoting tools. Described in "Select Research" below.

Asana. Software Engineer. San Francisco, CA.

- Won joint-venture award by Fast Company for building video recording within the Asana web-app to millions of users in collaboration with Vimeo in React, Typescript, GraphQL, and Sass.
- Designed and launched automatic transcription generation for these videos using Scala, Javascript, and AWS Transcribe, and made these videos indexable and searchable using Elasticsearch.

#### 06/2020 - 09/2021

09/2021 - present

08/2016 - 05/2020

• Launched financially sensitive Do not Disturb feature by leading 3 engineers and partnering with product, finance, and design by running A/B test to pick option that did not decrease number of visits to Asana.

Lyft. Software Engineer Intern. San Francisco, CA.

- Reduced customer complaint tickets by ~5% and increased trust by deploying a health status REST API in Python, Redis, and DynamoDB in the Lyft Business team (servicing hospitals, hotels, etc.).
- Designed API scheme by meeting with forward deployed engineer and Lyft Business clients.

## Bank of America. Software Engineer Intern. NY, NY.

• Built the first Bank of America in-app chatbot in iOS, which later became Erica (current chatbot), using Swift, Python, and AWS Lambda.

# SELECT RESEARCH

## Data Subject Rights Measurement Study. University of Chicago.

• Developed de-identification script for structured data files (JSON, CSV, HTML, XML, etc.) in Python and Javascript that has been used for 3 additional projects in my research group.

## Annotating Personal Data (via Data Subject Rights). University of Chicago.

- Designed and implemented web-app running entirely on client-side for privacy (React, Typescript, IndexedDB, Web Workers) by leading team of 4 developers that allows users to visualize, search, and annotate their personal data acquired by making a Data Subject Access Request (DSAR).
- Developed key recommendations for policymakers and designers on how to make personal data packets (from DSARs) usable and accessible by conducting user study with dozens of participants across dozens of countries using the web-app described.

How Ad-Blockers Break the Internet. University of Chicago.

- Developed a public, open-source taxonomy of ways ad-blockers and privacy extensions "break" websites (e.g., inability to log in) by scraping and qualitatively coding thousands of reviews of 12 browser tools.
- Developed recommendations for privacy tool designers for which types of website "breakage" to prioritize by running user study with 100 participants and analyzing the way they reacted upon encountering breakage.

# **HONORS & AWARDS**

Privacy Papers for Policy Makers Student Paper Award Awarded by the Future of Privacy Forum. John Crerar Fellowship Awarded to top Computer Science PhD first-years.	2025 2021
TALKS	
Data Subjects' Reactions to Exercising Their Right of Access At USENIX Security Symposium ( <b>USENIX Security 2024</b> ).	2024
Designing a Data Subject Access Rights Tool At USENIX Privacy Engineering Practice and Respect ( <b>PEPR 2024</b> ).	2024
TEACHING EXPERIENCE	
Teaching Assistant, Intro to Computer Security. University of Chicago.	Spring 2022, 2024, 2025
Head Teaching Assistant, Object Oriented Programming. Brown University.	Spring 2019

## SKILLS

**Tech:** React, Typescript, CSS, HTML, Node.js, GraphQL, Python, Java, MySQL, Redis, AWS, Elasticsearch. **Research:** user studies, AB testing, experiments, Figma, dogfooding, REST APIs, Datadog, Grafana, CI/CD.

### 06/2019 - 08/2019

2023 – 2024

2024 - present

#### 2021 – 2022

#### 06/2018 - 08/2018