# Arthur Borem

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## EXPERIENCE

**Security, Usability, and Privacy Research Group**, University of Chicago                 Sep 2021 to present

Data Access and Trust Illuminator, *Lead Developer and Researcher*

- Led the development of a data governance web application for users to upload results from  large Data Subject Access Requests (up to 8 GB) in order to better visualize their GDPR/CCPA data.
- Designed the privacy-first system architecture and data model that utilizes browsers' local storage, IndexedDB, and redacted data server built in Apache, PHP, and MySQL in order to meet technical and privacy constraints by restricting data to the client-side in order to maintain user privacy and anonymity, but reducing as much load on the frontend as possible to improve performance.
- Lead author on paper to be published at USENIX Security Symposium 2024 (<10% acceptance).

**Asana**, *Software Engineer II*                                                     June 2020 to Sep 2021

*Vimeo Integration*

- Built video transcript generation pipeline and enabled searchability by indexing transcripts in Elasticsearch.
- Implemented UI for recording videos in Asana using React, TypeScript, Scala, Asana's custom GraphQL-like querying system, and an API developed in collaboration with a team from Vimeo.

*Notifications, Emails, and Messaging*

- Developed, and launched a recommendation system using Scala and Elasticsearch built into the message composer that highlights related items for users based on the content of the message.
- Collaborated with data, product, design, and finance team to revamp the Do not Disturb feature and reduced amount of notifications and emails while maintaining email clickthrough rates after running A/B/C test.
- Planned and executed a timeline for development and launch of Do not Disturb revamp among two teams.

*Team building*

- Mentored and onboarded a software engineering apprentice who received a full time offer after 6 months.

**Lyft**, *Software Engineering Intern*                                                       May to Aug 2019

- Worked with customers and partner engineers to build the first health status API for Lyft Enterprise in Python and DynamoDB to report incidents and outages.

## EDUCATION

**University of Chicago,** Masters of Science in Computer Science                     Chicago, IL, May 2024

Dissertation: development of tools to promote transparency and data autonomy for consumers under the data subject right to access personal data.

**Brown University**, Bachelor of Science in Computer Science             Providence, RI, Aug 2016 to May 2020

## TECHNICAL SKILLS

Tools: TypeScript, JavaScript, Python, React/Redux, Node.js, Scala, Java, Go, PHP
Systems: AWS, DynamoDB, SQL, GraphQL, Postgres, Redis, Datadog, Elasticsearch, Bazel, Git

## PUBLICATIONS

"Data Subjects' Reactions to Exercising their Right of Access." **Arthur Borem**, E. Pan, O. Obielodan, A. Roubinowitz, L. Dovichi, Michelle Mazurek, Blase Ur. USENIX Security 2024.

"JupyterLab in Retrograde: Contextual Notifications that Highlight Fairness and Bias Issues for Data Scientists." G. Harrison, K. Bryson, A. Bamba, L. Dovichi, A. Binion, **Arthur Borem**, Blase Ur. CHI 2024 **(Best Paper Award)**.

"Defining 'Broken': User Experiences and Remediation Tactics When Ad-Blocking or Tracking-Protection Tools Break a Website's User Experience." A. Nisenoff, **Arthur Borem**, M. Pickering, G. Nakanishi, M. Thumpasery, Blase Ur. USENIX Security 2023.