

Catherine Han

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🌐 catherinehan.github.io

PhD candidate in cybersecurity and human-computer interaction, focusing on building robust sociotechnical systems. Passionate about mitigating online abuse by leveraging large-scale quantitative measurements with rich qualitative data. Empirically designing and evaluating systems for safer and more secure user interactions.

EDUCATION

- Exp. 2025 **Ph.D. in Computer Science**, *Stanford University*, advised by Prof. *Zakir Durumeric*
Interests: cybersecurity, privacy, human-computer interaction (HCI), online abuse, policy, Trust & Safety
- 2025 **M.S. in Computer Science**, *Stanford University*
- 2020 **B.A. in Computer Science**, *University of California, Berkeley*

PROFESSIONAL EXPERIENCE

- 2020-Present **Research Assistant**, *Stanford University*, Computer Science Department
- Investigated online abuse threats (misinformation, harassment, NCII) & actors to empirically design mitigations.
 - Led cross-functional collaborations in computer science, *communication*, *sociology*, and *law*.
- Present, **Teaching Assistant**, *Stanford University* 🌲 and *UC Berkeley* 🐾, Computer Science Departments
- 2017-2020
- 🌲 **Grad Comp. & Network Security** (2024): mentored and managed 9 teams across 25 students to propose and execute novel security research positioned in existing canonical work.
 - 🐾 **[Head TA] Computer Security** (2020): managed 17 TAs while spearheading transition to online learning for a class of 500 students; created course material and exams; taught conceptual and debugging skills.
 - 🐾 **Computer Architecture** (2019) 1K students; **Data Structures** (2018) 1.5K; **Intro CS** (2017) 1.8K: translated complex technical concepts to nonexperts to learn and master the material.
- 2019 **Software Engineering Intern**, *Salesforce*, Salesforce Zero
- Implemented a telemetry pipeline to store service usage metrics visualized via monitoring dashboards for NewRelic and Prometheus; integrated system into production for resource monitoring and granular usage billing.

SELECT PROJECTS & PAPERS

- 2025 **Characterizing the MrDeepFakes Sexual Deepfake Marketplace**, *accepted to USENIX Security* 🔗
- Measured underground non-consensual sexual deepfake community and market economics, revealing targeting of non-celebrities despite platform rules, exploitation of open source tools, and novel perpetrator motivations.
 - Proposed guidance for model developers and policymakers to mitigate generative AI abuse.
- 2024 **PressProtect: a protective tool for journalists**, *published in CSCW* 🔗, ★ Best Paper Honorable Mention
- Designed and prototyped a protective interface for Twitter/X for journalists to control when and how they engage with harassment on social media, based on need-finding interviews and evaluated via user testing.
 - Imposed graduated UI friction to viewing engagement based on content toxicity and relevance to journalist's work using GPT-3.5 and Google's Perspective API, performing LLM/model evaluation for thresholding.
- 2023 **"Hate raids" on Twitch**, *published in CSCW* 🔗, 🏆 Best Paper Award
- Characterized "hate raids" on Twitch, a novel form of scaled harassment campaigns, and stakeholder responses using over 244M chat messages from 10K channels and interviews with members of targeted communities.
 - Proposed data-driven suggestions for platform governance, addressing how stakeholders (platforms, moderators, and external developers) can collaborate to better protect vulnerable communities from existing and future attacks.
- 2020 **Consumer protection & privacy in free vs. paid mobile apps**, *published in PoPETS* 🔗 and *BTLJ* 🔗
- Contrasted user expectations for *better* privacy from paid versions of apps with their indiscriminate data collection behaviors in practice via at-scale traffic analysis of 6K apps and a 1,000-participant survey.
 - Communicated findings to the [Federal Trade Commission](#) and spoke on an expert panel at PrivacyCon '19.

AWARDS

- 2024 ★ **Best Paper Honorable Mention**, *ACM Hum.-Comput. Interact. (CSCW)*, 4% of papers
- 2023 🏆 **Best Paper Award**, *ACM Hum.-Comput. Interact. (CSCW)*, 1% of papers
- 2021 **Graduate Research Fellowship Program Fellow**, *National Science Foundation*, 15% of applicants
- 2020 **School of Engineering Fellow**, *Stanford University*
- 2020 **Outstanding Undergraduate Student Instructor Award**, *UC Berkeley*, <10% of instructors

TECHNICAL SKILLS

- Methods** Quantitative & qualitative analysis, data mining/scraping, statistical testing & modeling, surveys, interviews
- Tools** Python, Java, C, SQL, JavaScript, Bash, Git, Qualtrics