

# Tanusree Sharma

[tanusree.sharma@psu.edu](mailto:tanusree.sharma@psu.edu) [tanusreesharma.github.io](https://tanusreesharma.github.io)

## Research interests

security and safety; decentralized systems; AI governance; human-centered AI

## Employment

### Academic Positions

08/2024 - now Assistant Professor, Pennsylvania State University

### Industry / Research

05/22-08/22 Visiting Scholar, Max Planck Institute (Responsible Computing Group)

06/21-08/21 Privacy Engineer Intern, Google (SFDC -Third Party Privacy Group)

05/20-08/20 Researcher, Cisco (Cloud Privacy)

01/18-07/18 European Union (Data Privacy in Health Scheme)

## Education

8/2019- 7/2024 Ph.D. in Informatics, University of Illinois at Urbana-Champaign

## Honors & Awards

2024 2024 John Karat Usable Privacy and Security Research Award

2024 Two ACM CHI 2024 Best paper honorable mention for crypto papers

🏆 "I Can't Believe It's Not Custodial!": Usable Trustless Decentralized Key Management  
CHI 24

🏆 "Don't put all your eggs in one basket": How Cryptocurrency Users Secure Their Wallets  
CHI24

2023 Democratic inputs to AI by OpenAI - Awarded \$110,000

2023 SIGCHI Gary Marsden Travel Grant \$2500

2023 IC3 Blockchain Summit Student Travel Award - Awarded \$2,000

2022 Meta People's Expectations and Experiences with Digital Privacy Research Awards  
\$100,000

2022 Plurality Student Travel Grant \$2000

2022 Nomination by UIUC Grad College for Google PhD Fellowship (in top 5)

2022 Nomination by UIUC Grad College for Apple AI/ML Ph.D. Fellowship (in top 5)

## Grants and Gifts

### **Google Scholar Research Grant 2025**

**Project Title:** Designing Accessible Tools for Blind and Low-Vision People to Navigate Deepfake Media

**Role:** PI. Awarded \$60000 (\$42000 personal share)

### **Seed Grant, Penn State 2024-2025**

**Project Title:** Personhood Credential for Digital Identity Crisis

**Role:** PI. Awarded \$40000

### **OpenAI 2023: Democratic inputs to AI**

**Role:** Co-PI. Awarded \$110,000

**Team:** Tanusree Sharma, Yang Wang, Yun Huang, Dawn Song, Jeff Hancock, Sunny Liu

**Meta 2022, Social Media Advertisement Technology Design for Global South**

**Role:** Co-PI; Awarded \$100,000

**Team:** Yang Wang, Tanusree Sharma

## Publications

*See [Google Scholar](#) for citation records*

Conference Proceedings (peer-reviewed)

- [C.30]    **Exploring Parent-Child Perceptions on Safety in Generative AI: Concerns, Mitigation Strategies and Design Implications**  
Yaman Yu, **Tanusree Sharma**, Melinda Hu, Justin Wang, and Yang Wang  
IEEE Symposium on Security and Privacy 2025
  
- [C.29]    **BIV-Priv-Seg: Locating Private Content in Images Taken by People With Visual Impairments**  
Yu-Yun Tseng, **Tanusree Sharma**, Lotus Zhang, Abigale Stangl, Leah Findlater, Yang Wang, Danna Gurari.  
IEEE/CVF Winter Conference on Applications of Computer Vision 2025
  
- [C.28]    **Privacy Perceptions and Behaviors Towards Targeted Advertising on Social Media: A Cross-Country Study**  
Smirity Kaushik, **Tanusree Sharma**, Yaman Yu, Amna Ali, Yang Wang, Yixin Zou.  
Privacy Enhancing Technologies Symposium (PETS) 2025
  
- [C.27]    **Security Perceptions of Users in Stablecoins: Advantages and Risks within the Cryptocurrency Ecosystem**  
Maggie Guan, Yaman Yu, **Tanusree Sharma**, Molly Zhuangtong Huang, Kaihua Qin, Yang Wang, Kanye Ye Wang  
IEEE Symposium on Security and Privacy 2025

- [C.26] **Coinfused: Social Norms, Current Practices and Perceived Risks among the Cryptocurrency Users in Bangladesh.**  
Tanusree Sharma, Atm Mizanur Rahman, Silvia Sandhi, Yang Wang, Rifat Shahriyar,  
SM Taiabul Haque.  
ACM Compass 2025
- [C.25] **Exploring User Perceptions of Security Auditing in the Web3 Ecosystem**  
Molly Huang, Rui Jiang, **Tanusree Sharma**, and Kanye Ye Wang  
Network and Distributed System Security (NDSS) 2025
- [C.24] **“I’m not convinced that they don’t collect more than is necessary”: User-Controlled Data Minimization Design in Search Engines**  
**Tanusree Sharma**, Lin Kyi, Yang Wang, Asia Biega  
USENIX Security Symposium 2024
- [C.23] **“I Can’t Believe It’s Not Custodial!”: Usable Trustless Decentralized Key Management**  
**Tanusree Sharma**, Vivek Nair, Henry Wang, Yang Wang, Dawn Song  
2024 CHI Conference on Human Factors in Computing Systems. **Best Paper Honorable Mention**
- [C.22] **Unpacking How Decentralized Autonomous Organizations (DAOs) Work in Practice.**  
**Tanusree Sharma**, Yujin Kwon, Kornrapat Pongmala, Henry Wang, Andrew Miller, Dawn Song,  
Yang Wang.  
IEEE International Conference on Blockchain and Cryptocurrency 2024
- [C.21] **Designing Accessible Obfuscation Support for Blind People’s Visual Privacy**  
Lotus Zhang, Abigale Stangl, **Tanusree Sharma**, Yu-Yun Tseng, Inan Xu, Danna Gurari, Yang  
Wang, Leah Findlater.  
2024 CHI Conference on Human Factors in Computing Systems
- [C.20] **Don't put all your eggs in one basket": Understanding Crypto Users' Perceptions and Practices Towards Multi-Wallet Usage.**  
Yaman Yu, **Tanusree Sharma**, Sauvik Das, Yang Wang.  
2024 CHI Conference on Human Factors in Computing Systems. **Best Paper Honorable Mention**
- [C.19] **Understanding User-Perceived Security Risks and Mitigation Strategies in the Web3 Ecosystem**  
Jianing Si, **Tanusree Sharma**, Ye Wang.  
2024 CHI Conference on Human Factors in Computing Systems
- [C.18] **Disability-first Design and Creation of a Dataset Showing Private Visual Information Collected with People Who are Blind.** [Acceptance Rate: 24.7%]  
**Tanusree Sharma**, Abigale Stangl, Lotus Zhang, Yu-Yun Tseng, Inan Xu, Leah Findlater, Danna  
Gurari, Yang Wang.  
2023 CHI Conference on Human Factors in Computing Systems
- [C.17] **User Perceptions and Experiences of Targeted Ads on Social Media Platforms: Learning from Bangladesh and India.** [Acceptance Rate: 24.7%]  
**Tanusree Sharma\***, Smirity Kaushik\*, Yaman Yu\*, Syed Ishtiaque Ahmed, Yang Wang.

- [C.16] **A Mixed-Methods Study of Security Practices of Smart Contract Developers.**  
**Tanusree Sharma**, Zhixuan Zhou, Andrew Miller, and Yang Wang.  
USENIX Security 2023 [Acceptance Rate: 29.2%]
- [C.15] **Iterative Design of An Accessible Crypto Wallet for Blind Users.** [Acceptance Rate: 29.2%]  
**Tanusree Sharma\***, Zhixuan Zhou\*, Luke Emano, Sauvik Das, Yang Wang.  
Symposium on Usable Privacy and Security (SOUPS 2023)
- [C.14] **GuardLens: Supporting Safer Online Browsing for People with Visual Impairments.**  
Smirity Kaushik, Natã M. Barbosa, Yaman Yu, **Tanusree Sharma**, Zachary Kilhoffer, JooYoung Seo, Sauvik Das, and Yang Wang.  
Symposium on Usable Privacy and Security (SOUPS 2023). [Acceptance Rate: 29.2%]
- [C.13] **A First Look into Software Security Practices in Bangladesh.**  
**Tanusree Sharma\***, Ankit Shrestha\*, Pratyasha Saha, Syed Ishtiaque Ahmed, Mahdi Nasrullah Al-Ameen.  
ACM Journal on Computing and Sustainable Societies (ACM COMPASS 23)
- [C.12] **ChatGPT in HCI Research—A Trioethnography.** [Acceptance Rate: 34%]  
Smit Desai, **Tanusree Sharma**, Pratyasha Saha.  
ACM Conference on Conversational User Interfaces (ACM CUI 23)
- [C.11] **“It's A Blessing and A Curse”: Unpacking Creators' Practices with Non-Fungible Tokens (NFTs) and Their Communities.**  
**Tanusree Sharma**, Zhixuan Zhou, Yun Huang, Yang Wang.  
Crypto Economics Security Conference (CESC 22)
- [C.10] **Privacy during the pandemic: A global view of privacy practices around COVID-19 apps**  
**Tanusree Sharma**, Md Mirajul Islam, Anupam Das, SM Taiabul Haque, and Syed Ishtiaque Ahmed.  
ACM SIGCAS Conference on Computing and Sustainable Societies. (ACM COMPASS 21)
- [C.9] **Mapping risk assessment strategy for COVID-19 mobile apps' vulnerabilities.**  
**Tanusree Sharma**, Hunter A. Dyer, Roy H. Campbell, and Masooda Bashir.  
Computing Conference 2021.
- [C.8] **Enabling user-centered privacy controls for mobile applications: COVID-19 perspective.**  
**Tanusree Sharma**, Hunter A. Dyer, and Masooda Bashir.  
ACM Transactions on Internet Technology (ACM TOIT 2021) [Acceptance Rate: 33%]
- [C.7] **Use of apps in the COVID-19 response and the loss of privacy protection.**  
**Tanusree Sharma**, and Masooda Bashir.  
Nature Communication 2020.
- [C.6] **Towards inclusive privacy protections in the cloud**

**Tanusree Sharma**, Tian Wang, Carlo Di Giulio, and Masooda Bashir.  
Applied Cryptography and Network Security 2020

- [C.5] **Preserving Privacy in Cyber-Physical Social Systems: An Anonymity and Access Control Approach**  
**Tanusree Sharma**, John Bambenek, Masooda Bashir.  
Proceedings of the International Conference on the Internet of Things 2019
- [C.4] **Privacy apps for smartphones: An assessment of users' preferences and limitations.**  
**Tanusree Sharma**, and Masooda Bashir.  
HCI for Cybersecurity, Privacy, and Trust. (HCII20)
- [C.3] **A restful e-governance application framework for people identity verification in the cloud**  
Ahmedur Rahman, Shanto Roy, **Tanusree Sharma**, Md Whaiduzzaman  
In Cloud Computing–CLOUD 2018
- [C.2] **PSO-NF-based vertical handoff decision for ubiquitous heterogeneous wireless network**  
Saoreen Rahman, **Tanusree Sharma**, S. M. Reza, M. M. Rahman, and M. S. Kaiser.  
International Workshop on Computational Intelligence (IWCI 2016).
- [C.1] **A dynamic data placement policy for heterogeneous Hadoop clusters.**  
Santa Maria Sithil, Tushar Saha. **Tanusree Sharma**  
International Conference on Advances in Electrical Engineering (ICAEE 2017)

## Workshop Papers (Lightly Peer-reviewed)

- [C.6] **Verifying Humanness: Personhood Credentials for the Digital Identity Crisis.**  
**Tanusree Sharma**.  
2025 USENIX Conference on Privacy Engineering Practice and Respect (PEPR '25)
- [C.5] **Honey Trap or Romantic Utopia: A Case Study of Final Fantasy XIV Players' PII Disclosure in Intimate Partner-Seeking Posts.**  
Yihao Zhou, **Tanusree Sharma**. CHI Late Breaking Work 2025
- [C.4] **Examining User Perceptions of Stablecoins: Understandings and Risks**  
Guan, Yongqi, Yaman Yu, **Tanusree Sharma**, Kaihua Qin, Yang Wang, and Ye Wang.  
*Posters at the Symposium on Usable Privacy and Security (SOUPS)*. 2023.
- [C.3] **Rethinking Data Minimization from a User-Centered Approach: A Paradigm**  
**Tanusree Sharma**, Lin Kyi, Yang Wang, Asia Beiga. USENIX PEPR 23
- [C.2] **Cross-Country Examination of People's Experience with Targeted Advertising on Social media.**  
Smirity Kaushik, **Tanusree Sharma**, Yaman Yu, Amna Ali, Yang Wang, Yixin Zou.  
Extended Abstracts of the CHI Conference on Human Factors in Computing Systems 2024

- [C.1] **Advocating for users' privacy protections: a case study of COVID-19 apps.**  
**Tanusree Sharma**, Tian Wang, and Masooda Bashir.  
Human-Computer Interaction with Mobile Devices and Services 2020

## R&R or Under Review Papers

- [C.8] **Personhood Credentials: Human-Centered Design Recommendation Balancing Security, Usability, and Trust**  
Aya Ide, **Tanusree Sharma**.  
(Usenix Security 2025)
- [C.7] **"Do we need decentralization or centralization to verify ourselves?": Design of Personhood Credential for Digital Identity Crisis**  
Aya Ide, **Tanusree Sharma**.  
(CCS 2025)
- [C.6] **Human-Centered Auditing of LLMs: A Two-Step Evaluation of Legal Reasoning**  
Dana Alsagheer, **Tanusree Sharma**, Abdulrahaman Kamal, Mohammad Kamal, Roberero Porras, Nada Mansour, Nour Diallo, Rabimba Karanjai, Weidong Shi  
(CSCW 2025)
- [C.5] **From Experts to the Public: Governing Multimodal Language Models in Politically Sensitive Video Analysis**  
**Tanusree Sharma**, Yujin Potter, Zachary Kilhofer, Yun Huang, Dawn Song, Yang Wang.  
(CHI 2025 R&R)
- [C.4] **Inclusive.AI: Engaging Underserved Populations in Democratic Decision-Making on AI.**  
**Tanusree Sharma**, Jongwon Park, Yujin Kwon, Yiren Liu, Yun Huang, Sunny Liu, Dawn Song, Jeff Hancock, Yang Wang. (Nature Sci Report)
- [C.3] **Future of Algorithmic Organization: Decentralized Autonomous Organizations (DAOs).**  
**Tanusree Sharma**, Yujin Potter, Kornrapat Pongmala, Henry Wang, Andrew Miller, Dawn Song, Yang Wang. (Web Conference 2025)
- [C.2] **Hierarchical Instance Tracking**  
Jarek Tyler Reynolds, Neelima Prasad, Neel Karsanbhai, **Tanusree Sharma**, Lotus Zhang, Abigale Stangl, Yang Wang, Leah Findlater, Danna Gurar. (CVPR 2025)
- [C.1] **From Discussions to Decisions: Understanding User Behavior in Decentralized Autonomous Organizations.**  
Janice Jianing SI, **Tanusree Sharma**, Silvan Bruggmann, Robin Fritsch, Roger Wattenhofer, Kanye Ye WANG. (CSCW 2025)

## Teaching Experience

## Primary or Co-Instructor

Spring 2025	CYBER 342- Incident Handling & Response (Undergraduate Class), Penn State
Fall 2024	IS-597- Usable Security in Blockchain (Graduate Class), Penn State
Spring 2020	INFO- 490: Python for Data Science; Spring 2020 (UIUC)
Spring 2019	COSC- 4377: Computer Network; Spring 2019 (UH)

## Guest Lectures

Fall 2023	IS 236A: User Research & Evaluation; Host: Yang Wang (UIUC)
Fall 2023	IS 226: Introduction to HCI; Host: Yun Huang (UIUC)
Spring 2022	ECE 598: Principle of Blockchain; Host: Pramod Viswanath
Spring 2022	IS 400: Research Colloquium; Host: Ted Underwood

## Invited Talk & Seminar

- [T.11] **Verifying Humanness: Personhood Credentials for the Digital Identity Crisis**  
Invited talk at the 2025 USENIX Conference on Privacy Engineering Practice and Respect  
Host: in person June 9-10, 2025
  
- [T.10] **Governing People's Values in Multimodal Generative AI Models: Political Videos**  
Invited talk at Berkeley RDI  
Host: Cornell Tech, in person August 6, 2024
  
- [T.9] **Tooling and Method to Engage Various Stakeholders in Governing AI: Gender Stereotypes**  
Invited talk at IC3 Blockchain Camp  
Host: Cornell Tech, in person June 15, 2024
  
- [T.8] **Trustworthy and Democratic Design for Emerging Technologies.**  
Invited talk at Arizona State University  
Host: Rakibul Hasan, in person Oct 24, 2023
  
- [T.7] **Inclusive.AI: Democratic Tooling to engage the underserved population in AI**  
Invited talk at OpenAI, San Francisco, CA  
Host: OpenAI, in person Sept 28, 2023
  
- [T.6] **Rethinking Data Minimization in AI System from a User-Centered Approach: A Paradigm Shift.**  
Usenix Privacy Engineering Practice and Respect 2023 at Santa Clara, CA, Sept 11-12, 2023
  
- [T.5] **Utilizing DAO Tooling for non-DAO Context: Democratic input to AI**  
DAO workshop at the Science of Blockchain conference at Stanford University  
Host: Stanford Center for Blockchain Research; Aug 31, 2023
  
- [T.4] **Workings and metrics to evaluate Decentralized Autonomous Organizations (DAOs).**  
Invited Talk at IC3 Blockchain Camp  
Host: Cornell Tech, In-person Jun 12-17, 2023

- [T.3] **Women in Computing & Higher Studies**  
Invited Talk at IEEE Computer Society Bangladesh Chapter, July 22, 2023
- [T.2] **DAOs as early adopters: How DAOs work in practice**  
Plurality Conference at UC Berkeley  
Host: Glen Weyl & Audrey Tang; Jan. 13-15, 2023
- [T.1] **BIV-Priv Dataset: Disability-First Design and Creation of a Dataset with Private Visual Information Collected With People Who Are Blind**  
Invited Talk at iSchool Research Showcase  
Host: UIUC iSchool, Nov 15, 2022

## Academic Advising & Mentoring

### As a Faculty at Penn State

- 2024- Ayae Ide, PhD Student, Penn State (Thesis Advisor)
- 2024- Yihao Zhou, Masters Student, Penn State (Thesis Advisor)
- 2024- Tory Park, Undergraduate Student, Penn State
- 2025- Ryan John Oommen, Undergraduate Student, Penn State (Honors Advisor)
- 2025- Gwendolyn Elizabeth Powell, Undergraduate Student, Penn State (Honors Advisor)
- 2025- Winston Jen White, Undergraduate Student, IUG, Penn State (Part-time Researcher)

### As a PhD Student at the University of Illinois at Urbana Champaign

- 2023- now Silvia Sandhi, Jahangirnagar University, Bangladesh
- 2023- now ATM Mizanur Rahman (BUET, Bangladesh > incoming PhD Student, UIUC)
- 2023 Pinky Rani Sarkar (BUP, Bangladesh > PhD student, UVA)
- 2023 Jongwon Park (Bachelor Student, UIUC) [Nature Sci Report under review]
- 2023 Melinda Hu (High School Student)
- 2023 Justin Wang (High School Student)
- 2022-2023 Henry Wang (High School Student, UIUC) [CHI'24, IEEE ICBC 2024]
- 2022-2023 Inan Xu (Undergrad > MS student, UC Santa Cruz) [CHI' 2024, CHI' 2023]
- 2022-2023 Luke Emano (Undergrad student, UIUC) [SOUPS' 2023]
- 2022 Kornrapat Pongmala (UC Berkeley > ML Engineer, TikTok) [IEEE ICBC 2024]
- 2022 Jessica Mack (Undergrad student, UIUC) [Usenix' 2023]
- 2020 Pratyasha Saha, MS Student, Brac University [ACM Compass, ACM CUI]
- 2020 Hunter Dyer (Undergrad student, UIUC)

## Service

### Program Committee & Chair

- 2025 2026 ACM DIS Plurality, Equity, and Accessibility Chairs
- 2025 The 28th International Symposium on Research in Attacks, Intrusions and Defenses (RAID 2025)
- 2025 SBC 2025 Science of Blockchain Conference



- 2025 CCS 2025 ACM Conference on Computer and Communications Security
- 2025 USEC 2025 at Network and Distributed System Security (NDSS) Symposium
- 2025 ACM Conference on Human Factors in Computing Systems 2025
- 2024 ACM Conference on Computer-Supported Cooperative Work July 2024 cycle
- 2024 Workshop on Usable Security and Privacy (Mentoring Co-Chair with Sauvik Das, Sana Maqsood)
- 2023 WIPS: Workshop on Inclusive Privacy and Security
- 2022 WIPS: Workshop on Inclusive Privacy and Security
- 2021 WIPS: Workshop on Inclusive Privacy and Security

### Track Chair Assistant

- 2024 ACM CHI: Privacy and Security Subcommittee (with Yang Wang)
- 2023 ACM CHI: Privacy and Security Subcommittee (with Yang Wang)

### External Reviewer

*I have served as an external reviewer for the following venues for one or more times:*

- ACM Conference on Human Factors in Computing Systems
- ACM Conference on Designing Interactive Systems (DIS)
- ACM Transactions on Computer-Human Interaction (TOCHI)
- ACM Conference on *Computer-Supported Cooperative*
- ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT)
- ACM International Conference on Mobile Human-Computer Interaction (MobileHCI)
- ACM COMPASS
- IEEE Transactions on Dependable and Secure Computing
- IEEE Symposium on Security and Privacy

## Media Coverage

### Forbes 2020

Privacy Risks of COVID-19 Application, published in Nature Communication 2020

### Meta Grant 2022

Social Media Advertising and Privacy in Global South – Covered by iSchool UIUC.

### OpenAI Grant 2023

Democratic Input to AI – Covered by OpenAI

### Crypto.news

Crypto claims to be inclusive. Not for the visually impaired as it turns out.

### Hapticsdao

Web3 Accessibility

### Oasis Lab

DAO should enable private voting for decentralization