

Tanusree Sharma

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Research interests

usable privacy and security; human-computer interaction; decentralized governance; usable crypto

Employments

Academic Positions

08/2024 - now Assistant Professor, Pennsylvania State University

Industry / Research

06/22-08/22 Visiting Scholar, Max Planck Institute (Responsible Computing Group)

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

05/19-08/19 Researcher, Cisco (Cloud Privacy)

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

Education

8/2019- 8/2024 **Ph.D. in Informatics**, University of Illinois at Urbana Champaign
Thesis: Engaging People in Ethical AI Development: Design, Dataset Creation, and Decision-Making

Committee: Yang Wang (chair), Andrew Miller, Yun Huang, Sauvik Das (Carnegie Mellon University)

2012-2016 **B.Sc. in Computer and Information Technology**, Jahangirnagar University, Bangladesh, Highest Honor (top 4%)

Honors & Awards

- 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*
- 2023 Democratic inputs to AI by OpenAI - Awarded \$110,000
 - Awarded for my Ph.D. Dissertation*
- 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)

Publications

See [Google Scholar](#) for citation records

Conference Proceedings (peer-reviewed)

- [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.
2023 CHI Conference on Human Factors in Computing Systems
- [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 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 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.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 Service 2020

Preprint / Under Review Papers

- [C.6] **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.
(Under review Nature Scientific Report)
- [C.5] **Future of Algorithmic Organization: Decentralized Autonomous Organizations (DAOs).**
Tanusree Sharma, Yujin Kwon, Kornrapat Pongmala, Henry Wang, Andrew Miller, Dawn Song, Yun Huang, Yang Wang.
(Under Review Nature Perspective)
- [C.4] **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.
(Under Review)
- [C.3] **Changing Trust: Auditing's Impact on Web3 Security from a User Perspective**
Zhuangtong Huang, Rui Jiang, **Tanusree Sharma**, Ye Wang.
(Under Review)

- [C.2] **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. (under review CSCW)
- [C.1] **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.
 (under review)

Grants and Gifts

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, Smirity Kaushik, Yaman Yu

Teaching Experience

Primary or Co-Instructor

Fall 24	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.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 PhD Student at University of Illinois at Urbana Champaign

- 2023 Silvia Sandhi, Jahangirnagar University, Bangladesh
- 2023 ATM Mizanur Rahman (BUET, Bangladesh > incoming PhD Student, UIUC)
- 2023 Pinky Rani Sarkar (BUP, Bangladesh > incoming 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 (PhD student, Cornell University) [CHI'24, IEEE ICBC 2024]
- 2022-2023 Inan Xu (Undergrad > incoming MS student, UC Santa Cruz) [CHI' 2024, CHI' 2023]
- 2022-2023 Luke Emano (Undergrad student, UIUC) [SOUPS' 2023]
- 2022 Kornapat Pongmala (UC Berkeley > ML Engineer, TikTok) [IEEE ICBC 2024]
- 2022 Jessica Mack (Undergrad student, UIUC) [Usenix' 2023]
- 2020 Hunter Dyer (Undergrad student, UIUC)

Service

Program Committee Chair

- 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