MARY ANNE SMART

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Assistant Professor of Practice
Department of Computer Science
Purdue University

EDUCATION

University of California San Diego — 2024
Doctor of Philosophy in Computer Science
Dissertation Title: Understanding and Improving Privacy Communication
Advisor: Kristen Vaccaro
Committee: Lilly Irani, Sorin Lerner, and Imani Munyaka

University of California San Diego — 2021
Master of Science in Computer Science

Indiana University — 2017
Bachelor of Science in Computer Science, Bachelor of Science in Math, Bachelor of Arts in Spanish

TEACHING EXPERIENCE

Purdue University - Instructor — Present
· Foundations of Computer Science (Discrete Math)

University of California San Diego - Instructor — Summer 2023
· Intro to Artificial Intelligence: Probabilistic Reasoning

University of California San Diego - Teaching Assistant — Fall 2021, Fall 2022, Winter & Spring 2023
· Critical Analysis in Computing (co-taught & co-designed), Spring 2023
· Human-AI Interaction, Fall 2021 & Fall 2022
· Software Tools & Techniques Lab, Winter 2023

Indiana University - Peer-led Team Learning Leader — Fall 2014 - Spring 2016
· Developed lesson plans, activities, and sample problems for intro-level CS and informatics courses
· Led one-hour group sessions twice per week for students
· Provided feedback on student progress in weekly staff meetings

OTHER EMPLOYMENT

University of California San Diego - Graduate Research Assistant — Fall 2018 - Spring 2024
· Worked with Kristen Vaccaro at the intersection of privacy and HCI
· Developed explanations and tools to deepen people's understanding of privacy

Columbia University - Visiting Ph.D. Student — Spring 2022
· Worked with Rachel Cummings, Gabe Kaptchuk, Elissa Redmiles, and Priyanka Nanayakkara on improving descriptions of differential privacy for end-users
· Developed and evaluated novel descriptions of differential privacy for the local and central models

Indiana University - Undergraduate Research Assistant — Spring 2017
· Discussed papers in weekly meetings with bioinformatics research group
· Worked with Predrag Radivojac and Shantanu Jain on a machine learning research project

Qualtrics - Engineering Services Fullstack Software Developer — July 2017 - April 2018
· Worked with clients to design, develop, improve, and maintain custom enhancements to the core product
· Created and contributed to web services written in Node, PHP, etc.
· Integrated clients' external data systems with core Qualtrics platform

Proofpoint, Inc. - Software Engineering Intern — Summer 2016
· Studied ways of tokenizing URLs for searching with Apache Solr
· Constructed a classification model using Apache Spark to identify malicious URLs

PUBLICATIONS

Conference/Journal Papers
· Priyanka Nanayakkara, **Mary Anne Smart**, Rachel Cummings, Gabriel Kaptchuk, Elissa M. Redmiles. What Are the Chances? Explaining the Epsilon Parameter in Differential Privacy. USENIX Security, 2023.
· **Mary Anne Smart**, Dhruv Sood, Kristen Vaccaro. Understanding Risks of Privacy Theater in Differential Privacy. CSCW, 2022.
· Zachary Izzo, **Mary Anne Smart**, Kamalika Chaudhuri, James Zou. Approximate Data Deletion from Machine Learning Models: Algorithms and Evaluation. AISTATS, 2021.

Workshop Papers
· Tianyi Shan, **Mary Anne Smart**, Jay Jhaveri, Jessalyn Wang, and Kristen Vaccaro. Misalignments Between User and Developer Privacy Threat Models. Workshop on Privacy Threat Modeling @ SOUPS 2023.
· **Mary Anne Smart**, Priyanka Nanayakkara, Rachel Cummings, Gabriel Kaptchuk, Elissa M. Redmiles. Improving Explanations to End Users About Differential Privacy. PIE @ CHI 2023.
· Priyanka Nanayakkara, **Mary Anne Smart**, Rachel Cummings, Gabriel Kaptchuk, Elissa M. Redmiles. Improving Communication with End Users About Differential Privacy. CI Symposium 2022.
· **Mary Anne Smart**. Experimental Design Considerations for Limiting Psychological Distress. Queer in AI @ ICML 2022.
· Priyanka Nanayakkara, **Mary Anne Smart**, Rachel Cummings, Gabriel Kaptchuk, Elissa M. Redmiles. Improving Communication of DP to End Users. TPDP @ ICML 2022.
· **Mary Anne Smart**. Toward Collective Agency in Privacy Management. Workshop on Interdependent and Multi-party Privacy @ PETS 2022.
· **Mary Anne Smart**. Addressing Privacy Threats from Machine Learning. HCAI @ NeurIPS 2021.

Preprints
· **Mary Anne Smart**, Priyanka Nanayakkara, Rachel Cummings, Gabriel Kaptchuk, Elissa M. Redmiles. Models Matter: Setting Accurate Privacy Expectations for Local and Central Differential Privacy.
· **Mary Anne Smart**, Aaron Broukhim, Baljot Sekhon, Stephen Tan, Kristen Vaccaro. Negotiating Privacy Interdependence on Facebook.
· **Mary Anne Smart**, Stephanie Li, Tyus Liu, Kristen Vaccaro. Selling Privacy: Privacy Conceptualizations Promoted Through Advertisements.

INVITED TALKS

"Introduction to Linked Lists" Guest lecture at University of Illinois Chicago (Fall 2023)

"Learning in Community" Invited talk at Purdue University (2023)

"Improving Privacy Communication" Invited talk at Duke University and St. Olaf College (2023)

"Teaching Proofs by Induction" Invited talk at Northwestern University (2023)

"Privacy Through Randomness" Invited talk at Rose-Hulman Institute of Technology, St. Olaf College, Dickinson College, Earlham College, Saint Mary's College of California (2023)

"Lessons Learned in Communicating Differential Privacy to Data Subjects" Lightning talk at SOUPS (2023)

"Conceptualizations of Privacy in CS Syllabi." Lightning talk at CCSC Southwest (2023)

"Human-Computer Interaction Research." Invited talk for High School Women in STEM Club (2023)

"Understanding and Improving Privacy Communication." Speaker for UC San Diego's HCI Seminar (2023)

"Differential Privacy in Practice." Guest lecture at Northwestern University with Priyanka Nanayakkara (Fall 2022, Winter 2023)

"Limitations of Consent for Ethical Data Collection." Speaker at Data Ethics and Justice Workshop for UC Love Data Week (2022)

"Data Feminism Discussion: From Understanding Algorithms to Understanding Context." Invited to lead a discussion with the Socially Responsible Tritons group at UCSD (2020)

ORGANIZED EVENTS

Co-led a breakout discussion session at the 2022 WiML Un-Workshop on improving AI education

Co-led a breakout discussion session at the 2020 WiML Un-Workshop on Data Feminism and machine learning

Co-organized NeurIPS 2019 & 2020 workshops for privacy in machine learning

MENTORSHIP

UCSD Students   2020-2024
· Mentored and collaborated with undergraduate and junior graduate students on research projects, including: Dzhangir Bayandarov, Aaron Broukhim, Emily Jones, Stephanie Li, Tyus Liu, Baljot Sekhon, Dhruv Sood, & Stephen Tan.
· Published a paper with undergraduate Dhruv Sood as a co-author

Graduate Women in Computing Mentorship Program   2019-2024
· Participated as a student mentor
· Met regularly with students to discuss classes, research, etc.

Explore Computer Science Research Program   Winter 2020 - Spring 2020
· Mentored a small group of local community college students
· Help students learn about nearest neighbor classification, Jupyter notebooks, and data processing in Python
· Discussed the "coded gaze" and related issues that arise when building and deploying AI systems

SERVICE

Reviewer for CHI (2024)

Reviewer for CSCW (2024)

Reviewer for CHI Late-Breaking Work (2023)

Volunteer for Black in AI and Queer in AI joint social at ICML (2022)

Reviewer for WIPS (2022)

Reviewer for DIS (2022)

Reviewer for ICWSM (2022)

Reviewer & Volunteer for NeurIPS Queer in AI Workshop (2021)

Reviewer for CSCW Posters (2021)

Reviewer for NeurIPS Resistance AI Workshop (2020)

Reviewer NeurIPS Retrospective Workshop (2020)

HONORS & AWARDS

Rising Stars in EECS (2023): selected to participate in a workshop for scholars from historically marginalized genders who are interested in academic careers

Doctoral Award for Excellence in Contributions to Diversity (2023): awarded annually to one doctoral student by UCSD's CSE department

Cultural Competence in Computing (3C) Fellow (2021): professional development program hosted by Duke University

Phi Beta Kappa Member (2017): academic honor society

SWSIS Scholar (2016): national scholarship awarded by the Scholarship for Women Studying Information Security program on behalf of ACSA, CRA-W, and HPE

Ruth E. Gilliat Memorial Scholarship (2016): awarded by IU to a student in mathematics who has performed at the highest level in a rigorous curriculum

Aruna & Anurag Mendhekar Scholarship (2016): awarded by IU's School of Informatics and Computing