

# Emily Tseng

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## Research Interests

I study how digital technology facilitates harms, with a focus on enabling safe and consensual research with impacted communities. My research builds on techniques in *human-computer interaction* and *computational social science* to design, build, and deploy novel sociotechnical systems in real-world contexts, with the goal of improving conditions for people marginalized within society.

## Education

2019-now **Ph.D. at Cornell University**, *Department of Information Science*  
Committee: Nicola Dell (chair), Deborah Estrin, Tom Ristenpart, Karen Levy.

2017-19 **M.S. at Cornell Tech, Information Science - Health Tech** GPA: 3.9/4.0  
 Relevant coursework: Applied Machine Learning, Deep Learning, Natural Language Processing, Human-Computer Interaction, Interactive Device Design.  
 Advised by Nicola Dell and Deborah Estrin.

2010-14 **B.A. at Princeton University, *Ecology & Evolutionary Biology*** GPA: 3.5/4.0  
Concentration in Global Health and Health Policy. Studied epidemiology, journalism and social policy with a focus on predictive modeling of infectious disease epidemics. Advised by Bryan Grenfell and Tiffany Bogich.

## Awards & Honors

2022	Rising Stars in EECS
2022	Best Paper Award, ACM CHI
2021	Microsoft Research PhD Fellowship
2021	Digital Life Initiative Doctoral Fellowship
2020	Best Paper Award, ACM CSCW
2020	Distinguished Paper Award, USENIX Security Symposium
2020	Internet Defense Prize (third place), USENIX Security Symposium
2020	CRA-WP Grad Cohort for Women ( <i>postponed due to COVID-19, attended in 2021</i> )
2019	Best Paper Honorable Mention, ACM CSCW
2019	Advocate of New York City Award, Mayor's Office to End Domestic & Gender-Based Violence
2019	Cornell University Information Science Department Fellowship <i>First-year fellowship awarded for exceptional preparation &amp; promise (top 1.5% of applicants).</i>
2017	Cornell Tech merit scholarship for Master's-level study
2014	Top Senior Thesis in Mathematical Modeling, Princeton University Department of Ecology & Evolutionary Biology
2014	Society of Sigma Xi (scientific research honor society), Princeton University

## Refereed Conference and Journal Publications

\* indicates equal contribution, listed in alphabetical order by last name.

1. Adler, D.\*, **Tseng, E.\***, Moon, K.C., Young, J.Q., Kane, J.M., Moss, E., Mohr, D.C., and Choudhury, T. 2022. *Burnout and the Quantified Workplace: Tensions around Personal Sensing Interventions for Stress in Resident Physicians*. Proc. ACM Hum.-Comput. Interact. 6, CSCW2, Article 430 (November 2022), 48 pages. [pdf](#). [online](#).
2. Ming, J., Kuo, E.F., Go, K., **Tseng, E.**, Kallas, J., Vashistha, A., Sterling, M., and Dell, N. "I Go Beyond and Beyond": Examining the Invisible Work of Home Health Aides. ACM CSCW 2022 (to appear).
3. **Tseng, E.**, Sabet, M., Bellini, R., Sodhi, H., Ristenpart, T., and Dell, N. 2022. *Care Infrastructures for Digital Privacy and Security in Intimate Partner Violence*. In Proceedings of the 2022 ACM Conference on Human Factors in Computing Systems (CHI '22). [pdf](#). [online](#). [video](#).  
**Best Paper Award.**
4. Chen, J.X.\*, McDonald, A.\*, Zou, Y.\*, **Tseng, E.**, Roundy, K.A., Tamersoy, A., Schaub, F., Ristenpart, T., and Dell, N. 2022. *Trauma-Informed Computing: Towards Safer Technology Experiences for All*. In Proceedings of the 2022 ACM Conference on Human Factors in Computing Systems (CHI '22). [pdf](#). [online](#).
5. **Tseng, E.**, Freed, D., Engel, K., Ristenpart, T., and Dell, N. 2021. *A Digital Safety Dilemma: Analysis of Computer-Mediated Computer Security Interventions for Intimate Partner Violence During COVID-19*. In Proceedings of the 2021 ACM Conference on Human Factors in Computing Systems (CHI '21). [pdf](#). [online](#). [video](#).
6. Bellini, R., **Tseng, E.**, McDonald, N., Greenstadt, R., McCoy, D., Ristenpart, T. and Dell, N. "So-called privacy breeds evil": Narrative Justifications for Intimate Partner Surveillance in Online Forums. Proceedings of the ACM on Human-Computer Interaction, Issue CSCW. 2020. [pdf](#). [online](#).  
**Best Paper Award.**
7. **Tseng, E.**, Bellini, R., McDonald, N., Danos, M., Greenstadt, R., McCoy, D., Dell, N. and Ristenpart, T. 2020. *The Tools and Tactics Used in Intimate Partner Surveillance: An Analysis of Online Infidelity Forums*. 29th USENIX Security Symposium. [pdf](#). [online](#).  
**Distinguished Paper Award.**  
**Internet Defense Prize, third place.**
8. Sterling, MR, **Tseng, E.**, Poon, A, Cho, J, Avgar, AC, Kern, LM, Ankuda, CK, Dell, N. 2020. *Experiences of Home Health Care Workers in New York City During the Coronavirus Disease 2019 Pandemic: A Qualitative Analysis*. JAMA Internal Medicine. [pdf](#). [online](#).
9. **Tseng, E.**, Okeke, F., Sterling, M., and Dell, N. 2020. "We can learn. Why not?": Designing Technologies to Engender Equity for Home Health Aides. In Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems (CHI '20). Association for Computing Machinery, New York, NY, USA. [pdf](#). [online](#).

10. Sterling, M. R., Dell, N., Piantella, B., Cho, J., Kaur, H., **Tseng, E.**, Okeke, F., Brown, M., Leung, P. B. K., Silva, A. F. , Shaw, A. L., Kern, L. M. 2020. *Understanding the Workflow of Home Healthcare for Patients with Heart Failure*. Journal of General Internal Medicine. [pdf](#). [online](#).
11. Freed, D.\*, Havron, S.\*, **Tseng, E.**, Gallardo A., Chatterjee, R., Ristenpart, T., and Dell, N.. 2019. "Is my phone hacked?" *Analyzing Clinical Computer Security Interventions with Survivors of Intimate Partner Violence*. Proceedings of the ACM on Human-Computer Interaction: Vol. 3, Issue CSCW, Article 202. [pdf](#). [online](#).  
**Best Paper Honorable Mention.**
12. Okeke, F., **Tseng, E.**, Piantella, B., Brown, M., Kaur, H., Sterling, M., and Dell, N. 2019. *Technology, Home Health Care, and Heart Failure: A Qualitative Analysis with Multiple Stakeholders*. ACM SIGCAS Conference on Computing & Sustainable Societies (COMPASS 2019). [pdf](#). [online](#).

## Teaching and Advising

### **Cornell University**, remote due to COVID-19

Guest Lecturer, CS / INFO 5600: AI & Healthcare, Prof. Rajalakshmi Nandakumar	Fall 2021
Teaching Assistant, Summer School on Designing Technology for Social Impact	Summer 2021
Teaching Assistant, CS 1340 / INFO 1260: Choices and Consequences in Computing, Profs. Jon Kleinberg and Karen Levy	Spring 2021
Teaching Assistant, CS 5682 / INFO 6410: HCI & Design, Prof. Nicola Dell	Fall 2020

### **Cornell Tech**, New York, NY

Teaching Assistant, INFO 6940: Technology & Social Justice, Prof. Nicola Dell	Spring 2020
Research Internship Supervisor, Technion + Cornell Tech Intern Program	Fall 2019
Grader, CS 5740: Natural Language Processing, Prof. Yoav Artzi	Spring 2019
Lead Teaching Assistant, Product Studio, Prof. Deborah Estrin	Fall 2018

### **Weill Cornell Medical College**, New York, NY

Guest Lecturer, HCPL 8101: Digital Health, Prof. Deborah Estrin	Summer 2020
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### **Fullstack Academy**, New York, NY

Software Engineering Teaching Fellow	Summer 2017
- Taught and mentored 80+ students at a selective software engineering bootcamp.	
- Delivered 10-minute talk on inclusive design and web accessibility [ <a href="#">video</a> ]	

## Presentations

### **Invited Talks**

<b>2022</b>	University of Chicago, People and Technology Seminar AnitaB.org Grace Hopper Celebration, Research Showcase Google, Trust & Safety Research Speaker Series Microsoft Research, Project Green Workshop: Community-Driven Innovation & Health Equity Stanford University, HCI Seminar
<b>2021</b>	Microsoft Research, PhD Fellowship Showcase Cornell Tech, Digital Life Initiative Seminar MIT Visualization Group

**2020** United Hospital Fund/Greater New York Hospital Association Annual Symposium  
MIT CSAIL Security Seminar  
Facebook Research  
Cornell Tech, Precision Behavioral Health Initiative

### **Conference and Workshop Talks**

**2022**, Northeast Privacy Scholars Conference, selected for Lightning Session  
**2022**, Care Infrastructures for Digital Security and Privacy in IPV, ACM CHI [[video](#)]  
**2021**, A Digital Safety Dilemma, ACM CHI [[video](#)]  
**2020**, The Tools and Tactics of Intimate Partner Violence, USENIX Security Symposium [[video](#)]

### **Academic and University Service**

**2022-23**, Cornell Information Science PhD Student Mentoring Program, Organizer  
**2021-22**, Diversity, Equity and Inclusion Strategic Committee at Cornell Tech, PhD Representative  
**2021-22**, Faculty Hiring Committee at Cornell Tech, PhD Coordinator  
**2021**, CHI, Student Volunteer (fully remote conference)  
**2020**, PhDs at Cornell Tech, Co-President  
**2019**, HealthTech.NYC speaker series, Organizer

### **Workshops**

**2022**, Human-Computer Interaction Consortium. Student Participant.  
**2022**, Data & Society, The Social Life of Algorithmic Harms. Discussant.  
**2021**, CSCW, Subtle CSCW Traits: Tensions Around Identity Formation and Online Activism in the Asian Diaspora, Organizer. [[proposal](#)]

### **Reviewing and Program Committee Membership**

ACM Human Factors in Computing Systems (CHI)  
Special Recognition for Outstanding Reviews, 2022, 2023  
ACM Computer Supported Cooperative Work and Social Computing (CSCW)  
Special Recognition for Outstanding Reviews, 2021, 2022  
ACM Transactions on Human-Computer Interaction (TOCHI)  
USENIX Symposium on Usable Privacy and Security (SOUPS)  
HEALTHI Workshop on Healthy Interfaces, co-located with ACM Intelligent User Interfaces (IUI)  
Usable Security and Privacy (USEC) Symposium, co-located with the Internet Society's Network and Distributed System Security (NDSS) Symposium  
AAAI Conference on Web and Social Media (ICWSM)

### **Current Research**

Understanding working alliance in online psychotherapy  
*PIs: Matteo Malgaroli, Ph.D. (NYU) and Derrick Hull, Ph.D. (Talkspace)*

Understanding online abuser communities in intimate partner surveillance (IPS) [5,6]  
*PIs: Nicola Dell, Ph.D. and Thomas Ristenpart, Ph.D. (Cornell Tech)*

Clinical computer security for victims and survivors of IPV [2,4,10]  
*PIs: Nicola Dell, Ph.D. and Thomas Ristenpart, Ph.D. (Cornell Tech)*

## Past Research

Community-engaged design of technologies for care work [2,8,9,10,12]

PIs: Nicola Dell, Ph.D. (Cornell Tech), Madeline Sterling, M.D. M.P.H. (Weill Cornell Medicine)

Extracting family history from unstructured clinical notes

- Developed a model (LSTM-CRF) extracting family history from unstructured text in patient forms.
- Awarded student travel grant to present at the OHNLP/BioCreativ workshop at ACM-BCB 2018.

Evaluating the usability of a personal data filtering interface

PI: Deborah Estrin, Ph.D. (Cornell Tech)

- Conducted a usability study via Amazon Mechanical Turk investigating an interface for filtering sensitive data from a user's Google Takeout export.

Modeling the dynamics of enterovirus-71 in Taiwan: An application of the TSIR model

PI: Bryan Grenfell, Ph.D. (Princeton University)

- Developed a time-series model of the impact of vaccination on EV-71 infection rates in Taiwan.
- Awarded departmental prize for excellence in mathematical modeling [[poster](#)].

## Relevant Industry Experience

**Microsoft Research**, remote due to COVID-19

Spring and Summer 2022

*Research Intern*

- Mentored by Mary L. Gray within the Social Media Collective.

**Pfizer, Inc.**, New York, NY

*Summer Associate*

Summer 2018

- Led a team of UX researchers and technologists to synthesize user stories, product requirements and storyboards for a care navigation product addressing health disparities within the Welsh NHS.
- Interviewed domain experts on the feasibility of a consumer voice product for patient support.

**Biomeme, Inc.**, Philadelphia, PA

*Product & Business Development Associate*

2014 - 2016

- Developed an at-home sexual health diagnostic for a national reproductive healthcare provider.
- Piloted a point-of-care influenza diagnostic with a clinic network in Nairobi, Kenya.
- Conducted UX studies to guide development of a consumer-facing tool for personal DNA analysis.

**The Daily Princetonian**, Princeton, NJ

*Managing Editor*

2013 - 2014

- Led 100+ staff of a collegiate news organization publishing in print 5x/week and online 24/7.
- Built web and data journalism departments, and expanded the paper's multimedia capabilities.

**Oxford University Clinical Research Unit (OUCRU)**, Ho Chi Minh City, Vietnam

*Research Intern*

Summer 2013

- Conducted literature reviews, performed data analyses (R) and mapped patient enrollment (GIS, Illustrator) for ongoing clinical studies at a tertiary tuberculosis hospital.
- Funded by the Gates Foundation Global Health Grand Challenge.

**Doctors Without Borders / Medecins Sans Frontieres (MSF)**, New York, NY

*Editorial & Multimedia Intern*

Summer 2011, 2012

- Produced audio, video & web features on MSF field staff at humanitarian aid sites worldwide.

**Skills**

- **Design** | Interviewing, contextual enquiry, survey design, thematic analysis, prototyping (Sketch, Photoshop, Illustrator, InDesign, InVision, Figma)
- **Data Science** | Quantitative analysis and statistical modeling (Python, R, MATLAB), modern machine learning (scikit-learn, Dynet, Tensorflow, Pytorch)
- **Software Development** | Full-stack software engineering (JavaScript, Node.js, React, HTML, CSS/Sass), Agile development, cloud deployment tools (AWS, Heroku), Git