# Samantha Finkelstein PhD

Sociotechnical Research Strategist for Human-Centered AI Systems
http://samanthafinkelstein.com | samantha.finkelstein@gmail.com | 516.242.2187

## SNAPSHOT

### Who I am

I am a sociotechnical research and evaluation strategist specializing in upstream alignment for AI-enabled systems. I work with organizations to translate complex problem spaces into tractable behavioral interventions, and define strategic cross-discipline research programs that not only surface impacts but make their underlying mechanisms legible.

My work ensures alignment between evaluation pipelines, meaningful metrics, and prioritized business outcomes, enhancing product impacts across financial, educational, health care, and federal domains.

### How I work

My approach spans behavioral science, sociolinguistics, cognitive psychology, and HCI to explain not just what systems are doing, but why - for whom, under what conditions, and with what consequences.

This theoretical grounding allows evaluation to function as a diagnostic science rather than trial-and-error experimentation, reducing waste and ambiguity while supporting motivated product decisions.

My interdisciplinary expertise enables me to work flexibly at the intersections of scientific rigor, methodological creativity, and business strategy. This approach delivers data-driven decision making that remains responsive to real-world delivery constraints.

### Expertise I bring

LLM evaluation, social conversational agents, mixed-methods user research, mobile games, federal policies & standards, behavioral interventions, org-level workflow and process design, content strategy, AI tutoring systems, persuasive design, immersive virtual & augmented reality, AI accessibility and equity.

## AI RESEARCH LEADERSHIP

### SOFTWARE ENGINEERING INSTITUTE | Sr. AI Research Scientist
April, 2024 - October, 2025 | Pittsburgh, PA

- Led upstream evaluation strategy for federal AI programs, defining diagnostic frameworks and taxonomies that shaped how explainability, failure states, and measurable risk were operationalized and mitigated through design.

- Led research for federal AI upskilling initiative, following successful advocacy to implement AI-augmented workflows in line with governable pedagogical principles; informed federal workforce AI standards and extended skill-centered eligibility.

### JP MORGAN CHASE | Vice President | UXR - Personalization
May 2018 - Sept 2023 | NYC, NY

- Directed cross-product research and evaluation strategy across eight major personalization initiatives aligned to business-aligned behavioral outcomes I defined across consumer financial management.

- Led organization's first Research Experimentation team, championing UX accountability for not only engagement metrics, but users' financial outcomes (savings, new investments, bill pay regularity); enhanced UX strategy and rigor, demonstrated its impact on defined business priorities.

### CARNEGIE MELLON | NSF & IES Doctoral Research Fellow
Aug. 2011 – Dec 2017 | Pittsburgh, PA

- Directed 30+ investigations into the social and cognitive impacts of language design in conversational AI, providing theoretical foundations necessary to address contemporary LLM evaluation challenges.

- Supervised an interdisciplinary research team (40 people over 6 years), leading project design, performance evaluation, and skill development initiatives aligned with established education and equity goals.

- Established and maintained external partnerships with 10+ implementation sites and local / national foundations, helped secure $500,000+ over six years.

## AWARDS

| | | |
|---|---|---|
| 2013 | Research | Best Paper Award, Artificial Intelligence in Education |
| 2011 | Fellowship | NSF Graduate Research Fellowship (#0946825) |
| 2011 | Fellowship | IES Interdisciplinary Ed. Research |
| 2011 | Fellowship | Achievement Rewards for Collegiate Scholars |
| 2010 | Research | Essam El. Kwae student research award |

## INVITED TALKS AND DEMONSTRATIONS

| | | |
|---|---|---|
| 2017 | Demonstration | Global Education and Skills Forum, Dubai |
| 2016 | Demonstration | World Economic Forum, Davos |
| 2015 | Keynote | Equity in Tech (RESPECT) conference |
| 2015 | Demonstration | World Economic Forum, Dalian |
| 2014 | Presentation | Dagstuhl Meeting on Culture & Computing |
| 2011 | Keynote | National Center for Women in Computing award ceremony |

# EDUCATION

## CARNEGIE MELLON, PHD
2011 - 2017 | Pittsburgh, PA
HUMAN-COMPUTER INTERACTION, LEARNING SCIENCES
Awards: NSF GRFP; IES PIER; ARCS
Thesis: Digital Dialect Design: Rapport and Science Learning with Bidialectal Virtual Peers

## UNC CHARLOTTE, BA
2008 - 2011 | Charlotte, NC
COMPUTER SCIENCE, PSYCHOLOGY
Honors: University Honors; Computing Honors; Magna Cum Laude

# ADVISORY

## ALLEGHENY INTERMEDIATE UNIT:
RESEARCH - LLMS FOR DEAF YOUTH.
Provided research lens, guided strategy & analysis, and helped secure funding to enhance utility of LLMs for communication, learning, & language acquisition for deaf, language deprived youth (2025)

## BROOKINGS INSTITUTION:
ETHNOGRAPHY - MILLIONS LEARNING
Led contextual inquiries and interviews with 50+ cross-sector change makers, developing artifacts to support Philadelphia's transition into a "playful learning city." (2018)

## U PENN: HCI ADVISORY - EREARCH
Delivered 5-year UX roadmap for engaging youth-centered health counseling tool; helped secure funding, advised on qualitative methods and management (2018).

## OPPORTUNITY EDUCATION:
EVALUATION - SOCIOEMOTIONAL
Developed metrics to track growth of social & learning behaviors; shaped design of a self guided learning product deployed as primary curricula in two US high schools. (2017)

## ENTERTAINMENT TECHNOLOGY CENTER: LEAD - LANGUAGE PD
Directed design of tech probes and implemented professional development sessions to shift in-service teachers' implicit biases and metacognitive ideologies around language diversity; provided continuing education credit. (2014)

# TEACHING EXPERIENCE

| 2017 | Lead (HE) | Field research: Sociolinguistics in communities |
| 2017 | Lead (K12) | Circus Arts (Summer, Irma Freeman Imagination Center) |
| 2016 | Lead (HE) | Technology for classrooms and justice |
| 2015 | Lead (HE) | Designing empathetic systems |
| 2015 | Lead (K12) | Science for Justice (Summer, Assemble PGH) |
| 2014 | TA (HE) | Designing interactive systems |
| 2013 | TA (K12) | Science student teaching (Urban League Charter School) |
| 2013 | Lead (HE) | Culture and computing |
| 2014 | TA (HE) | User centered research and evaluation |

# COMMUNITY ENGAGEMENT

| 2025 | Panelist | PGH AI Meetup, Pragmatic & Responsible AI |
| 2021 | Panelist | JPMC Meaningful Mondays, Queering Design |
| 2018 | Performer | Carnegie Museum of Art "FlowState" acrobatic exhibit |
| 2017 | Board | Neighborhood Learning Alliance (literacy) |
| 2017 | Speaker | Invisible Jazz Labs Science and Dance series |
| 2016 | Committee | SRCD's Technology, Media, and Child Development |
| 2016 | Project lead | Tech and art for social justice, Assemble PGH |
| 2015 | Board | Urban League Greater Pgh Charter School (science) |
| 2012 | Service | Judge, Intel regional science fair (2012-2017) |

# PRESS AND RECOGNITION

| 2018 | Reference (book) | The Art of Screen Time, Anya Kamenetz |
| 2017 | Reference (article) | The Economist, Technologies transforming schools (July) |
| 2016 | Interview | Huffington Post, Technologies: Speak their language (April) |
| 2016 | Interview | MIT Press, Spotlight on Science (March) |

# SELECT PUBLICATIONS

Discourse Analysis as a Diagnostic Lens into Dialogue Systems: LLM Evaluation Across Functionality Dimensions (2025). Workshop on SE4AI, AI4SE. Finkelstein, S.

Bridging Language Deprivation in Mainstream Classrooms: LLM-Enhanced Communication Access for Deaf Teens (2025). CHI Workshop on Speech AI Accessibility, Equity, and Fairness for all. Robbins, M., Finkelstein, S.

Toward Ethical and Just AI in Education Research (2024). Community for Advancing Discovery Research in Education. Barnes, T...Finkelstein, S.

Through the thin slice looking glass: rapport and co-construction in peer collaboration (2017). International Society of the Learning Sciences. Olsen, J. K., and Finkelstein, S.

The effects of culturally congruent educational technologies on student achievement (2013). Artificial Intelligence in Education. Finkelstein, S.,..Cassell, J. Best paper award.

Love ya, jerkface: sparse log-linear models to build positive & impolite relationships with teens (2012). Discourse and dialogue. Wang, W. Y., Finkelstein, S., Cassell, J.

Oh dear Stacy!: social interaction, elaboration, and learning with teachable agents (2012). Human Factors in Computing Systems. Ogan, A., Finkelstein, S., Cassell, J.

Rudeness and rapport: Insults and learning gains in peer tutoringIntelligent Tutoring Systems. (2012). Ogan, A., Finkelstein, S., Walker, E., Cassell, J. (pp. 11-21)

Evaluation of cognitive effects... in complex real and virtual environments (2010). IEEE Transactions on Visualization and Computer Graphics. Suma, E..., Hodges, L. F.

Astrojumper: Motivating exercise with an immersive virtual reality exergame (2011). Presence: Teleoperators and Virtual Environments. Finkelstein, S., Nickel, A...Suma, E.

Perceptual comparisons with laterally presented pictures and environmental sounds (2011). The American journal of psychology. Goolkasian, P., Finkelstein, S.