Samantha Finkelstein PhD

Sociotechnical Research Strategist for Human-Centered AI Systems
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MY DEAL

I am a sociotechnical UX research scientist and evaluation strategist.

I make it easier for teams to understand what their human users - and their AI systems - are doing, and how to design for the win/win.

How I work
My HCI research spans experimental and theoretical approaches from behavioral science, sociolinguistics, learning science, and cultural anthropology. My interdisciplinary, mixed-methods expertise allows me to meaningfully contextualize, operationalize, and design for complex, cross-product journeys.

I apply a diagnostic and scientific lens that treats product design as measurable, hypothesis-driven behavioral interventions; this enhances insight scalability, reduces signal ambiguity, and leads to impact mechanisms we really understand.

Domain expertise
Financial management, LLM enabled workforce tools, conversational agents, K-12 science education and language acquisition (ASL, code switching), personalized tutoring systems, federal AI standards, behavioral health, game-based learning, human-machine teams.

Research expertise
LLM evaluation, discourse analysis, mixed-methods experimental design and analysis (r, SPSS, python), contextual inquiry, content strategy, persuasive design, concept testing, roadmap development, operationalizing algorithmic impact mechanisms, metric development, research program leadership, process framework development, concept testing, A/B tests, heuristic evaluations, longitudinal and multi-channel user research (UserTesting, DScout, Qualtrics)

SELECTED EXPERIENCE

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 equitable, skill-based hiring requirements.

JP MORGAN CHASE | VP UX Research - Personalization
May 2018 - Sept 2023 | NYC, NY

- Directed large-scale behavioral research initiatives around cross-product user journeys (spend management, fraud / theft, credit improvement, hardship) to drive the definition, design, and evaluation of personalized financial improvement tools.

- Led transition to UX Research Experimentation, including shift to mixed-methods experimentation, data science collaborations, and prioritizing meaningful metrics (e.g. shifting from click rate to financial outcomes).

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.