Sanaz Hosseini

UX Researcher | Mixed Methods and Human-Centered AI

Charlotte, NC (open to relocation) | Available mid-May 2027 | (980) 346-3111 | s.sanaz.hosseini@gmail.com

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SUMMARY

Mixed-methods UX researcher completing a PhD (May 2027), with studies involving 250+ participants across AI risk tools, public transit, and digital health for older adults. I help people understand AI outputs, know when to question them, and make informed decisions. I plan and run interviews, co-design sessions, surveys, and usability tests, conduct the statistical analysis independently in Python, R, and SPSS, and turn findings into design decisions and product strategy. 7 peer-reviewed publications.

EXPERIENCE

Graduate Research Assistant, UX Research and Explainable AI | **UNC Charlotte**, Charlotte, NC **Jan 2022 – Present**

PhD contribution: PALEI framework (Participatory AI Literacy and Explainability Integration)

- Created PALEI, a six-stage framework that involves residents before an AI model exists, builds AI literacy into every stage, and traces each design decision to community evidence; examined in two cases, wildfire risk (FireSight) and smart public transit.

PALEI case 1 · FireSight: AI wildfire risk assessment for Los Angeles County residents (2025 – present)

- Facilitated an IRB-approved 90-minute virtual town hall and survey (n = 30) after the 2025 wildfires, with AI-literacy materials.
- Ran a convergent mixed-methods analysis (descriptive statistics, FDR-adjusted Spearman correlations, inductive thematic coding): privacy (64.3%) and cost (65.5%) were the top concern and barrier; comfort with image-based assessment was strongly associated with intended use ($\rho = .72$).
- Translated the findings into an AI Value Map of nine value dimensions linking resident evidence to design requirements (journal article under review, Computational Urban Science).
- Developed 4 Explanation Personas and 7 shared design principles; designed 3 competing explanation strategies (Action-, Reasoning-, and Community-Forward) plus a Credibility Overlay as clickable Figma prototypes.
- Ran 24 one-on-one remote co-design sessions in six counterbalanced orders with task-based interpretation questions and rankings; built a Bias and Fairness Monitoring Log and a screen-level Findings Matrix (results in analysis).
- **Planned, early 2027:** final interactive high-fidelity prototype and 12+ moderated usability tests (task success, time on task, uncertainty comprehension, trust, fairness).
- Conducted 24 NSF I-Corps customer-discovery interviews (13 organizations, 11 residents) testing 15 hypotheses; findings shifted the business model to program-sponsored adoption (wildfire programs pay, residents use).

PALEI case 2 · Smart on-demand public transit, Charlotte, NC (2022 – 2024)

- Designed and fielded an IRB-approved in-person survey of 160 riders across 5 neighborhoods; modeled service gaps with GLM, ordinal regression (POLR, CLM), and multinomial ridge regression; published in *Transportation Research Interdisciplinary Perspectives*.
- Turned findings (77.5% cited shorter waits; 75.6% raised privacy concerns) into an app prototype in Adobe XD and Xcode; formative usability testing (3 participants) cut navigation from 7 tabs to 5.
- Contributed to neural-network bus arrival and departure prediction research using NYC and Boston transit data (*IoT* journal; ICORES 2024).

UX Research Collaborator (Volunteer) | **ForesightCares Inc.**, Charlotte, NC **Jul 2024 – Summer 2026**

- Conducted 70+ in-depth interviews with older adults in senior living and community settings to inform the AVA Mobility fall-risk assessment app; co-developed the IRB protocols.
- Led the full qualitative pipeline in Dovetail (protocol, transcription, coding, synthesis); delivered a research report, design guidelines, and 2 evidence-based personas.
- Ran usability testing and task analysis with older adults and caregivers, and collaborated on usability testing of the published at-home app (14 participants); synthesized findings into prioritized recommendations.
- Quantified preferences (52% device vs. 39% paper, n = 69; 94% would do 5–10-minute daily routines), leading to a device-first app with printable sheets and short default sessions.
- Produced 100+ exercise illustrations in light, dark, and print themes, AI-generated exercise videos in light and dark modes (OpenArt), and 4 clinical instructional videos (Premiere Pro), all live in the app.
- Led the ForesightCares.com redesign in Wix (information architecture, content, visual system) and partnered cross-functionally with engineering, clinical, and design teams, including on motion-capture assessment workflows.

Student Affairs and Urban Design Specialist | **Tarbiat Modares University**, Tehran, Iran **Sep 2016 – Jun 2021**

- Advised graduate and PhD students on academic planning; coordinated with faculty committees to resolve complex academic cases.

Urban Planner and Design Expert | **Naghshe Kosar Consulting Engineers**, Tehran, Iran **Feb 2015 – Sep 2016**

- Conducted spatial and environmental analysis and produced design guidelines, technical reports, and 3D models (SketchUp) for redevelopment projects commissioned by the Municipality of Tehran.

SKILLS

- **Research methods:** semi-structured interviews, co-design, usability testing, task analysis, comparative concept testing, survey design, focus groups, contextual inquiry, thematic analysis, personas, journey mapping, accessible design for older adults, stakeholder interviews, customer discovery, IRB protocols
- **Quantitative analysis:** Python, R, SPSS, Qualtrics, regression (GLM, ordinal, ridge), correlation with FDR control, nonparametric tests, Tableau, ArcGIS
- **Design and prototyping:** Figma, Figma Make, Google AI Studio, Adobe XD, Xcode (Swift), wireframing, information architecture, Dovetail, Wix, Adobe Photoshop, Illustrator, InDesign, Premiere Pro
- **Human-centered AI:** explanation design, uncertainty communication, trust, fairness, and privacy evaluation, AI literacy materials
- **Languages:** English, Persian (native)

EDUCATION

PhD, Infrastructure and Environmental Systems, UNC Charlotte · GPA 4.00 **Expected May 2027**

Dissertation: the PALEI framework, with wildfire-risk and public-transit cases

Master of Urban Design, UNC Charlotte · GPA 4.00 **2022**

MSc, Urban Design, Azad University, Tehran **2016**

BSc, Urban Planning and Design Engineering, University of Tehran **2013**

SELECTED PUBLICATIONS

- **Hosseini, S. S.**, Azarbayjani, M., Pourhomayoun, M., & Tabkhi, H. From community values to AI design constraints: A mixed-methods study of a proposed AI-driven wildfire risk assessment tool in Los Angeles County. *Computational Urban Science* (under review).
- **Hosseini, S. S.**, Azarbayjani, M., Pourhomayoun, M., & Tabkhi, H. (2026). Community-led AI integration for wildfire risk assessment: A PALEI framework in Los Angeles, CA. ARCC-EAAE 2026 International Conference, Atlanta, GA.
- **Hosseini, S. S.**, Ardabili, B. R., Azarbayjani, M., & Tabkhi, H. (2025). Demographic disparities, service efficiency, safety, and user satisfaction in public bus transit system: A survey-based case study in the city of Charlotte, NC. *Transportation Research Interdisciplinary Perspectives*, 29, 101296.
- **Hosseini, S. S.**, Rashvand, N., Azarbayjani, M., & Tabkhi, H. (2025). Adaptive transit solutions: A comparative review of demand-responsive public transit systems. ARCC 2025 International Conference, pp. 585–594.
- Rashvand, N., **Hosseini, S. S.**, Azarbayjani, M., & Tabkhi, H. (2024). Real-time bus departure prediction using neural networks for smart IoT public bus transit. *IoT*, 5(4), 650–665.
- **Hosseini, S. S.**, Ardabili, B. R., Azarbayjani, M., Pulugurtha, S., & Tabkhi, H. (2024). Understanding the transit gap: On-demand bus services and urban climate resilience in Charlotte, NC and Chattanooga, TN. 37th PLEA International Conference, Wrocław, Poland, pp. 458–463.
- Rashvand, N., **Hosseini, S. S.**, Azarbayjani, M., & Tabkhi, H. (2024). Real-time bus arrival prediction: A deep learning approach for enhanced urban mobility. ICORES 2024, Rome, Italy, pp. 123–132.
- **Hosseini, S. S.**, Azarbayjani, M., & Tabkhi, H. (2023). Community-driven approach for smart on-demand public transit in Charlotte in underserved communities. ARCC 2023 International Conference, Dallas, TX, pp. 25–32.

AWARDS

Graduate Assistant Support Plan (GASP) Award, UNC Charlotte (2022 – present) | ARCC Graduate Student Scholarship (2025) | INES Program Summer Research Award, UNC Charlotte (2023, 2024) | First Place, Oral Presentation (Arts), UNC Charlotte Graduate Research Symposium (2023) | WTS Mary Clayton Scholarship, Charlotte Metro Chapter (2023)