Pegah Karimi

Human-Computer Interaction researcher with 8+ years of experience in qualitative and quantitative research, specializing in the convergence of AI systems and user experience, with a focus on creating intuitive, intelligent interfaces that adapt to human needs. I employ user-centered methodologies to design AI-augmented experiences that solve complex challenges. I leverage mixed-methods approaches—combining ethnographic research, behavioral analytics, and participatory design—to develop AI systems that are aligned with users' needs.

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Education

- **Ph.D. in Human-Computer Interaction**, Indiana University Indianapolis 2024
- **Ph.D. in Software and Computing Systems**, University of North Carolina at Charlotte 2019
- **M.Sc. in Telecommunication Engineering**, Politecnico di Milano 2015
- **B.Sc. in Electrical and Electronic Engineering**, Shiraz University 2010

Professional Experience

- **Senior UX Researcher**, Western Governors University (EdTech) August 2022–Present
  - Lead end-to-end research across product teams, translating user insights into actionable recommendations for product development and iteration
  - Perform A/B testing to evaluate how AI-generated versus stock imagery in educational materials impacts student perceptions of trustworthiness and content quality
  - Design and implement a comprehensive multi-factor survey measuring student experiences and dropout intention in higher education, featuring 9 latent constructs (course quality, instructor support, peer interaction, etc.) with psychometrically sound measurement scales
  - Apply Structural Equation Modeling (SEM) to identify both direct and mediating relationships between educational factors and dropout intention, conducting comparative analysis between employment segments (full-time vs. part-time students) to develop targeted retention strategies
  - Design and implement Kano survey to identify priorities across multiple product features (bookmarking, search functionality, glossary integration), translating quantitative and qualitative feedback into prioritized development roadmaps
  - Conduct usability studies (e.g., think-aloud sessions, cognitive walkthrough, heuristic evaluation) for more than 20 prototypes
  - Lead semi-structured interviews and facilitate focus group sessions with diverse student populations and faculty members to gather qualitative insights addressing critical research questions, resulting in the development of user profiles
  - Develop an AI-assisted chatbot tool that helps product designers explore design ideas tailored to student profiles and learning preferences
- **User Research Moderator-Contract**, Insight Global (Client:Exponent) April 2025
  - Run five individual user research sessions to evaluate wearable technology, employing structured task-based methodologies to gather quantitative and qualitative feedback
  - Facilitate data collection during individual user research sessions, employing structured documentation methods to capture survey responses and qualitative feedback
- **Research Assistant**, Indiana University Indianapolis August 2019–August 2024
  - Design and conduct multiple semi-structured interviews and focus group studies with various stakeholders including older adults, caregivers, and people who are blind or visually impaired

  - Conduct Wizard of Oz studies to understand older adults' perceptions with voice chatbots for health information seeking
  - Conduct three iterative in-person participatory design workshops utilizing tangible materials like sketching paper, colored pens, and physical prototyping tools to co-create solutions with older adults and their informal caregivers
  - Develop an intelligent web interface that supports collaborative health information tasks between older adults and caregivers based on data from user studies
  - Publish papers in top tier conferences including CHI, CSCW, and IUI

- **Teaching Assistant**, University of North Carolina at Charlotte January 2019–June 2019
  - Support HCI (Human-Computer Interaction) course instruction by facilitating weekly design critique sessions, providing individualized feedback on student prototypes, and guiding teams through user research methodologies
  - Facilitate biweekly research group meetings with undergraduate students to assign research tasks, evaluate progress, and provide constructive feedback

- **Research Assistant**, University of North Carolina at Charlotte January 2016–December 2018
  - Develop a co-creative sketching tool that implements deep learning models to analyze users' sketches, allowing users to control the visual and conceptual similarity parameters of AI-generated responses
  - Conduct Wizard of Oz studies with architecture students to evaluate how varying levels of visual and conceptual similarity in the co-creative sketching tool influenced creative processes
  - Perform think aloud sessions with designers and architecture students to explore users' responses to an AI partner in a design sketching environment
  - Perform thematic analysis, user behavior analysis, and quantitative analysis

- **Research and Development Engineer Intern**, STMicroelectronics April 2014–April 2015
  - Develop pedestrian and car detector algorithms based on aggregated channel features with model and feature compression
  - Propose an algorithm that achieves the state-of-the-art accuracy with low computational power

Skills

- **UX Research**: A/B testing, Contextual Inquiry, Semi-Structured Interview, Surveys, Statistical analysis (t-tests, ANOVA, regression analysis), User Journey Mapping, Focus Group, Heuristic Evaluation, Usability Testing, Wizard-of-Oz Testing, Think-aloud Sessions, Participatory Design Sessions
- **HCI Tools**: Usertesting.com, Tableau, Maze, Qualtrics, Figma, Atlas.ti, Miro
- **Software Packages**: Python, MATLAB, R, SQL, MS Office, Latex

Awards and Honors

- Excellent Reviewer Recognition, *ACM Conference on Creativity and Cognition* 2022
- Selected as Highly Rated Article, *ACM International Conference on Intelligent User Interfaces (IUI)* 2021 (selection details)
- Graduate School Summer Fellowship Award, University of North Carolina at Charlotte 2018

Selected Publications

1. **Karimi, P.**, Martin-Hammond, A. (2025). Designing Intelligent Voice Assistants for Older Adults' Collaborative Care: Exploring supportive and Non-Supportive Interactions. In *Companion Publication of the 2025 Conference on Computer-Supported Cooperative Work and Social Computing*. (To appear) **(25% acceptance)**

2. **Karimi, P.** and Martin-Hammond, A. Finding the Right Balance: User Control and Automation in AI Tools for Supporting Older Adults' Health Information Tasks. In *Extended Abstracts of the CHI Conference on Human Factors in Computing Systems*, 2025. (To appear) **(32% acceptance)**

3. Ibrahim, Z., **Karimi, P.**, Martin-Hammond, A., Harrington, C., and Siek, K. A. What Do We Do? Lessons Learned from Conducting Systematic Reviews to Improve HCI Dissemination. In *Extended Abstracts of the CHI Conference on Human Factors in Computing Systems*, pages 1–8, 2024. **(31% acceptance)**

4. **Karimi, P.**, Plebani, E., Martin-Hammond, A., and Bolchini, D. Textflow: Toward Supporting Screen-free Manipulation of Situation-Relevant Smart Messages. *ACM Transactions on Interactive Intelligent Systems*, 12(4):1–29, 2022. **(3.4 impact factor)**

5. **Karimi, P.**, Plebani, E., and Bolchini, D. Textflow: Screenless Access to Non-Visual Smart Messaging. In *Proceedings of the 26th International Conference on Intelligent User Interfaces*, pages 186–196, 2021 **(26% acceptance)**

6. **Karimi, P.**, Martin-Hammond, A. Understanding Barriers to Medical Instruction Access for Older Adults: Implications for AI-Assisted Tools. In *Adjunct Proceedings of UbiComp/ISWC*, pages 42–45, 2020. **(26% acceptance)**

7. **Karimi, P.**, Rezwana, J., Siddiqui, S., Maher, M. L., and Dehbozorgi, N. Creative Sketching Partner: An Analysis of Human-AI Co-Creativity. In *Proceedings of the 25th International Conference on Intelligent User Interfaces*, pages 221–230, 2020. **(23% acceptance)**

8. **Karimi, P.**, Davis, N., Maher, M. L., Grace, K., and Lee, L. Relating Cognitive Models of Design Creativity to the Similarity of Sketches Generated by an AI Partner. In *Proceedings of the 2019 Conference on Creativity and Cognition*, pages 259–270, 2019. **(29% acceptance)**