Farnaz Zamiri Zeraati

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Education

University of Maryland Expected Jan. 2027
Ph.D. in Computer Science *College Park, MD*

University of Maryland Aug. 2024
M.Sc. in Computer Science *College Park, MD*

Polytechnic University of Madrid Sep. 2019 – Jan. 2020
Master in Human Computer Interaction (1 semester before joining UMD) *Madrid, Spain*

Amirkabir University of Technology 2014 – 2019
B.Sc. in Computer Engineering *Tehran, Iran*
Thesis: Design and implementation of an obstacle detection and warning system for the visually impaired

Research Interests

Human-Centered AI; Accessibility; Applied Machine Learning (HCI); Augmented Reality

Professional Experiences

Graduate Research Assistant June 2022 – Present
University of Maryland, Intelligent Assistive Machines (IAM) Lab
Advisor: Hernisa Kacorri

- Conducting research in HCI, Accessibility, and AI, focusing on personalized visual question answering (VQA) systems for blind and low-vision users.
- Designing and leading user studies with blind participants to examine personalization techniques, verification strategies, and interaction preferences with LLMs and VQA systems.
- Developing and evaluating image subset selection methods to assess few-shot personalization performance of object detection models.
- Analyzing model performance across users and subset sizes, producing insights into accuracy and personalization trade-offs.

Mentor and Project Lead Summer 2025
Institute for Trustworthy AI in Law and Society (TRAILS)

- Supervising and mentoring five undergraduate fellows on a 10-week research project at the intersection of AI, HCI, and Accessibility.
- Leading the design and implementation of a computational framework to evaluate the trustworthiness and stability of AI outputs in VQA systems for blind users.
- Directing efforts in dataset annotation, evaluation metrics, and experimental analysis, integrating technical with user-centered perspectives.

Graduate Research Assistant Feb. 2020 – Jan. 2022
University of Maryland, Center for Advanced Transportation Technology (CATT)
Supervisor: Kaveh Farokhi Sadabadi

- Developing a system for helping visually impaired pedestrians know their surroundings, using computer vision techniques.
- Developing a system for alerting the user of any imminent crash hazard while driving, using the information received from the cameras at an intersection.
- Researching localizing vehicles and pedestrians with Dedicated Short Range Communication (DSRC) using Universal Software Radio Peripheral (USRP).

Research Intern July 2017 – Oct. 2017
Iran Telecommunication Research Center (ITRC) *Tehran, Iran*

- Developing and performing user study of an Interactive system, helping kids to learn colors in different languages, through color sensor, Raspberry pi and a web application.

Publications

- Kamikubo, R., **Zeraati, F.Z.**, Lee, K. and Kacorri, H. *AccessShare: Co-designing Data Access and Sharing with Blind People.* In ACM SIGACCESS Conference on Computers and Accessibility (ASSETS 2024).
- Hong, J., Gandhi, J., Essuah Mensah, E., **Zeraati, F.Z.**, Jarjue, E.H., Lee, K. and Kacorri, H. *Blind Users Accessing Their Training Images in Teachable Object Recognizers.* In ACM SIGACCESS Conference on Computers and Accessibility (ASSETS 2022). **Best Paper Nominee**
- Mahmoudi, M.T., **Zeraati, F.Z.** and Yassini, P. *A color sensing AR-based interactive learning system for kids.* In 12th Iranian and 6th International Conference on e-Learning and e-Teaching (ICeLeT) (pp. 013-020). IEEE, 2018
- Mahmoudi, M.T., **Zeraati, F.Z.** and Yassini, P. 2020. *Color Sensing AR-Based Approach for Supporting Vocabulary Learning in Children.* International Journal of Information and Communication Technology Research, 12(2), pp. 35-45.

Talks and Posters

- Graduate Student Workshop, Summit for AI Institutes Leadership (SAIL)
  [Talk, Poster] *Supporting Blind People by Verifying AI Responses (To be Presented in October)* 2025
- 42nd Annual HCIL Symposium, University of Maryland
  [Talk] *Training with Less: How People Select Data with Higher Value for AI* 2025
- Department of Computer Sceince 50th Anniversary, University of Maryland
  [Poster] *Accessible Data Inspection in Teachable Object Recognizers for the Blind* 2023
- 39th Annual HCIL Symposium, University of Maryland
  [Poster] *MyCam: A Teachable Object Recognizer for the Blind* 2022

Technical Skills

Skills: Python, SQL, JavaScript, HTML/CSS, Java, MATLAB, C, R, Android, Arduino
Platforms and Tools: Figma, Tableau, D3.js, Fusion 360, Vision-Language Models (VLMS), Nvivo, Raspberry Pi, TensorFlow, PyTorch, Unity

Teaching and Mentoring

University of Maryland, College Park

- Peer Mentor, Intelligent Assistive Machines Lab — Spring 2024
- Teaching Assistant, Web Application Development with JavaScript — Fall 2023
- Teaching Assistant, Inclusive Design in HCI — Fall 2022

Amirkabir University of Technology, Iran

- Teaching Assistant, Embedded and Real-Time Systems — Fall 2017
- Teaching Assistant, Technical English — Spring 2017
- Teaching Assistant, Electric Circuits — Fall 2016