FARNAZ ZAMIRI ZERAATI

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RESEARCH INTERESTS

HCI; Accessibility; Human-Centered AI; Augmented Reality

EDUCATION

University of Maryland, College Park, MD — Expected 2025
Ph.D. in Computer Science
Advisor: Hernisa Kacorri

Polytechnic University of Madrid, Spain — Sep 2019 – Jan 2020
M.Sc. in Human-Computer Interaction (1 semester before joining UMD)

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

PROFESSIONAL EXPERIENCES

University of Maryland, Intelligent Assistive Machines Lab — Jan 2022 – Present
Graduate Research Assistant

- Exploring machine teaching with non-expert end users.
- Analyzing blind users' feedback in teachable object recognizers.
- Conducting in person and remote user studies with blind participants.
- Analyzing qualitative responses from blind participants interacting with AI-infused smart glasses.

University of Maryland, Center for Advanced Transportation Technology — Feb 2020 – Jan 2022
Graduate Research Assistant

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

Iran Telecommunication Research Center, Tehran, Iran — July 2017 – Oct 2017
Research Intern

- Designed and developed an Interactive system, helping kids to learn colors in different languages, using color sensor, Raspberry pi and a web application.
- Conducted user studies with elementary school children to assess usability of the above-mentioned interactive system.

PUBLICATIONS

Grouped as peer-reviewed conference papers [C.], journal articles [J.], and posters [P.]

C.2 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). [Acceptance rate: 26.5%]. ***Best Paper Nominee***

C.1 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). IEEE, 2018.

J.1 Mahmoudi, M.T., **Zeraati, F.Z.** and Yassini, P. *Color Sensing AR-Based Approach for Supporting Vocabulary Learning in Children.* International Journal of Information and Communication Technology Research (IJICTR 2020).

P.1 *MyCam: A Teachable Object Recognizer for the Blind*, 39th Annual HCIL Symposium, University of Maryland, College Park, 2022.

TEACHING & MENTORING

University of Maryland, College Park

- Teaching Assistant, Inclusive Design in HCI — Fall 2022
- Peer Mentor, Intelligent Assistive Machines Lab — Spring, Fall 2022

Amirkabir University of Technology

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

RELEVANT COURSEWORK

Graduate Courses
Statistical Pattern Recognition
Computational Linguistics
Interactive Technologies in HCI
Health Informatics and Visualization
Advances in XR
Design Methods for HCI
User Experience and Mobile Interaction
Challenges for Accessible Computing
Programming of User Interfaces
Info Centric Design of Systems

Undergraduate Courses
Artificial Intelligence and Expert Systems
Design of Algorithms
Computer Architecture
Data Structure and Algorithms
Computer Networks
Operating System Design
Multicore Programming
Embedded and Real-Time Systems

SKILLS

Skills: Python, C, JavaScript, R, HTML/CSS, SQL (Postgres), Arduino
Platforms & Tools: Figma, Tableau, D3.js, Fusion 360, Nvivo, Raspberry Pi, TensorFlow, PyTorch, Unity, Git, Visual Studio, Xcode, Android Studio