



BIOINFORMATICS SEMINAR

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Immersive Technologies and Interactive Games: Applications in Education and Healthcare Systems

Various physical configurations that the human body can take (e.g., postures, facial expressions, and human affects in general) provide a precious resource for conveying social and emotional information in different human interactions. These interactions exist in any situation that involves some type of interpersonal communication: from the students' interactions with the instructor to the patient-clinician dialogues in the hospital. In any interpersonal communication, body language and embodiment can carry propositional information, and by itself function as individual actions or as components of multimodal actions. Understanding the role of body features in human communications can lead to significant breakthroughs in the area of human-centered computing with numerous real-life applications.

In this talk, I will discuss how various techniques from human-computer interaction, serious gaming, multimodal data analytics, immersive technologies, and learning sciences can be applied in a principled manner to leverage the human-human and human-simulation interactions. I will present the findings from a few of my recent projects that focus on developing immersive interventions to promote the quality of user interactions in training, and rehabilitation scenarios. I will discuss broader impacts of this line of research, as well as future directions of my research program, to create and study interactive embodied systems, especially with the implications for the elderly and people with special needs.

BIOGRAPHY

Roghayeh (Leila) Barmaki is an Assistant Professor in the Data Science Institute and also the Department of Computer & Information Sciences at the University of Delaware. She leads the Human-Computer Interaction Lab (HCI@UD) at the University. In her research, Dr. Barmaki combines embodied cognition with technological advancements in multimodal machine learning and data analytics, augmented and virtual realities, and human-computer interaction to design high-impact medical and educational interventions.

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