Empowering Real-Time Interventions: AI-Driven Detection of Substance Intoxication Through Mobile Sensors

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Tuesday, February 18, 2025
12:00 – 1:00 PM
BMI Classroom 4004
Woodruff Memorial Research Building

or

Join us on Zoom link:
https://zoom.us/j/93728070876

EMORY UNIVERSITY | Department of Biomedical Informatics
Emory University School of Medicine

Abstract: This seminar examines the use of mobile sensors and machine learning to detect and intervene in acute substance intoxication in real-time, enabling just-in-time adaptive interventions. Dr. Bae will present her research on detecting binge drinking and marijuana intoxication through smartphones and wearable devices, emphasizing the role of explainable AI in providing transparency in decision-making. By leveraging data from smartphone sensors and wearables, her research explores how real-time predictions can empower individuals to make informed decisions, ultimately improving health outcomes and reducing substance-related harm. Dr. Bae will also discuss the technical and ethical challenges in implementing these technologies, including concerns around privacy, algorithmic transparency, and the need for personalized, adaptive systems that respect user autonomy. The talk will conclude with a forward-looking discussion on the future of digital health technologies, their potential to enhance public health, guide personalized interventions, and support clinical decision-making.

Bio: Dr. Sang Won Bae is an Assistant Professor in the Department of Systems and Enterprises at Stevens Institute of Technology, part of the Charles V. Schaefer, Jr. School of Engineering and Science. She holds a Ph.D. in Cognitive Science and Engineering, with a specialization in Human-Computer Interaction, from Yonsei University. After gaining valuable industry experience with Samsung Mobile Division, Dr. Bae continued her academic journey as a postdoctoral fellow at Carnegie Mellon University's Human-Computer Interaction Institute. Her research focuses on the application of mobile sensing technologies and artificial intelligence to monitor health and predict high-risk behaviors in real-world settings. Dr. Bae is dedicated to developing personalized interventions to improve health outcomes, and her innovative work has garnered widespread recognition, being featured in leading media outlets such as Forbes, New Scientist, and WIRED. In addition to her research, she holds multiple leadership roles, including Associate Chair of CHI and Associate Editor of IMWUT. Her research has also been supported by the National Institute on Drug Abuse, a division of the National Institutes of Health.