

Seminar



Duke Informatics Research Seminar **Intelligent Homecare Provisioning for Behavior Change Detection of Older Adult**

Abstract. With the advancements in sensor technologies, there are ever-increasing opportunities for understanding the daily behavior of older adults in order to provide in-time care. Older adults prefer to live their daily lives independently. Also, analyzing the daily routines of older adults allows for a reduction in the demand for care from providers as well as a reduction in the burden on the healthcare system through proactive monitoring of their health. This seminar will shed light on the capabilities of machine learning in analyzing the daily behavior of older adults. We will go through state-of-the-art data-driven methods for analyzing sequences of ADLs (Activities of Daily Living) with the goal of detecting behavior changes and deviations from the norm that can be early indicators of a health issue.

Biography. *Kamran Sartipi*, PhD, Department of Computer Science at East Carolina University (ECU) has expertise in data analytics and applications in medical informatics and cybersecurity. His research on intelligent systems includes applying machine learning algorithms with integration of data mining techniques. Dr. Sartipi has over 80 scientific publications and supervised more than 30 graduate students in interdisciplinary fields and has developed several software tools in system analysis.

Fateme Akbari is a Ph.D. candidate in Information Systems at DeGroote School of Business, McMaster University, Canada. She has five years of experience as a Data Scientist in the banking industry, where she did research and implementations on financial data sets with the goal of detecting fraudulent transactions as well as preventing customer churn. Her current research focuses on the use of machine learning in the field of information systems, with a particular emphasis on mining system repositories to detect abnormalities in massive datasets. Using cutting-edge machine learning approaches for sequential data, she is currently performing anomaly detection research on the behavior of older adults.



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Time: 4:00 - 5:00PM