RIT
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CHAI

CHAI Seminar Series

Refreshments will be served.

DATE: **Monday, April 24, 2023**

SPEAKER: **Ervine Zheng**
Ph.D. Student, RIT Computing and Information Sciences

TITLE: **Multimodal Machine Learning for Understanding Human Behavioral Data**

IN PERSON: **Golisano Hall, Room 2400**

ABSTRACT: Analyzing human behavior is an important and broad research topic in various areas, including decision science, economics, sociology, and many more. Human behavioral data usually involves multiple modalities, and the research of human behaviors has significantly benefited from the technological advances in machine learning and multimodal data fusion. However, applying machine learning to behavioral studies still faces fundamental challenges in specialized domains, such as psychology and health. The limited data may hinder the application of the existing data-driven models that require massive training. In addition, domain research usually requires discovering interpretable patterns from complex behavior. Some modalities of behavioral data may be highly noisy or exhibit no easily distinguishable patterns. This talk will review machine learning algorithms for multimodal data fusion and behavioral analysis, and then introduce our research on fusing human behavioral data from specialized domains that are inherently dynamic, sparse, and heterogeneous. We will also discuss interactive machine-learning approaches for involving human users in the system design and encoding domain knowledge into model architecture.

BIO: **Ervine Zheng** is a fifth-year Computing and Information Sciences Ph.D. student at the Rochester Institute of Technology (RIT) and is advised by Dr. Qi Yu. His current research focuses on multimodal data fusion, interactive machine learning, deep learning, medical image computing, and recommender systems. His work has been published at the top AI conferences, including AAAI, NeurIPS, AISTATS, ICDM, etc. His work is supported by the National Science Foundation and the National Institutes of Health.

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