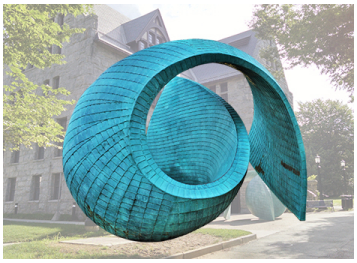

UNIVERSITY OF RHODE ISLAND

Department of Mathematics
and Applied Mathematical Sciences

Applied Mathematics and Scientific Computing Seminar

Location: Lippitt Hall 205

Time: Monday, March 3, 2025, 1:00pm

(refreshments at 12:55pm)

Reinforcement Learning

by **Li Gan**, PhD Student

Department of Mathematics and Applied Mathematical Sciences, URI

Abstract: The idea that we learn by interacting with our environment is probably the first to occur to us when we think about the nature of learning. When an infant plays, waves its arms, or looks about, it has no explicit teacher, but it does have a direct sensorimotor connection to its environment. We explore a computational approach to learning from interaction. We explore designs for machines that are effective in solving learning problems of scientific or economic interest, evaluating the designs through mathematical analysis or computational experiments. The approach we explore, called reinforcement learning, is much more focused on goal-directed learning from interaction than are other approaches to machine learning.