

Statistical Inference in Reinforcement Learning

Chengchun Shi, PhD

Associate Professor at London School of Economics and Political Science



Reinforcement learning (RL) is concerned with how intelligence agents take actions in a given environment to maximize the cumulative reward they receive. In healthcare, applying RL algorithms could assist patients in improving their health status. In ride-sharing platforms, applying RL algorithms could increase drivers' income and customer satisfaction. RL has been arguably one of the most vibrant research frontiers in machine learning over the last few years. Nevertheless, statistics as a field, as opposed to computer science, has only recently begun to engage with reinforcement learning both in depth and in breadth. In this talk, Dr. Shi will discuss some of his recent work on developing statistical inferential tools for reinforcement learning, with applications to mobile health and ride-sharing companies. The talk will cover several different papers published in highly-ranked statistical journals (JASA & JRSS-B) and top machine learning conferences (ICML & NeurIPS).

Thursday, February 22, 2024, 3:30-4:30PM Eastern

133 Rosenau Hall

Zoom Link:

<https://unc.zoom.us/j/98423779288?pwd=b0tqYThCQTaxeDdTQ0FRY3RnazdwQT09>

Meeting ID: 984 2377 9288

Passcode: 631794