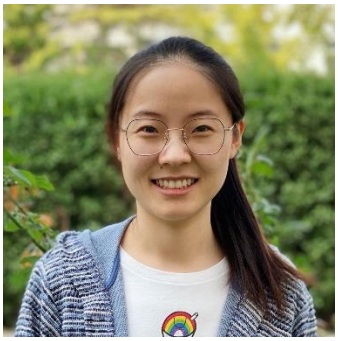
BIOSTATISTICS SEMINAR

Inference and Decision-Making amid Social Interactions



Shuangning Li, PhD

Postdoctoral fellow in the Department of Statistics at Harvard University

From social media trends to family dynamics, social interactions shape our daily lives. In this talk, Dr. Li will present tools she has developed for statistical inference and decision-making in light of these social interactions. Inference: Dr. Li will talk about estimation of causal effects in the presence of interference. In causal inference, the term “interference” refers to a situation where, due to interactions between units, the treatment assigned to one unit affects the observed outcomes of others. She will discuss large-sample asymptotics for treatment effect estimation under network interference where the interference graph is a random draw from a graphon. Decision-Making: Turning to reinforcement learning amid social interactions, Dr. Li will focus on a problem inspired by a specific class of mobile health trials involving both target individuals and their care partners. These trials feature two types of interventions: those targeting individuals directly and those aimed at improving the relationship between the individual and their care partner. She will present an online reinforcement learning algorithm designed to personalize the delivery of these interventions. The algorithm's effectiveness is demonstrated through simulation studies conducted on a realistic test bed, which was constructed using data from a prior mobile health study.

Thursday, January 25, 2024, 3:30-4:30PM Eastern

133 Rosenau Hall

Zoom Link:
https://unc.zoom.us/j/98423779288?pwd=b0tqYThCQTAxeDdTQ0FRY3RnazdwQT09

Meeting ID: 984 2377 9288

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