BIOSTATISTICS SEMINAR

Aaditya Ramdas,
PhD,
Assistant Professor,
Departments of Statistics and Machine Learning,
Carnegie Mellon University

Online multiple hypothesis testing

In the "online multiple testing" problem setup, we encounter a sequence---of apriori unbounded length---of different hypotheses (to test) or parameters (to estimate). As a motivating high-level example, think of a pharma company testing a sequence of drugs for a single disease over large periods of time, running different clinical trials on new patients for each. We must make relevant decisions (eg: to reject or not, or produce a confidence interval, or to proclaim a +ve or -ve sign of a treatment effect) *in a fully online fashion*: we must commit to the decision made at each time step, oblivious of the future. The decisions must be made in such a way that a suitable error metric---like the false discovery rate, or false coverage rate, or false sign rate, or familywise error rate---is controlled *at any time*. I will cover my group's work over the past 5 years in developing state-of-the-art algorithms for all these problems.

This is based on joint works with different sets of fantastic coauthors in chronological order: Fanny Yang (ETH), Tijana Zrnic (Berkeley), Martin Wainwright (Berkeley), Michael Jordan (Berkeley), Eugene Katsevich (Wharton), Asaf Weinstein (Hebrew University, Jerusalem), Jinjin Tian (CMU), David Robertson (Cambridge), Neil Xu (CMU).

Thursday August 27, 2020 **New time: 3:00 pm - 4:00 pm**

Zoom meeting: Please also find a link in the email invite, with the password.
https://uncsph.zoom.us/j/92138801086?pwd=Y011NUNQcS9lZERjalVhbVZSZ3AwQT09

UNC GILLINGS SCHOOL OF GLOBAL PUBLIC HEALTH