Statistics Seminar

Department of Mathematics and Statistics

DATE:	Thursday, April 20, 2022
TIME:	1:15pm – 2:40pm
LOCATION:	WH 100E
SPEAKER:	Jingze Liu, Binghamton University
TITLE:	Statistical Inference using Generative Adversarial Networks

Abstract

In this presentation, we investigate the potential of utilizing samples generated by Generative Adversarial Networks (GANs) as a replacement for the conventional bootstrap resampling technique. Our study introduces two procedures, one for low-dimensional and the other for high-dimensional cases, and demonstrates their theoretical properties. Notably, the high-dimensional method has a convergence rate that is independent of the data dimension. We present our preliminary simulation results, which demonstrate that our GAN-based bootstrap method can produce reliable estimates of the variability and construct valid confidence intervals in the low-dimensional scenario.