Statistics Seminar

Department of Mathematics and Statistics

DATE:	Thursday, October 5, 2023
TIME:	1:15pm – 2:15pm
LOCATION:	WH 100E
SPEAKER:	Jingze Liu, Binghamton University
TITLE:	High-dimensional Integration and Sampling with Normalizing Flows

Abstract

In many fields of science, high-dimensional integration is required. Numerical methods have been developed to evaluate these complex integrals. We introduce the code i-flow, a Python package that performs high-dimensional numerical integration utilizing normalizing flows. Normalizing flows are machine-learned, bijective mappings between two distributions. i-flow can also be used to sample random points according to complicated distributions in high dimensions. We compare i-flow to other algorithms for high-dimensional numerical integration and show that i-flow outperforms them for high dimensional correlated integrals.