Statistics and Actuarial Science Seminar

Title: Autoregressive limited dependent variable models with Bayesian additive regression trees

Speaker: Eoghan O'Neill (UCD)

Date: Thu 6th November 2025 at 3:00PM

Location: E0.32 (beside Pi restaurant)

Abstract: This paper describes a general approach to MCMC sampling for models with Bayesian Additive Regression Trees (ARBART) that split on the lag of a latent score. Filtering and smoothing methods are introduced for sampling of the latent scores. These results allow for estimation of autoregressive binary probit BART, ordered probit BART, and multinomial unordered probit BART models for time series and panel data. Further extensions to other models with nonlinear autoregressions of latent scores are also discussed.