Statistics Seminar

Adversarial Forecasting

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Friday, April 7 12:00 pm Derr 325

Abstract: Forecasting methods typically assume clean and legitimate data streams. However, adversaries may attempt to influence data and alter forecasts. We present a Bayesian decision theoretical framework that allows incomplete information and adversarial perturbations on the forecasting output. We solve the adversary's decision problem where he manipulates batch data being fed into a forecasting model. This research highlights the weaknesses of forecasting models under adversarial activity and motivates the need to improve their security.

Bio: Dr. Tahir Ekin is Gregg Endowed Professor of Analytics in McCoy College of Business and 2021-2023 Presidential Fellow at Texas State University. His areas of expertise include health care fraud analytics and computational decision models under uncertainty. His research has been funded by organizations including the National Science Foundation, Air Force Scientific Office of Research, and Texas Health and Human Services. He teaches statistics and analytics courses. He holds a Ph.D. in Decision Sciences from The George Washington University, and a B.S. in Industrial Engineering from Bilkent University. Dr. Ekin is an elected member of the International Statistical Institute.