Clarkson University

Mathematics REU Speaker Series

Summer 2022

Friday June 17, 2022 @ 11 am in SC362

Attend the talk via zoom:
https://clarkson.zoom.us/j/98680644309

Regression Under Skew-Normal Error Model, and Predicting Arsenic from Geographic Characteristics in the Mekong Delta Regions

Most of the regression analyses are done assuming that the model errors are normally distributed with mean zero and constant variance (which does not depend on the independent variable). But what happens if it is suspected that the errors are not normally distributed? We encountered a real-life problem where the objective was to predict the concentration of arsenic in groundwater in a particular study area within the Mekong Delta Region (MDR) in South Vietnam, based on a location's geographic information. This was to help the landowners, farmers and all other stakeholders to mitigate arsenic poisoning which can cause serious health problems if consumed over a sustained period of time. We have shown that the Skew-Normal distribution can improve the performance of our regression model substantially in predicting the arsenic concentration in groundwater..
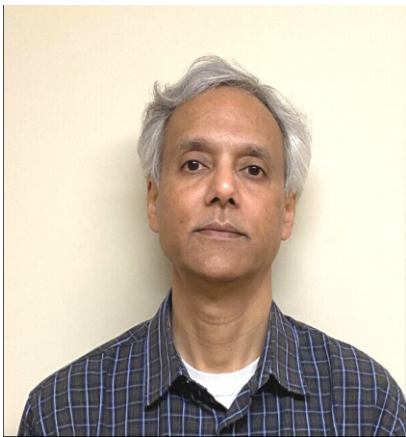
Nabendu Pal , Ph.D.

Dr. Nabendu Pal is a Professor of Statistics in the Department of Mathematics, University of Louisiana at Lafayette (ULL), where he has been a faculty since Fall, 1989. Prior to joining ULL, Prof. Pal earned his Bachelor of Statistics (B. Stat) as well as Master of Statistics (M. Stat) degrees from the Indian Statistical Institute, Calcutta (Kolkata), back in 1984 and 1986, respectively, followed by his PhD degree in 1989 from the University of Maryland Baltimore County (UMBC). So far he has (co)-authored more than hundred research publications in peer-reviewed scientific journals, and two books. Professor Pal's research areas include Decision Theory, Bayesian Analysis, Biostatistics, Reliability & Life Testing. Lately he is getting more involved in Computational Statistics and Data Sciences. He is a frequent visitor to other universities as well, especially in India, Thailand, Vietnam, and Taiwan, where he conducts workshops, supervises doctoral students, and/or teaches short courses regularly. As an ardent follower of D. Cox, he truly agrees with the statement that - "All models are wrong, but some are useful". Apart from Mathematical Sciences, his varied interests include Economics, History, Geography, International Relations and Current Politics. He loves to debate on contemporary issues, and strongly believes that "Democracy Dies when the Debate Ends".

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Pizza will be served.