

NMSU/UTEP Workshop

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Title: Bridging Theory and Practice: Gain-Probability Analysis for Gamma Distributions

Abstract:

Gain-Probability (G-P) analysis offers a straightforward way to compare distributions by estimating the probability that a random observation from one group exceeds another. This talk introduces the application of G-P analysis to gamma distributions, which are widely used to model positively skewed data such as product lifetimes, wait times, and streamflow. We briefly outline the theoretical foundations of G-P analysis for gamma distributions, focusing on independent cases, and demonstrate its practical utility through real-world examples, including comparisons of streamflow and patient wait times. We also highlight open-source tools that make G-P analysis accessible to researchers and practitioners. The talk concludes with a summary of key insights and potential future applications.