Evangelista, John Mikael D. – COM232 - CCOPSYSL

Explain the importance of insulated data acquisition and cleaning raw evidence and feature engineering in the field of data analysis. How do these processes contribute to the overall quality and accuracy of data analysis results?

Insulated Data Acquisition ensures data is collected in a secure and controlled way, protecting it from tampering, loss, or corruption. This step establishes trust and reliability in the raw evidence.

Data Cleaning removes errors, duplicates, and inconsistencies while standardizing formats, turning messy raw evidence into accurate and usable datasets. Without it, analysis risks being biased or misleading.

Feature Engineering transforms raw variables into more meaningful ones (e.g., extracting hour_of_day or is_weekend from a timestamp), making hidden patterns visible and improving model performance.

These processes ensure data is ***authentic***, ***accurate***, and ***insightful***, directly enhancing the ***quality***, ***reliability***, and impact of data analysis results.

Reference:

Provost, F., & Fawcett, T. (2013). Data Science for Business: What You Need to Know about Data Mining and Data-Analytic Thinking. O'Reilly Media - https://www.researchgate.net/publication/256438799_Data_Science_for_Business