

Big Aata Analytics Corrected on Velocity and Volume

Belgacem Raggad

Seidenberg School of CSIS, Pace U, New York

Abstract:

Data plays a crucial role in all forms of decision support and is now abundant across domains involving problem solving, process management, and business operations. In fact, data availability often exceeds our capacity to manage it effectively. The rise of *big data* has introduced powerful technologies that enhance decision-making capabilities in business management, market analysis, and industrial development.

Big data enables organizations to measure, understand, monitor, and control the continuity of their operations. However, it also introduces several challenges, often summarized by the well-known “V’s” — such as volume and velocity [7, 8, 9]. Due to the rapid and continuous changes in large-scale data, the validity of data-driven insights becomes uncertain over time. Insights that were once accurate and acted upon may lose relevance as underlying data evolves, leading to decisions that are no longer justified.

To address this issue, there is a pressing need for mechanisms that can reconfirm the validity of analytical insights in light of ongoing data changes. This paper proposes a reverse reasoning model that verifies the validity of previously derived insights by assessing the support provided by updated data. The approach involves evaluating the degree of evidence that new data contributes toward confirming existing insights. If sufficient evidence is found, the insights are reaffirmed; otherwise, a new round of data analysis is warranted using the latest data.

A detailed case study is presented to demonstrate the implementation and effectiveness of the proposed model.