

Artificial Intelligence (AI) in Modern Data Analysis: A Perspective by Md Mostafizur Rahman

By: Md Mostafizur Rahman, Graduate Student of College of Business, Lamar University, Beaumont, Texas, USA Date: October 25, 2025.



Beaumont, Texas Oct 26, 2025 ([IssueWire.com](https://www.issuewire.com)) - Artificial Intelligence (AI) has become central to modern data analysis, revolutionizing how organizations collect, process, and interpret vast amounts of information across industries. AI-driven data analysis enhances the accuracy, efficiency, and speed of decision-making while enabling predictive insights that were previously unattainable.

Role of AI in Data Analysis

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AI technologies, especially Machine Learning (ML) and Deep Learning, automate major stages of the analytics process — including data preparation, anomaly detection, and insight generation. Based on current industry research, AI-powered tools can clean and process datasets nearly **90% faster** than

traditional manual methods. This automation not only minimizes human error but allows analysts like me to focus more on strategic interpretation rather than repetitive tasks.

*“AI is not replacing human intelligence — it is enhancing it by enabling smarter and more reliable decision-making,”*says **Md Mostafizur Rahman**.

Applications Across Industries

AI-enabled data analysis is extensively applied in finance, healthcare, manufacturing, and retail:

- In finance, AI detects fraudulent transactions, assesses credit risk, and enhances investment decisions using real-time analytics.
- In healthcare, AI systems analyze clinical data to diagnose diseases and predict patient outcomes, as highlighted in the 2025 AI Index Report, where AI outperformed human doctors in complex diagnostic tasks.
- In manufacturing, predictive analytics powered by AI prevent equipment failures and optimize supply chains.
- In retail, AI personalizes customer experiences and forecasts demand by analyzing consumer behavior patterns.

Benefits of AI in Data Analysis

The integration of AI leads to several quantifiable benefits:

- **Efficiency and Cost Reduction:** Businesses report over 50% cost savings through automation of repetitive data tasks.
- **Enhanced Decision-Making:** AI-driven analytics provide faster and more accurate insights, enabling data-informed strategies.
- **Scalability:** AI systems can process increasing data volumes without major infrastructure expansion, ensuring scalability and reliability.

Future Trends

According to the Stanford AI Index Report 2025, AI's role in data analysis will continue expanding through the adoption of generative business intelligence (BI) tools that interpret data conversationally, making analytics accessible to non-technical users. Moreover, synthetic data and ethical AI practices are becoming focal points, ensuring responsible implementation and privacy protection.

In summary, AI in data analysis is reshaping the decision-making landscape by enabling faster insights, greater accuracy, and broad accessibility. As organizations increasingly rely on AI-driven analytics, the synergy between human expertise and machine intelligence will define the future of data-informed strategy and operations.

Media Contact

Md Mostafizur Rahman

*****@lamar.edu

4098672368

Beaumont, Texas.

Source : Lamar University, Beaumont, Texas.

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