THE CAPITAL MARKET UNIVERSITY CHALLENGE 2018 (STAGE 5)

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Topic:

Technology Leverage of Data Analytics & Artificial Intelligence (AI) in Investment, Decision Making and Efficiency for Future Capital Market.

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Introduction

- The capital markets industry is one of the most data driven industries.
- Electronic trading generates millions of messages every day.
- Regulatory and risk management requirements are challenging in capturing, storing, and analyzing data that spans multiple years and in real time.
- Departments and regions, are ever increasing in levels of granularity.
- Most of this structured data is scattered across multiple departments, geographies and systems, and quality is often of varying degrees.

Picture: PCG Advisory group on Impact of Capital Markets on Business

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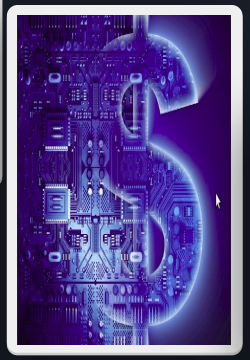
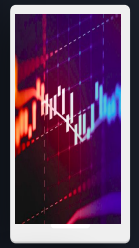
Cutting edge technologies in capital markets

- Data Analytics
- Artificial Intelligence(AI)





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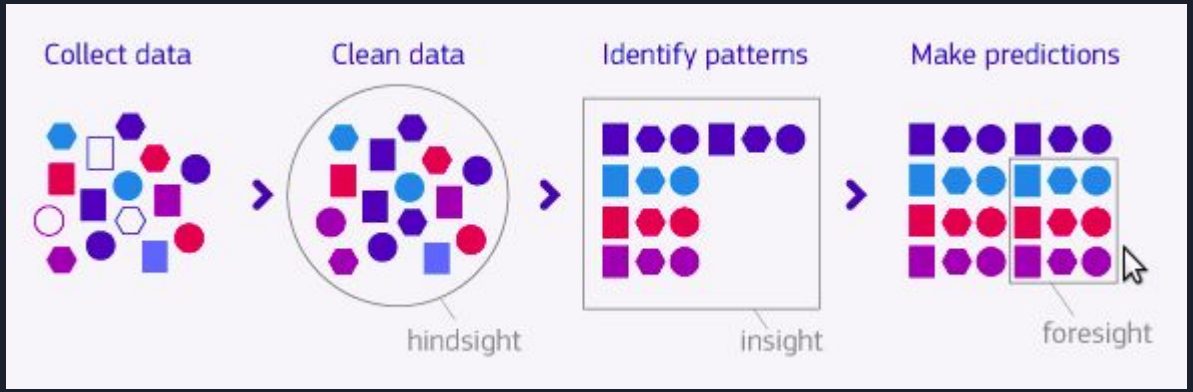
Data Analytics

Data analytics is the science of drawing insights from raw information sources. Many of the techniques and processes of data analytics have been automated into mechanical processes and algorithms that work over raw data for human consumption.



Picture: courtesy of https://bigdata-madesimple.com

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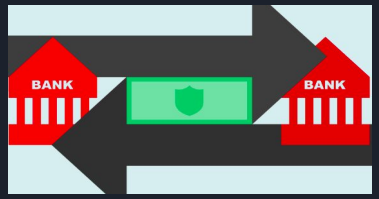
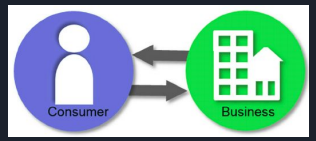
Data Sources

- Financial transactions on securities like bonds.
- Lending and borrowing like stock.
- Cryptocurrency trades.
- Robotic services for online algorithm based portfolio management.
- Online personal finance management systems.
- Stock exchange.
- Mobile transactions.





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Role of Data Analytics in Capital Markets

- Drawing insights from raw data.
- Reveal trends and metrics.
- Optimise process and increase efficiency.
- Optimise performance and reduce cost.
- Help make better decision, customer trends and satisfaction.
- Descriptive, predictive, prescriptive and diagnostic.

Picture: https://www.himss.org/news/making-case-data-analytics

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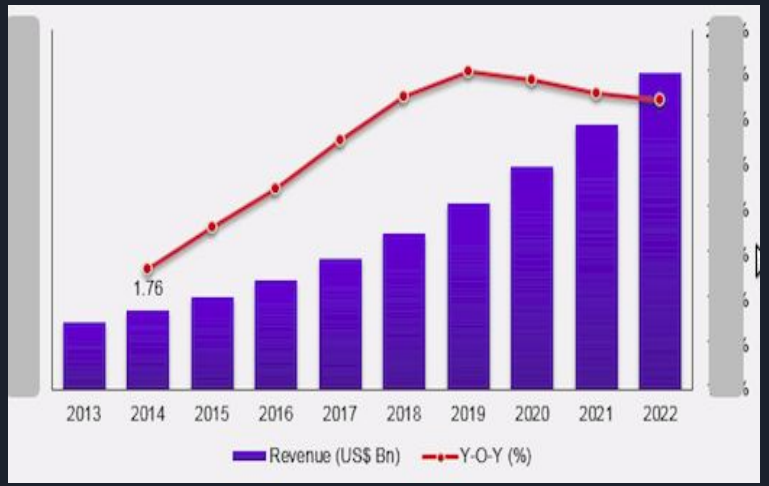
- Conducting risk assessment.
- Trends and patterns.
- Stay ahead of the market.



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Artificial Intelligence (AI)

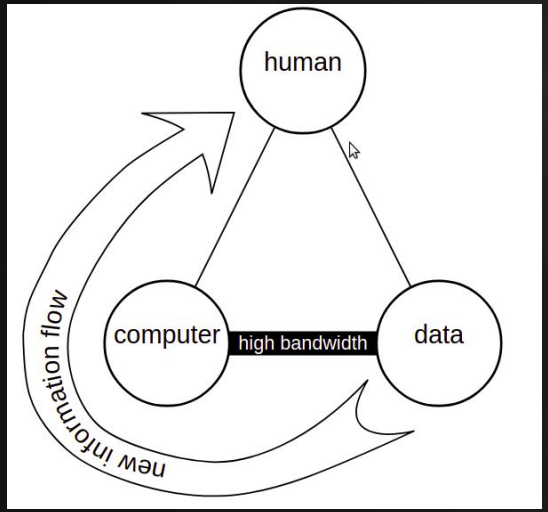
Artificial intelligence (AI) is the simulation of human intelligence processes by machines, especially computer systems. These processes include learning (the acquisition of information and rules for using the information), reasoning (using rules to reach approximate or definite conclusions) and self-correction. Particular applications of AI include stock , price prediction (Lovric, Kaymak, & Spronk, 2009).

What makes up AI?

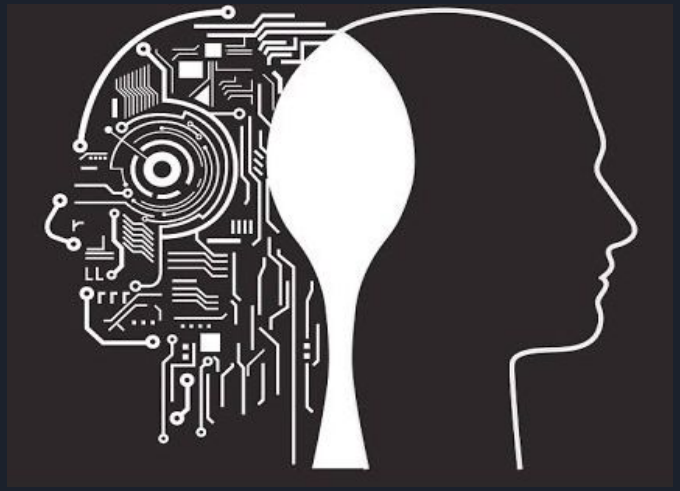
Machine learning: The principle technology underpinning the recent advances in data analytics and artificial intelligence (Lawrence, 2017).

compute

Data+model ⟹ prediction



- Use of computer power, ingest data, understand correlation and causation and deduce rapidly enough to respond (Lovric, Kaymak, & Spronk, 2009).
- Training models on real securities data to get inferences and predictions.
- Algorithm driven trading strategy on funds confined to market data.
- Real market data from real economy.
- Opportunities go wasted.
- Human cannot handle too much data



Picture: https://www.geospatialworld.net/article/ai-is-disrupting-where-geospatial-fit/

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AI Use Cases for Future Capital Markets

Picture: https://www.pcworld.idg.com.au
For online asset trading

- Business performance
- Equity inferences and predictions
- Investment recommendation and theses
- Asset management
- Asset allocation decision making
- Portfolio management
- Asset trade price prediction using events and real market data

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- AI can process both structured and unstructured data .
- Investors and corporate enhanced value.
- A potential tool to democratize access to capital across the global economy.
- Creating digital tools to transform the capital markets.
- Automating deal matching, investor matching processes, automated trade reconciliation, fraud detection and improve the accuracy of financial models.
- Simplify the deal-making process using predictive analytics and automation.
- Improve investment performance through smarter, contextual, AI-driven insights.
- Save man-hour, and funds also ensure that investors are more satisfied, being able to analyse transactions and deals by themselves, in real time.

The Future of Capital Market with Data Analytics and AI

- Stability, predictability and risks assessment will be easier
- Looking into the future through present real time data.
- Target advertisement and financial inclusion
- Enable innovation, and the capabilities to foster it
- Redefine the business model
- Better decision making and Efficiency.
- Better investment schemes.

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References

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Thank you.

Gracias!

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