FinTech

Case Study 3. Harnessing data with artificial intelligence and machine learning

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Learning outcomes

- Examine how AI assists traders through high-frequency trading
  - Articulate how AI and machine learning are used in financial trading
  - Assess the efficacy of FinTech for financial trading

Overview

1. **Harnessing the power of machines in financial markets**

2. Academic reading

Case study

- Domeyard: Starting a High-Frequency Trading Hedge Fund
  - Founded in 2014 by three MIT graduates
  - High-frequency trading (HFT)
    - Aims to buy and sell large volumes of shares in fractions of a second

- Read through the case study and consider the following:
  - What challenges did Domeyard face when looking to establish itself in the financial sector?
  - What are the main limitations of applying artificial intelligence and machine learning to financial trading?
  - In addition to back-testing trading strategies, how else might artificial intelligence and machine learning be applied to HFT in the future?

Speed, signals, and high-frequency trading

- Video 3-4
    - Christina Qi: founding members of Domeyard
        - Motivation for starting a high-frequency trading firm
        - How AI and ML help quantitative hedge funds improve their trading
        - How regulation might impact the trillion-dollar hedge-fund industry

Overview

1. Harnessing the power of machines in financial markets

2. **Academic reading**

Academic reading

- Detecting Deceptive Discussions in Conference Calls
  - JAR 2012

- The Power of Voice: Managerial Affective States and Future Firm Performance
  - JF 2012

- Can Twitter Help Predict Firm-level Earnings and Stock Returns?
  - TAR 2018

- Measuring Corporate Culture Using Machine Learning
  - RFS 2021

- How to Talk When a Machine Is Listening: Corporate Disclosure in the Age of AI
  - RFS 2023