



AI in the Future of Finance

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June 6, 2024



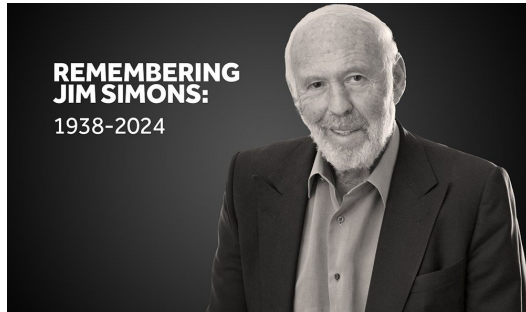
Outline

1. Current AI use in finance and what's different now?
2. Innovations in programmability of finance and payments
3. Data transparency and privacy via blockchain

Current AI Use in Finance: What's Different Now?

Definition of AI: The simulation of human intelligence in machines that are programmed to think and act like humans.

- AI is not new: statistical models using structured data used since the '80s
- Machine learning: a subset of AI, used since early 2010s, integrating non-financial data
- Today: Generative AI (transformer models and LLMs) offering reasoning, logic, and creativity

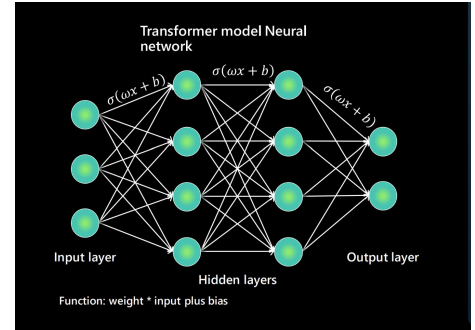


Since 1980s: models with structured data



This figure presents the parking lot satellite image of the Target store located at 4500 Macdonald Ave, Richmond CA 94805. The image was captured by RS Metrics on September 19, 2016 at 11:03am. The red line

Since 2010s: unstructured, non-financial data



Today: transformer models and language

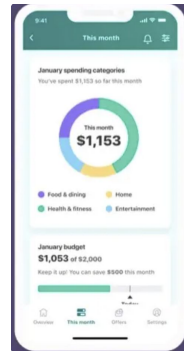
De-leveraging Finance with AI

- Finance is increasingly digital and evolving toward market-based intermediation, less reliance on intermediary balance sheets

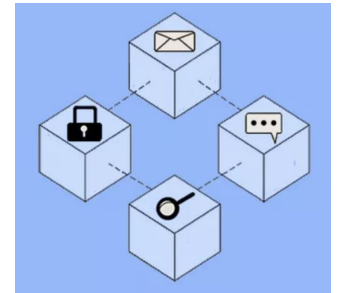
Example: Tokenized cash (stablecoin) for payment and deposit; automated market makers



Soft-information lending and frictions



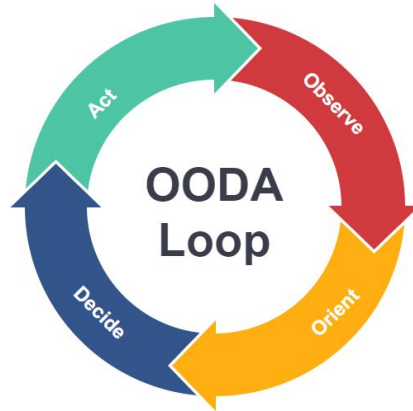
Hard-information and immediacy



Open data and programmability

AI in Programmable Financial System

- AI interacts with programmable finance (blockchain/tokenization) for broader application
- **AI can perform the financial OODA Loop**, which stands for:
 1. **Observe:** Gather data and information about the environment and the situation.
 2. **Orient:** Analyze the information, integrate it with previous knowledge, and understand the situation.
 3. **Decide:** Determine the best course of action based on the analysis.
 4. **Act:** Implement the decision and take action.



Advancements in cryptography can enable both data transparency and privacy

- Financial data remain siloed; data portability is a hurdle for AI
- Challenge: observing and sharing data without sacrificing privacy
- Blockchain enables data sharing with some level of privacy preservation
 - Cryptographic advances: zero-knowledge proof enables new algorithms
 - e.g. prove a borrower has met the income threshold for loans without revealing the borrower's income





The Future of Finance and AI

- Open data, identity, and privacy improvements needed for the future application of AI in finance
- AI and blockchain will continue to shape the financial landscape by reducing financial intermediation via levered balance sheet
- More competition and market-based price discovery over concentrated intermediaries
- Updated regulatory framework should aim at reducing risks and avoiding regulatory capture