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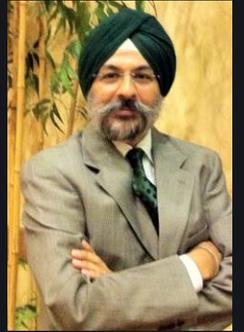
The Triumph of Data Over Algorithm

Blockchain + Artificial Intelligence / Machine Learning
– P*ractices & Trends in Financial Services*

FINTECH: THE IMPACT ON CONSUMERS, BANKING, AND REGULATORY POLICY

SEPTEMBER 28–29, 2017
A JOINT CONFERENCE OF THE FEDERAL RESERVE BANK OF PHILADELPHIA AND THE JOURNAL OF ECONOMICS AND BUSINESS

BITCOINS   DISRUPTIVE
SHADOW BANKING
DIGITAL CURRENCY
FUTURES   FINTECH

FEDERAL RESERVE BANK OF PHILADELPHIA

Agenda

What problem are we solving?

How are we solving it?

**Who are we solving it for (use cases in FS)?**

What does the Blockchain ∩ Machine Learning look like?

When and why did we fall in love with data?

Summary

Over the journey from Coase's 1937 to now, the benefit of connected value webs has begun to outweigh the complexity to manage (trust) them

Conglomerates

< 70's
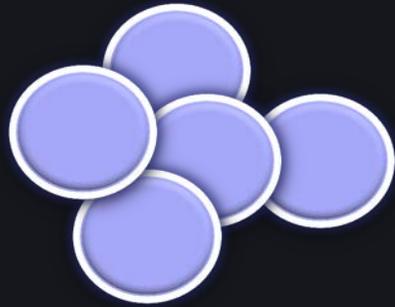
**Corporations**

1970-80's
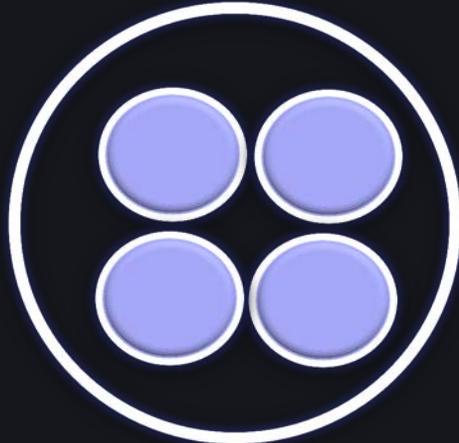
Business Units

1980-90's
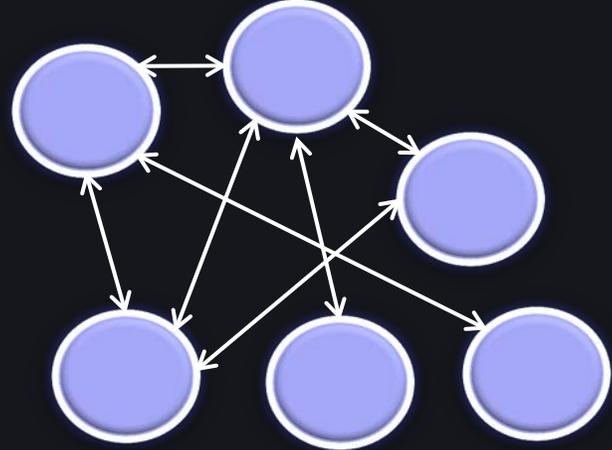
Value Webs

> 2000's

What did we do to the Internet

Internet of Connectivity (TCP/IP)

Internet of Information (Web)

Internet of Trust (Blockchain)
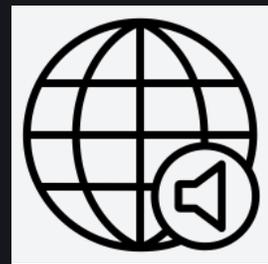
Internet of VoIP   Internet of Locations

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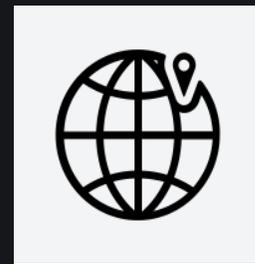
Our 3 recent generations of systems buildout
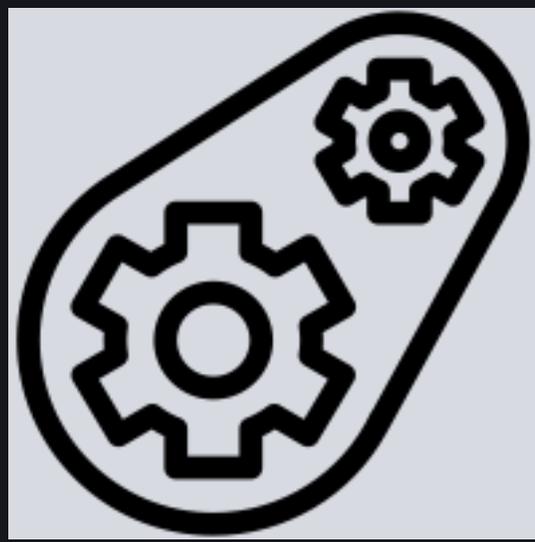
Systems that
Automate

Systems that accommodate
Change
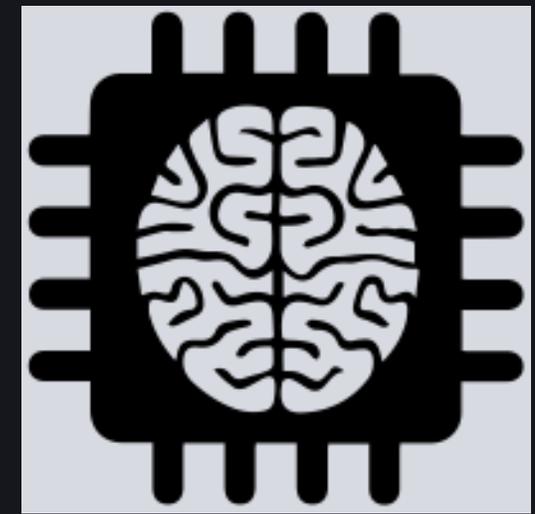
Systems that
Learn

# Our 3 recent generations of transaction systems

Mainframe based transactions
## Centralized

Web & Mobile based transactions
Distributed

Blockchain based transactions
Decentralized

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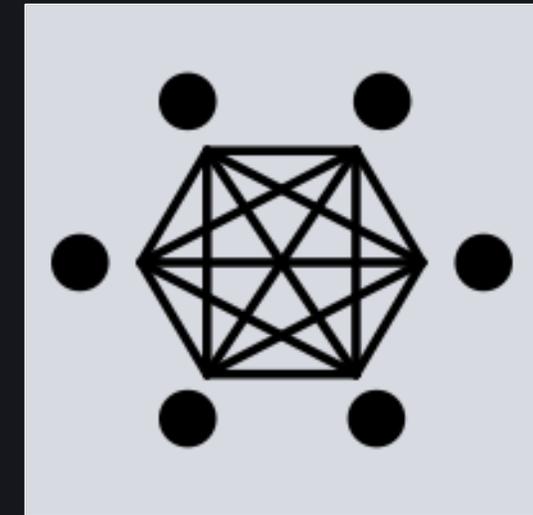
Solution Part #1: The shift to replicated database with trust across multi-parties is predicated on decentralized governance
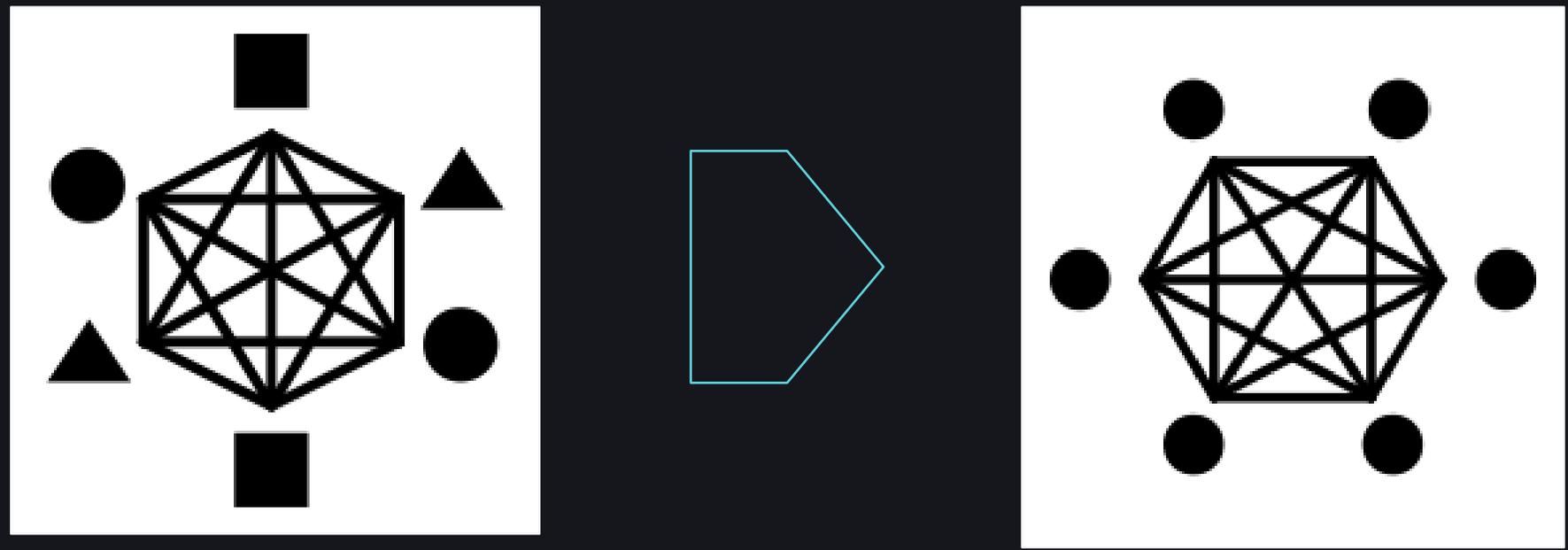
Consensus protocols are the <u>conscience</u> of blockchain

Solution Part #2: Models being practiced variously for – sharing → privacy → trust → adoption *

Public

Consortium
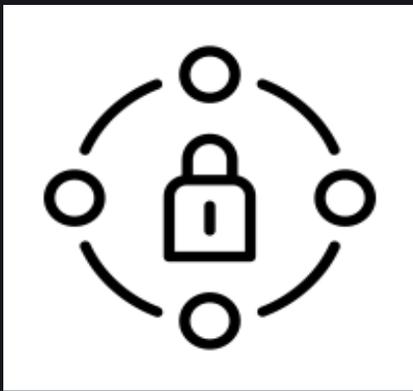
Private

Tokens

There are techniques with increasing maturity to solve the core dilemma of *Data Isolation (Hoarding) vs. Sharing depending on the solution to be built

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So at Digital Twin Labs we evolve a value proposition for the knitting of Blockchain and AI/ML

Adopt and respond to ever faster change and innovation resulting from transactions

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Use cases in financial services being practiced when you bring Blockchain & AI/ML together

Systems that
Automate
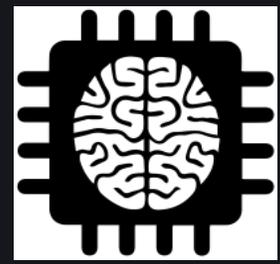
Systems that accommodate
Change

Systems that
Learn

Systems that
Decentralized

Mainframe based transactions
Centralized

Web & Mobile based transactions
Distributed
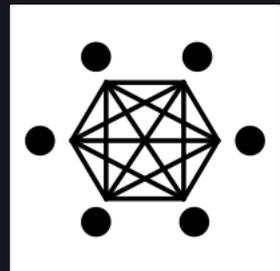
Blockchain based transactions
Decentralized

- Regulatory compliance
- Real time reconciliation and integration
- Determining insurance payouts
- Bank processing of (unmatched) invoices
- Dispute resolution
- Customer service centers; "learn" from escalation to human tier
- Lower cost at increasing STP
- Trade finance administration
- Risk-recording and asset registry for transparency
- Mortgage process

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AI / ML's special love for data makes its relationship with Blockchain special

To understand this we have to go to the summer of data love, 2001

From Banko & Brill (Microsoft)

As you add more data even with the algorithms being the same, error rates went down.
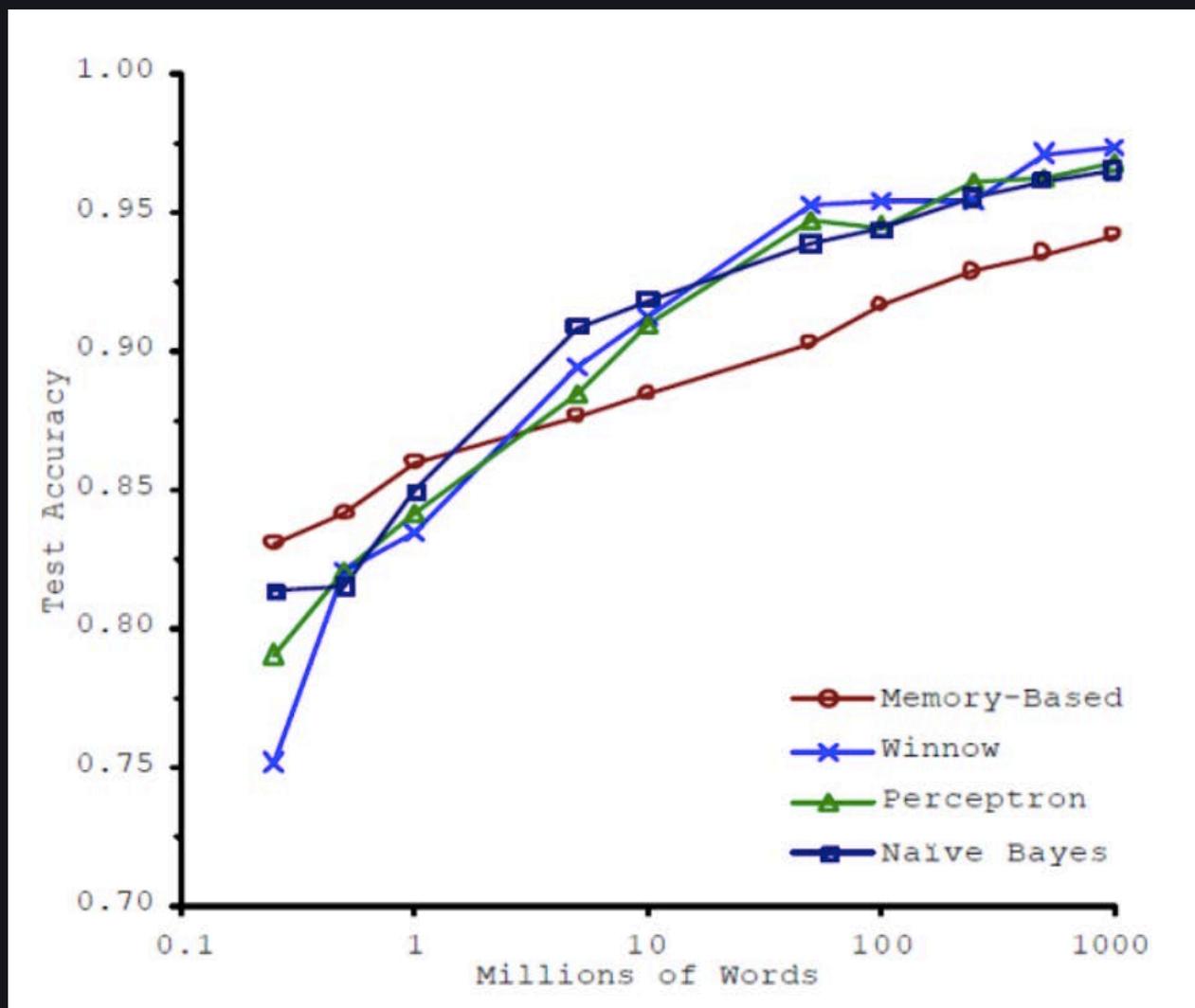
Wrap up
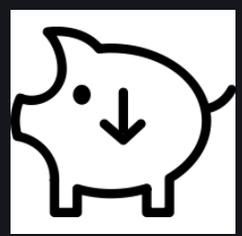
Lower transaction economics with 3rd generation of transaction systems (blockchain) enable more measurement in financial sector.
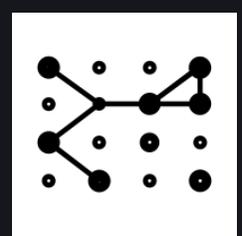
More data (and trusted) from Blockchain leads to better models and accuracy. New data leads to qualitatively new models.
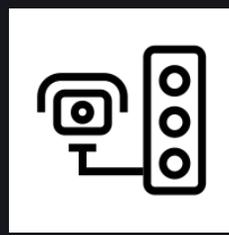
Reality is there's synergy of innovation across blockchain infrastructure, applications, and operators. Need for research on regulatory separation.

Every week more technology techniques and implementation practices mature to solve gaps. Global consuming brands are engaged. No one is taking the idea back.

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