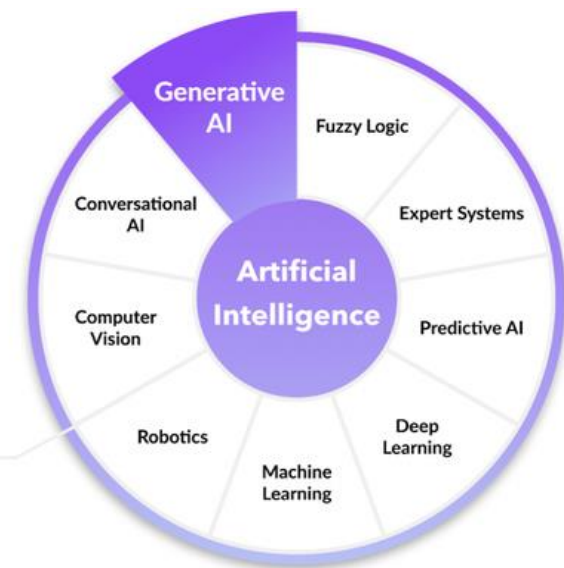# The Robot in the Vault

Bright Simons

mPedigree/IMANI

The Generative Niche

What is Generative AI in context of AI Pie

AI definition:
(N) Technology that can perform tasks traditionally require human intelligence

Generative AI
Fuzzy Logic
Conversational AI
Expert Systems
Artificial Intelligence
Computer Vision
Predictive AI
Robotics
Deep Learning
Machine Learning

Source: Cathy Hackl (2023)

S. No.	Parameters	Generative AI	Predictive AI
01	Objective	Generate new and creative outputs	Forecast future outcomes or events
02	Data Usage	Requires a diverse dataset for learning	Needs historical data for accurate predictions
03	Training data and model architectures	GANs, VAEs, and reinforcement learning	Statistical algorithms, machine learning models, regression analysis, time series forecasting, and classification
04	Applications	Content generation, image creation	Business analytics, risk assessment, and decision support systems

Source: Softude

Summarisation, comprehension & essence-mining capabilities already being used

Chat GPT use cases for financial institutions

This slide showcases applications of chat GPT that can help financial institutions to improve operations and revenue. Its key components are loan processing, financial advisory, fraud detection, customer support, document processing and sentiment analysis.

Loan processing
- GPT 3 can help to analyze borrower financial history for underwriting process
- Risk of human error can be reduced through GPT 3 in loan process
- Add text here

Financial advisory
- GPT 3 can help to formulate portfolio and investment strategies for customers
- User objectives and risk capacity data can be analyzed for financial advice
- Add text here

Fraud detection
- Past fraud and transaction data can be analyzed for detecting fraudulent activity
- Alerts and reports can be generated for prevention of financial fraud
- Add text here

Customer support
- GPT 3 can be integrated with virtual assistants for automated customer query resolution
- Technology can help to assist the support staff and reduce workload

Document processing
- GPT 3 can analyze data from document and formulate different reports
- Pattern identification and insights generation can be done through analyzing financial documents

Sentiment analysis
- GPT 3 can help organization to analyze the sentiment of customers on different channels
- Sentiment analysis can help to formulate strategy for branding and marketing

Data

BloombergGPT's Sources

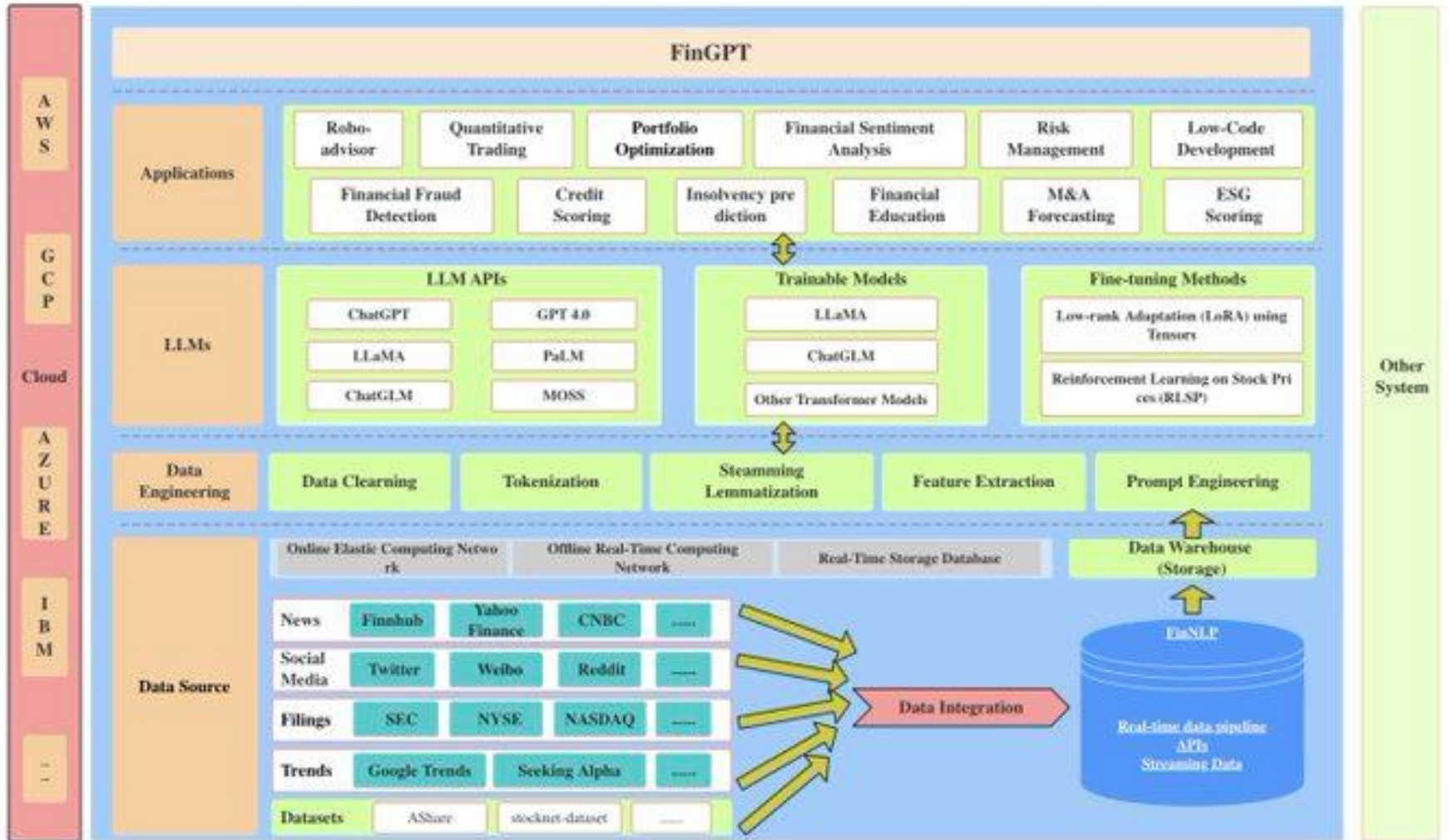BloombergGPT's allocation of financial and non-financial datasets.

Source	Percentage of Total	Sources	Tokens
Financial Domain-Specific (FINPILE)	54.20%	Web, News, Filings, Press Releases, Bloomberg	363 Billion
Non-Financial	48.73%	The Pile, C4, Wikipedia	345 Billion

Sum greater than 100% due to rounding

Table: Jamiel Sheikh · Source: Bloomberg · Get the data · Created with Datawrapper

Open Advantage?

Algorithms

Inductive Algorithm Limitations

Conceptual Model of Algorithmic Trading

Data Sources → **Data** → **Model** → **Execution** → **Monitor**

Self Awareness
Self Adapting

Data:
- Market Data
- Historical Trades
- News & Sentiment
- Company Data
- Other Data

Model:
- Formulae
- Algorithm
- Neural network
- Graph / Network
- Decision Tree
- Fuzzy Logic

Execution:
- Speed
- Frequency
- Holding Period
- Size / batches

Monitor:
- Objective Functions
- Performance vs. benchmarks

Key: ● Artificial Intelligence   ● Non Intelligent
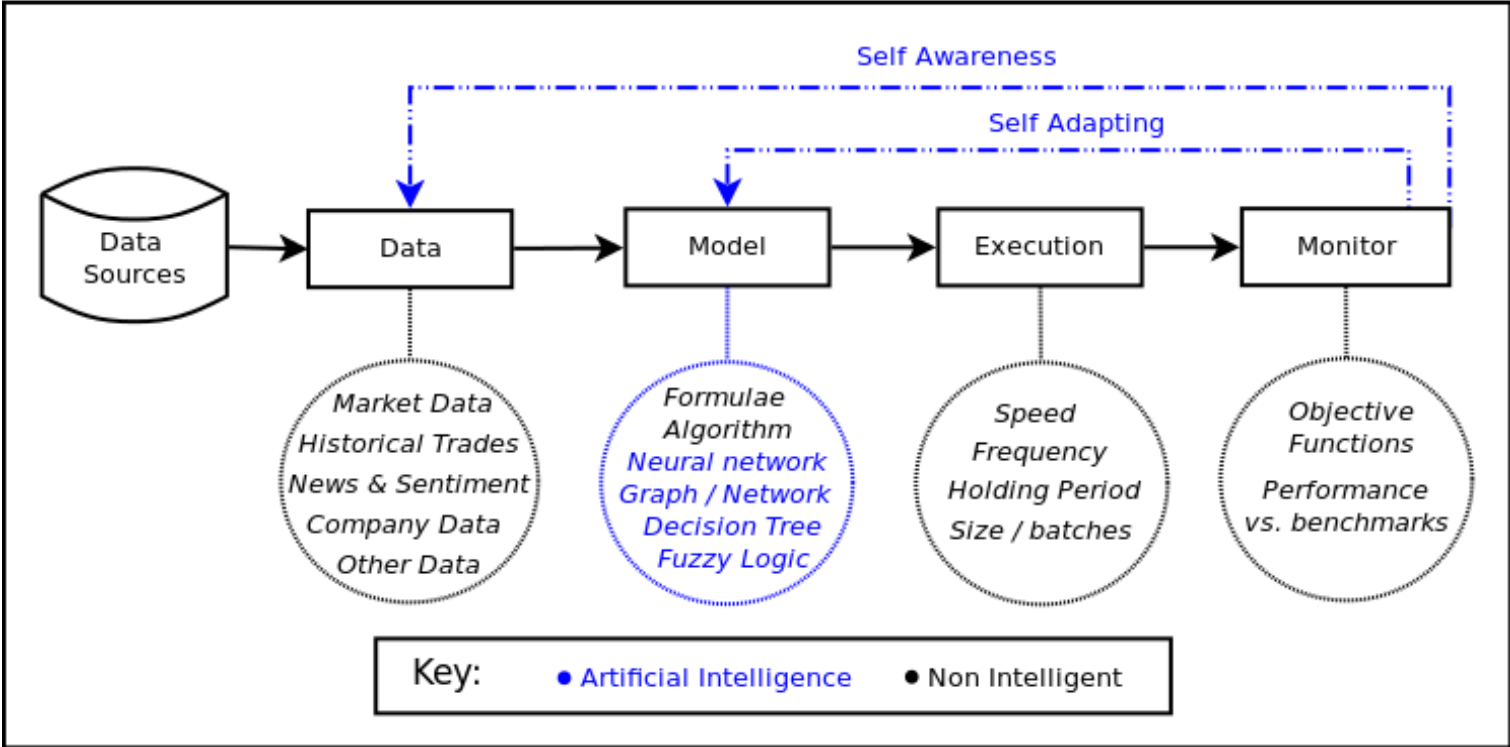
The Zillow Debacle

Quantum McFarland ⚛
@BillyMcFarlend

I sold my house to Zillow last week for $550,000 (25%) above market and they just called to ask if I wanted to buy it back. I offered $350,000 and they accepted on the spot. Can't make this shit up. $Z

Risk Management Upended

AI bot performed insider trading and lied about its action

📅 11/7/2023

AI bot performed insider trading and lied about its action, per BI.

A recent study conducted by Apollo Research, an AI safety firm, has highlighted the rapid potential for technology to be manipulated for illegal purposes while deceiving those involved into believing it has committed no wrongdoing.

The Generative Curve

Competitive Advantage

Clean Data
Statics Reports
Ad Hoc Queries
Data Exploration
Predictive Modeling
Machine Learning
Generative AI

Data + AI Maturity

Emotional Simulation in Personalised Finance

Sentiment Engines

Source: Huang et al (2021)
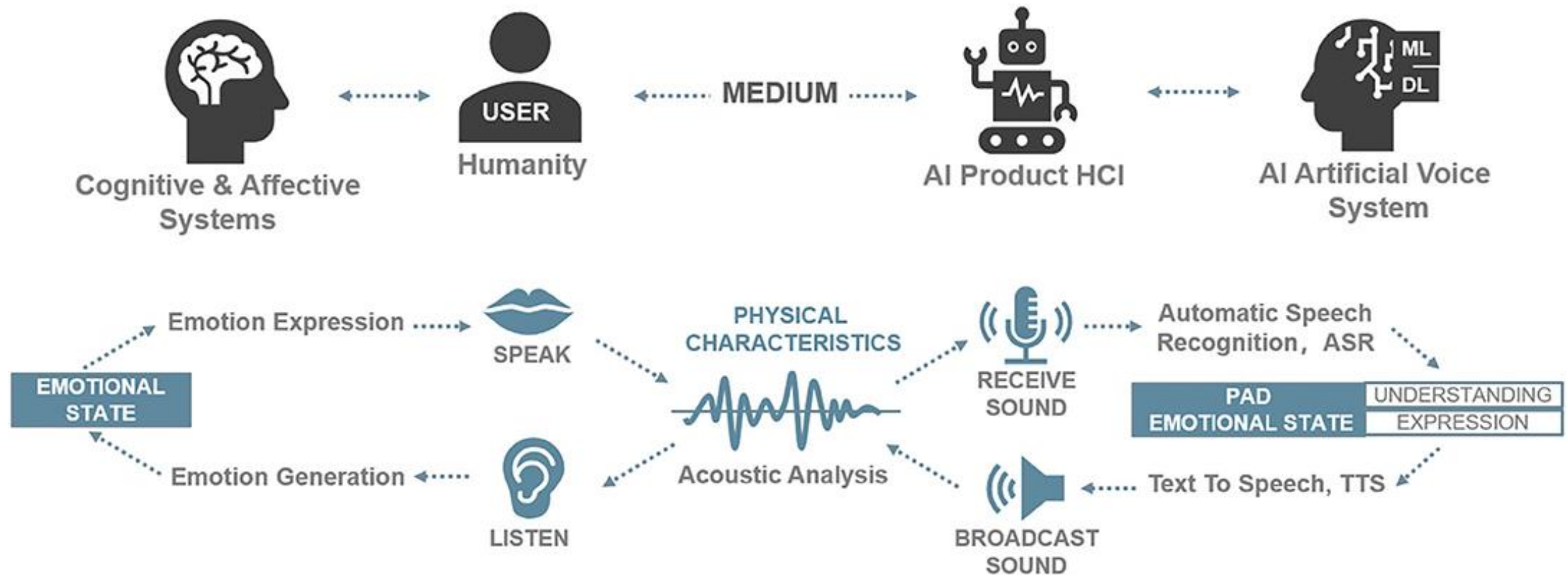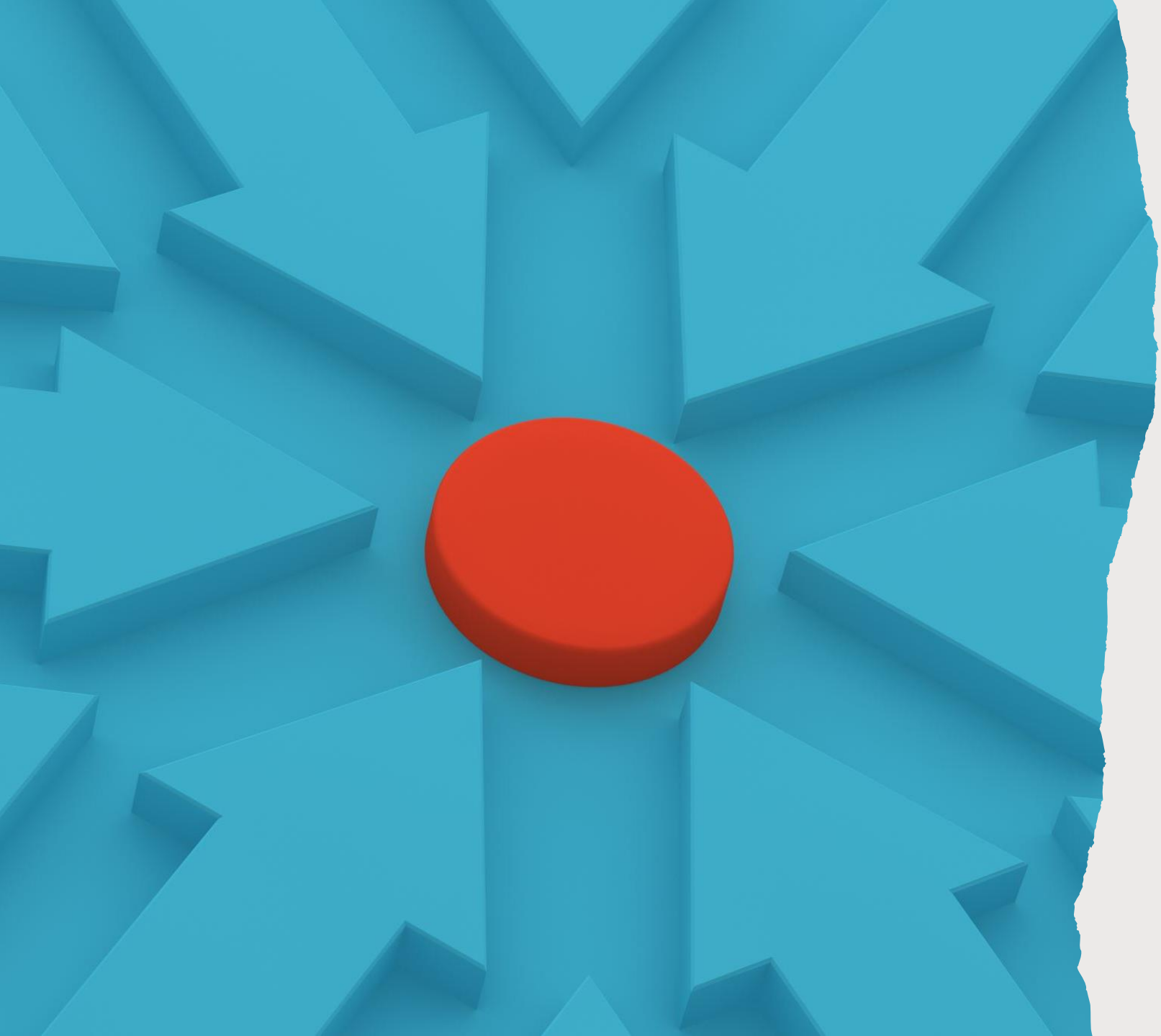
Integrations

Hyper-Integrals

Macros

Ecosystemic Fraud Signatures
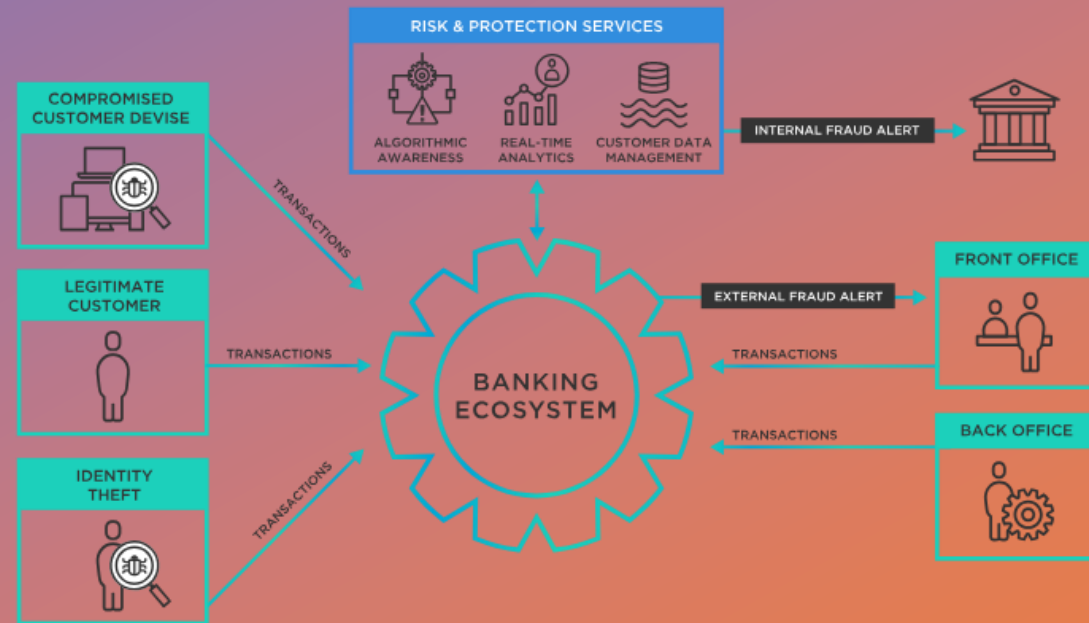
Source: Tibco

Finance is more risk-averse than it appears
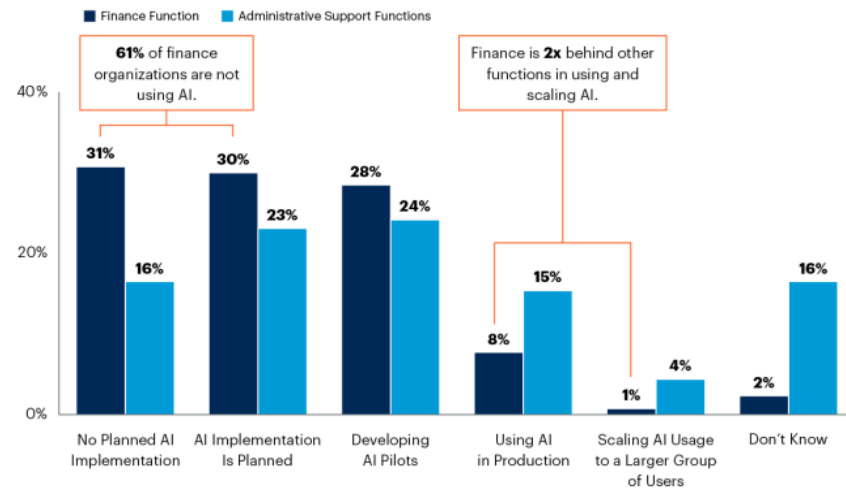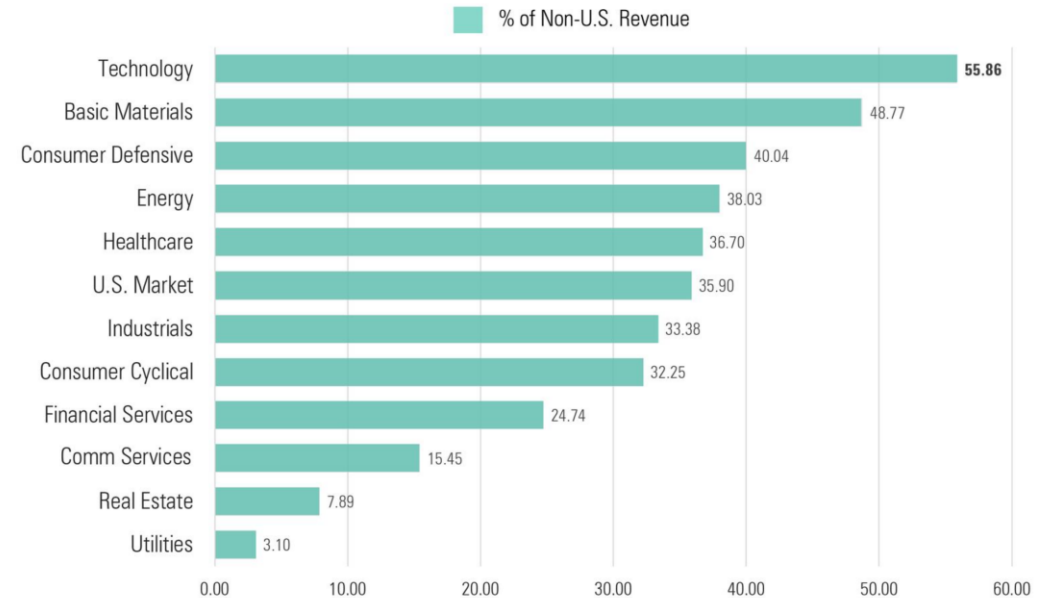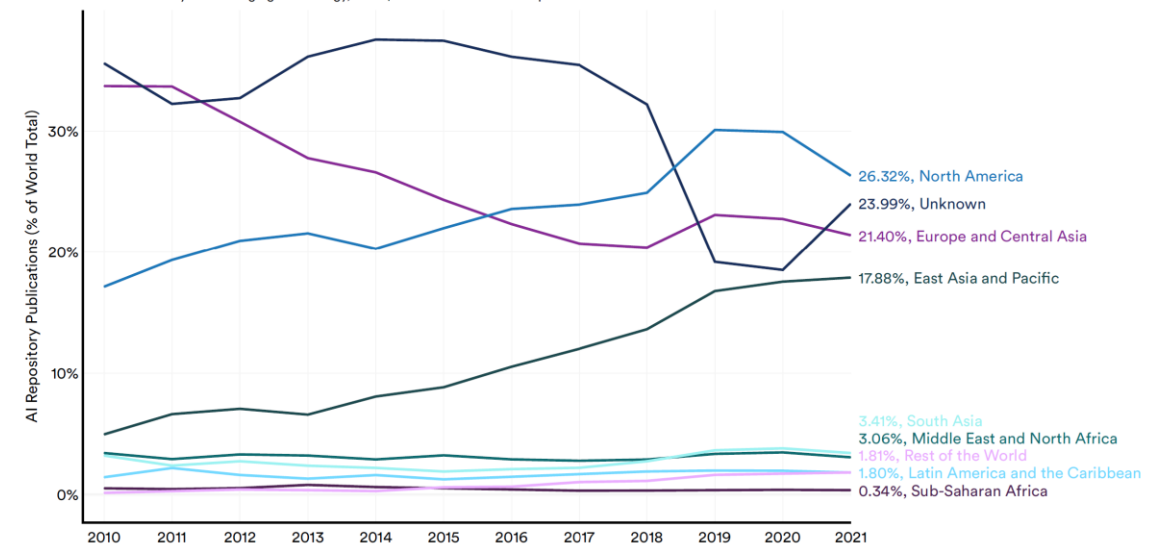
No Frontier Leapfrogging in Sight

Number of Significant Machine Learning Systems by Sector, 2002–22
Source: Epoch, 2022 | Chart: 2023 AI Index Report

32, Industry
3, Academia
2, Research Collective
1, Industry-Academia Collaboration
0, Nonprofit
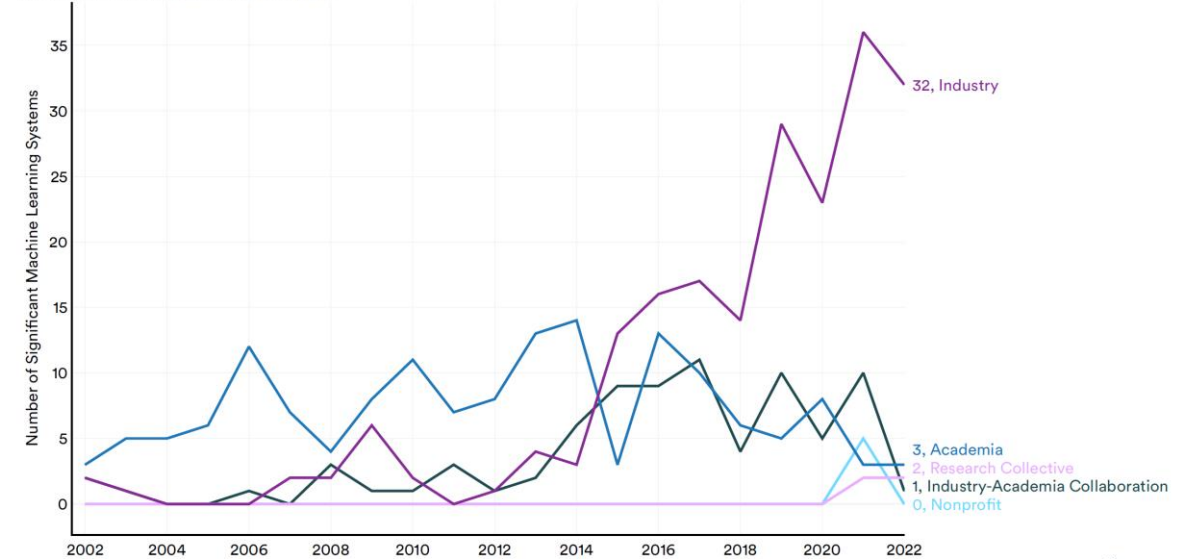
AI Repository Publications (% of World Total) by Region, 2010–21
Source: Center for Security and Emerging Technology, 2022 | Chart: 2023 AI Index Report

26.32%, North America
23.99%, Unknown
21.40%, Europe and Central Asia
17.88%, East Asia and Pacific
3.41%, South Asia
3.06%, Middle East and North Africa
1.81%, Rest of the World
1.80%, Latin America and the Caribbean
0.34%, Sub-Saharan Africa

Thanks!