



# AI in Investor Relations

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# 53%

of **institutional traders** believe **AI** is the **dominant technology** to **shape the future**

*JPMorgan e-TradingReport, January 2023*

- 4x more than blockchain & distributed ledger technology
- From a tied 2<sup>nd</sup> position in 2022
- Mobile trading fell from 1<sup>st</sup> to 7<sup>th</sup> place

# AI is a story of trial and error



**1950**

British mathematician Alan Turing asks if machines can think in his paper 'Computing Machinery and Intelligence'



**1956**

The term 'artificial intelligence' coined at the 'Dartmouth Summer Research Project on Artificial Intelligence,' led by John McCarthy



**1974-1980**

The first Winter of AI, a period of reduced funding and lowered interest as hype turned to disappointment



**1984**

The first "Terminator" movie depicts a near-future world overtaken by killing machines run by the AI Skynet

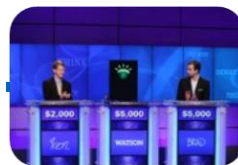
**1987-93**

The second winter of AI



**1997**

IBM's Deep Blue beats chess champion Gary Kasparov



**2011**

IBM's Watson beats the competition on the US quiz show, Jeopardy



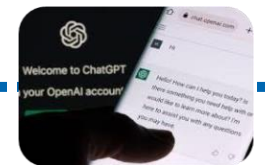
**2014**

Google's self-driving car was the first to pass a state driving test in the US



**2016**

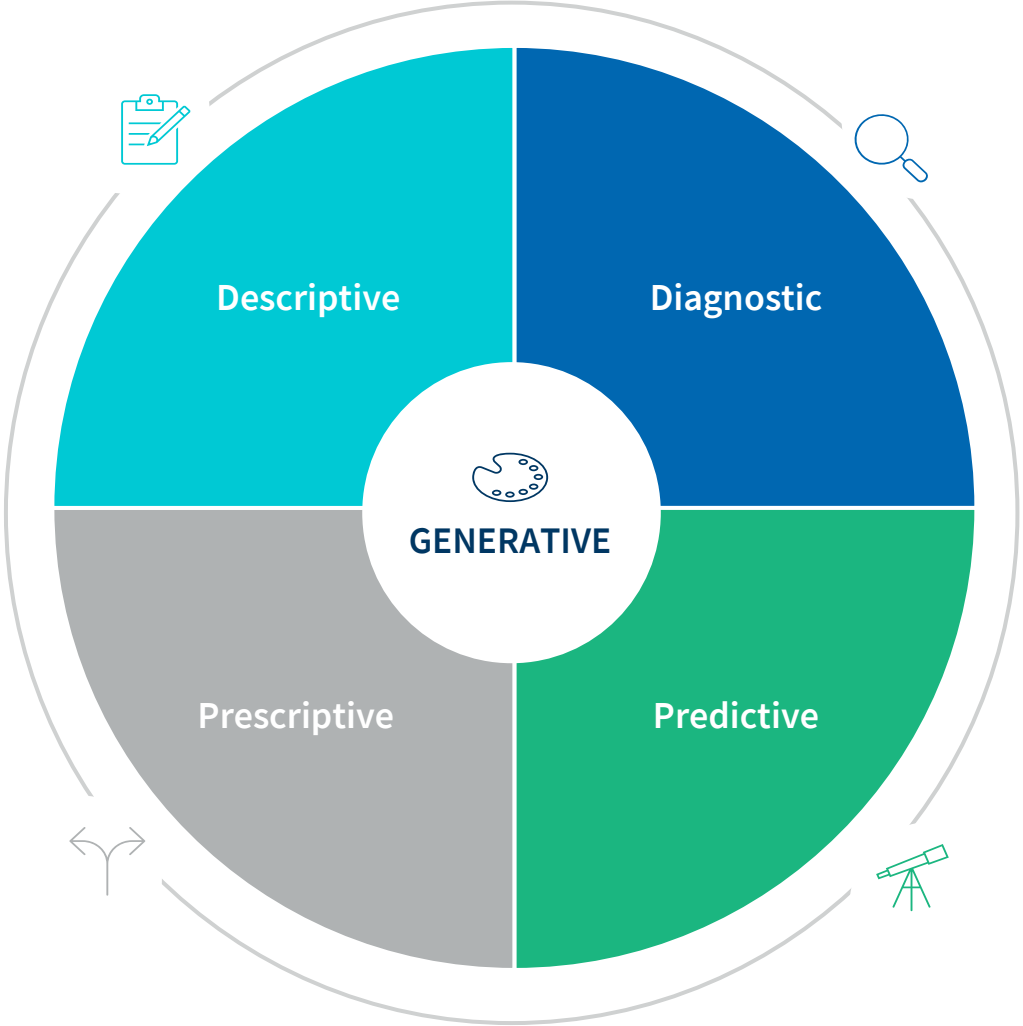
Google DeepMind's AlphaGo beat world champion Go player Lee Sedol



**2023**

ChatGPT

# AI & data applications



# From an industry perspective



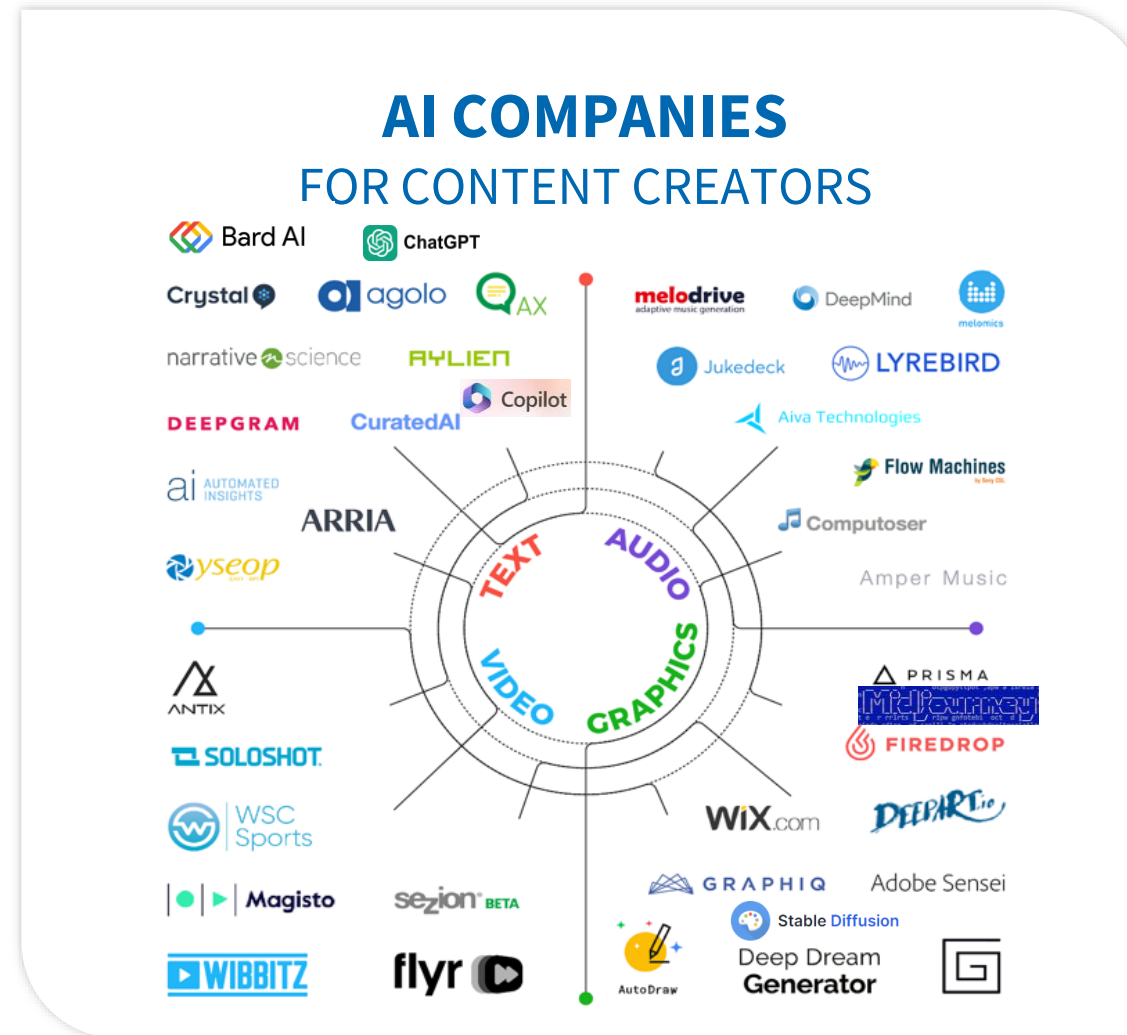
# In communications: Not just ChatGPT

- Generate text
- Summarise information
- Translate languages

- Generate video
- Turn speech to video
- Turn text to video

- Generate audio
- Turn speech to text
- Turn text to speech
- Analyse tonality

- Generate images
- Turn text to images
- Turn speech to images
- Augment & optimize imagery



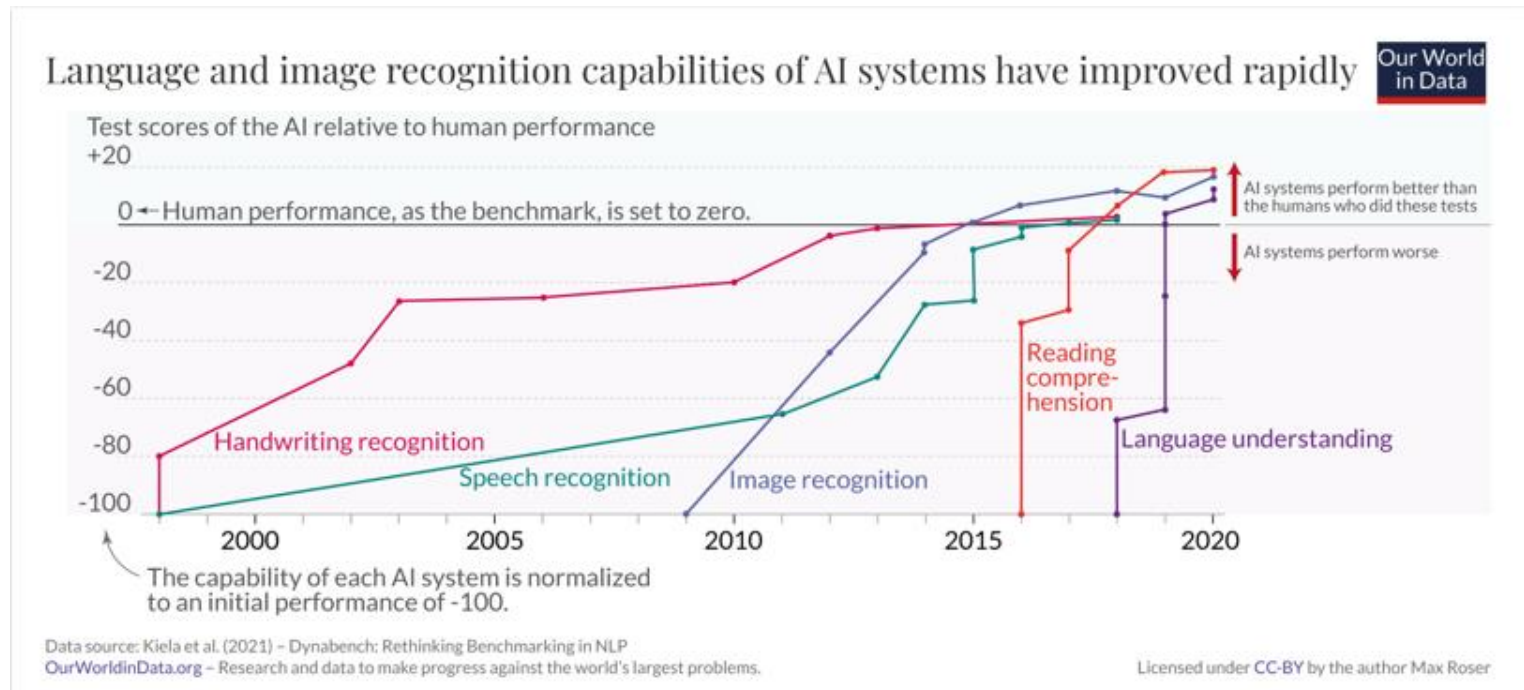
# How AI has been developing

## AI levels

- Artificial narrow intelligence (ANI)
- Artificial General Intelligence (AGI)
- Artificial Super Intelligence (ASI)

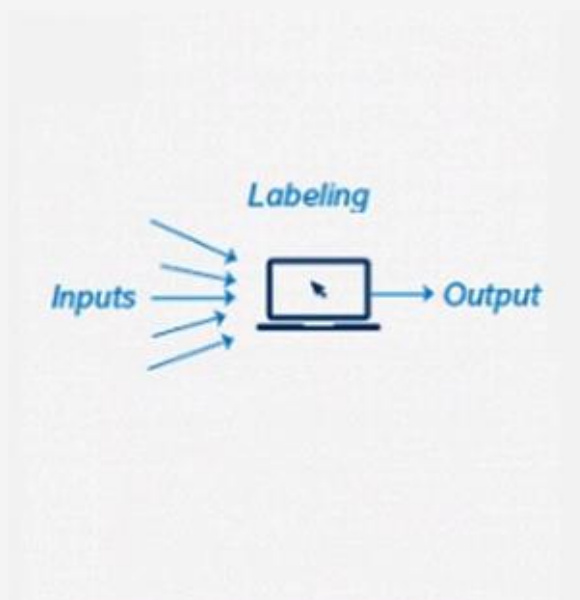
## AI enhancement

- Task
- Process
- Role



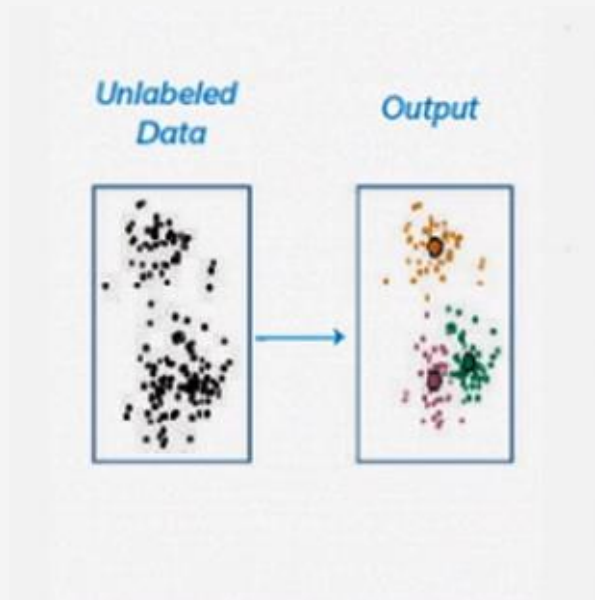
# How AI learns

## Supervised learning



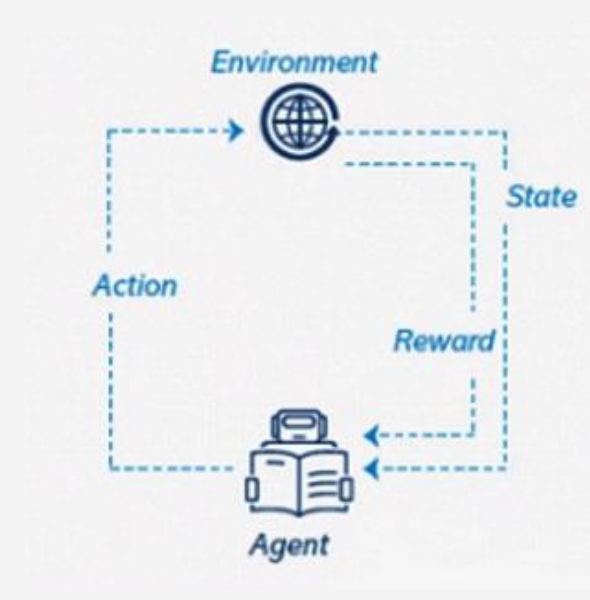
Learn from human labelled correct and incorrect examples

## Unsupervised learning



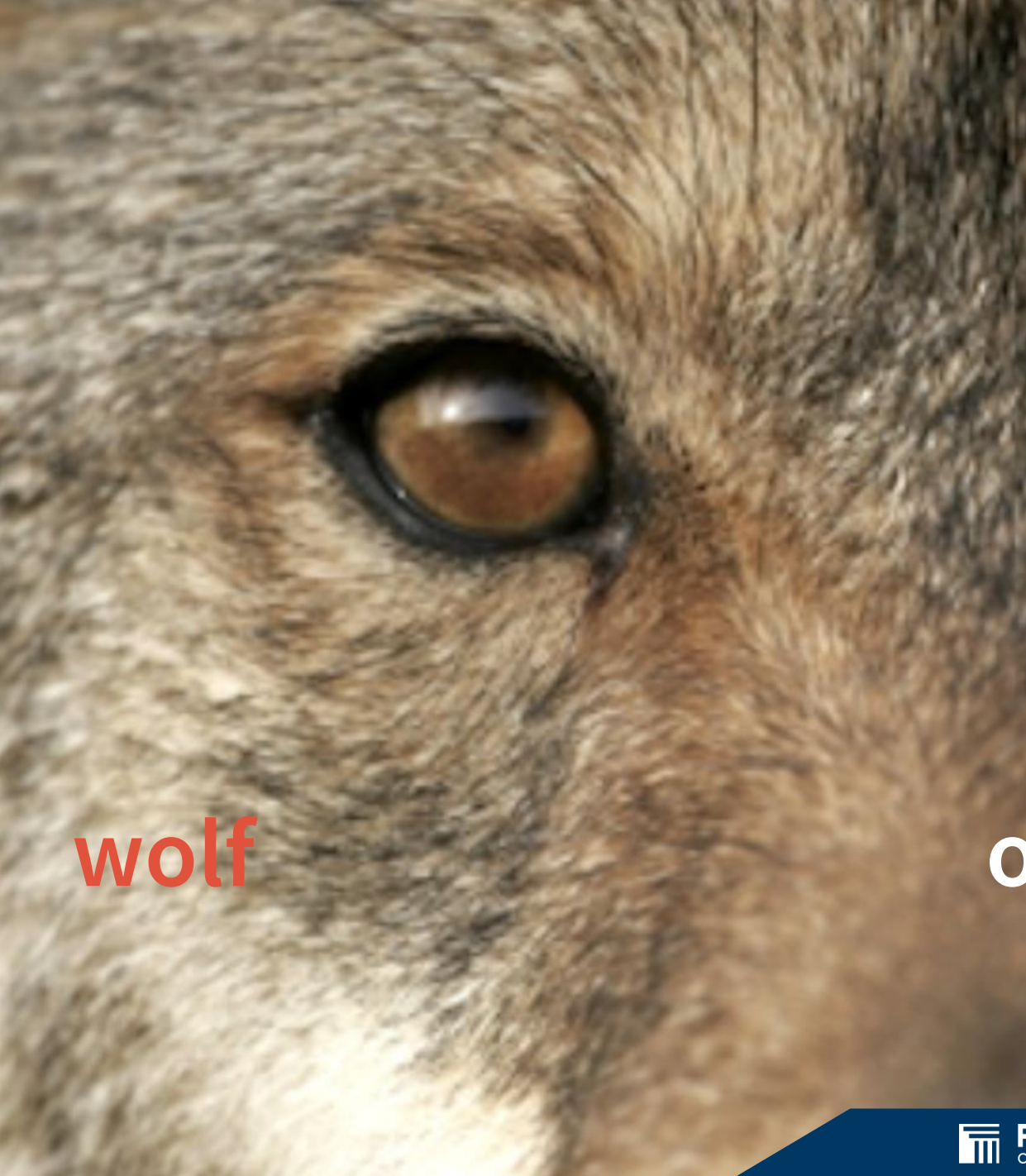
Learn by spotting patterns on your own

## Reinforcement learning



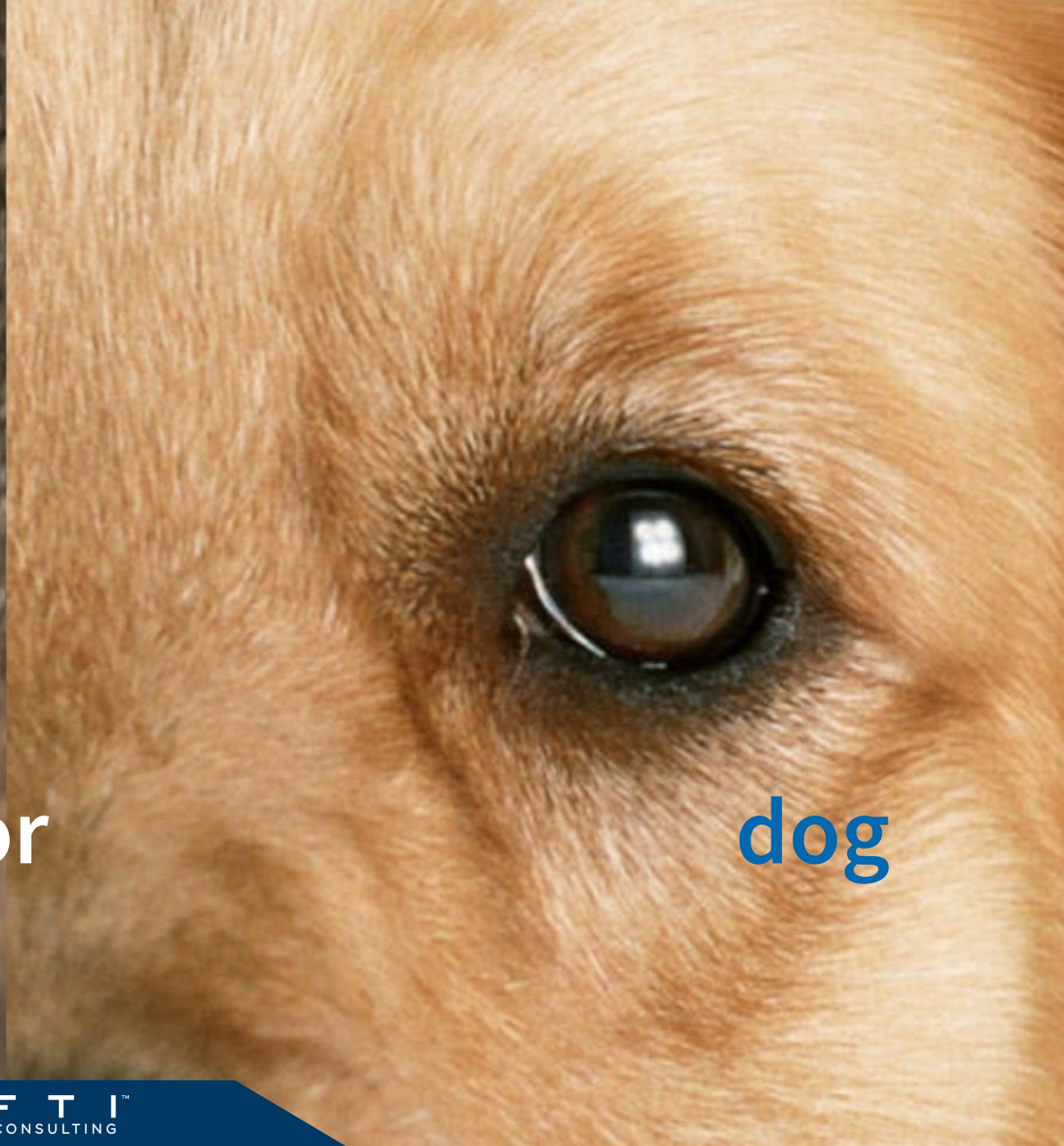
Learn by being rewarded for success





wolf

or



dog



# Egg recipes?

Chef Watson is IB's cooking AI based on IBM Watson

There is an IBM Watson cookbook and recipes – try it if you haven't

A famous recipe is...

Egg + [...] + [...] + [...]





# Egg recipes!

Chef Watson is IB's cooking AI based on IBM Watson

There is an IBM Watson cookbook and recipes – try it if you haven't

A famous recipe is...

Egg + caviar + chives + mango

# AI in investor relations

AI is not new to investors, but it is new to investor relations.

AI's ability to process unstructured data has brought a sea change.

AI will become ubiquitous in the IR space.

## AI today

- Analyses quantitative financial data
- Translates earnings calls to text and analyses it
- Listens to tonality of speakers on earnings calls
- Makes investment decisions
- Supplies answers to investor questions as a chatbot

## AI tomorrow

- Provides qualitative insights
- Spots incoming market risks
- Creates and disseminates market moving (fake) content
- Identifies and counters misinformation
- Persuades investors to buy stock as a chatbot

**“[...] the crisis in 2027 was because everything was relying on one base level, what’s called [the] generative AI level, and a bunch of fintech apps are built on top of it.”**

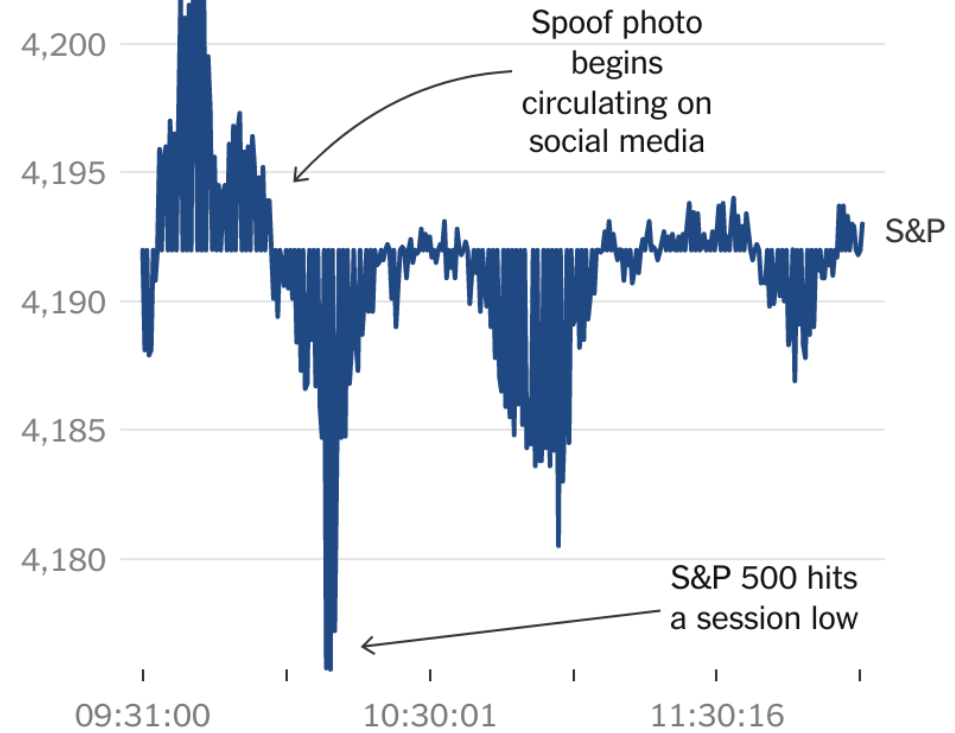
*Gary Gensler, SEC Chairman, May 2023*

- Investment may be the first pure machine to machine space
- Biased data, model drift & high frequency are catalysts
- Exponential risk awaits IR professionals
- Human oversight and intervention are key

# Fake news = real damage



**S&P 500**



Source: Sentieo/AlphaSense • By The New York Times

# AI systems bias loop

- Data perpetuates human biases
- Computer amplify the effect
- Bias can be unknowingly introduced into data collection, e.g.:
  - Missing data may not be randomly missing
  - Only positive outcomes may be being measured
  - Class imbalance

- An AI system is only as good as the data it is fed
- Human bias will propagate into the trained model
- This may cause the model to treat certain subsets of data differently, and lead to incorrect outputs

- Model outputs must be evaluated, but this can also introduce bias
- Data leakage may have occurred i.e., information to the test set in some way
- The test set should be completely unseen by the model during training

- Bias then flow through to the decision making
- This can lead to more bias being introduced in other parts of the project
  - For example, inflated model metrics may lead to re-training with a larger volume of data without fixing underlying biases

Data is collected, sampled, and quality checked. It may also be annotated if necessary

Training data is used to train the machine learning model

Model outputs are generated. This may include filtering, ranking, aggregating, or labelling

Humans see the output and make decisions based on the results



*“It's important to note that while AI can enhance investor relations, human expertise and judgment remain crucial. The role of AI is to support and augment the work of investor relations professionals, providing them with valuable insights and tools to improve their effectiveness and efficiency in engaging with investors.”*

– ChatGPT, June 2023



# Thank you