

De rol van Big Data en Artificial Intelligence in Logistiek

**Congres e-Commerce Logistiek
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Today

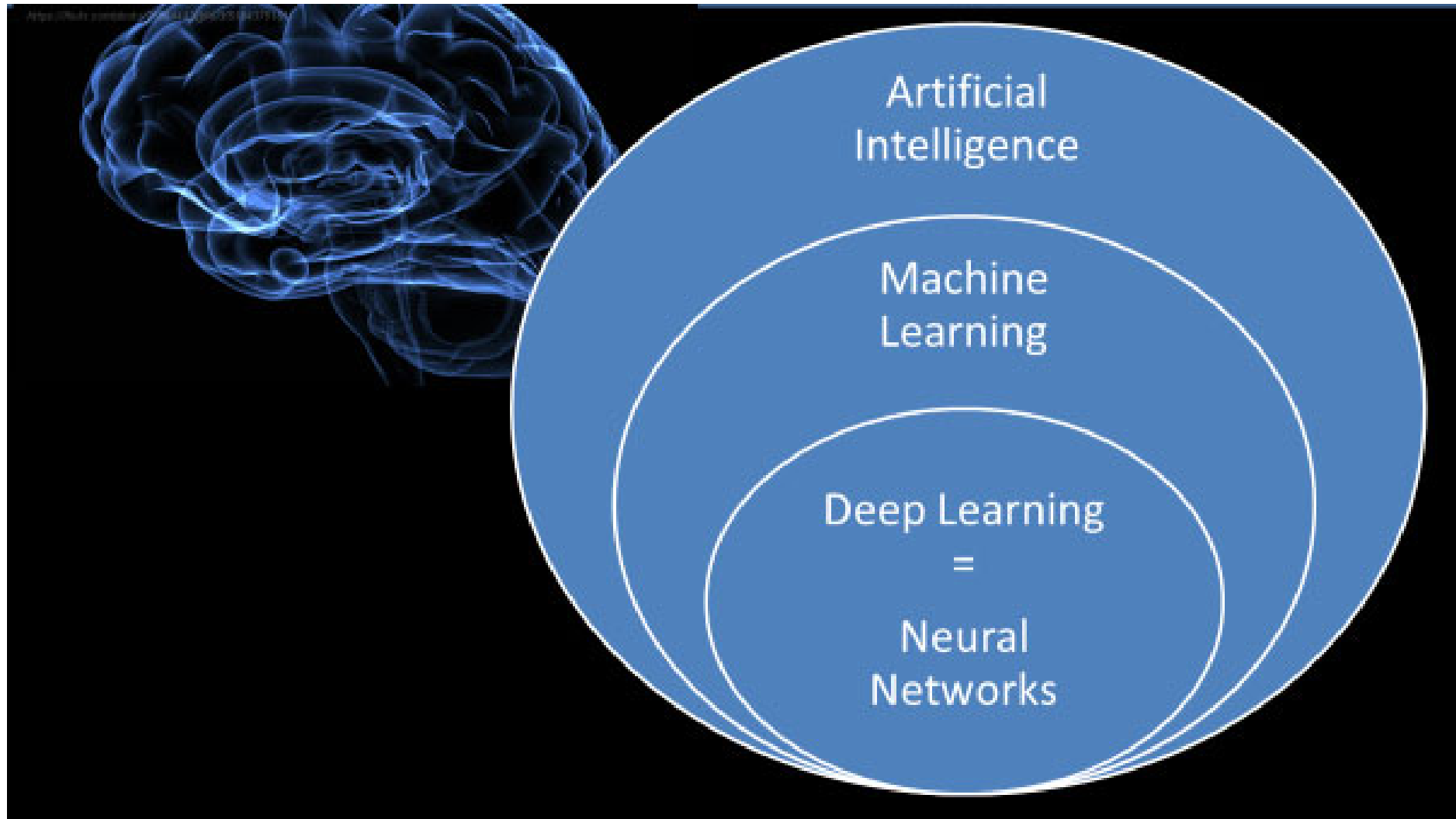


INTRODUCTION TO ARTIFICIAL INTELLIGENCE

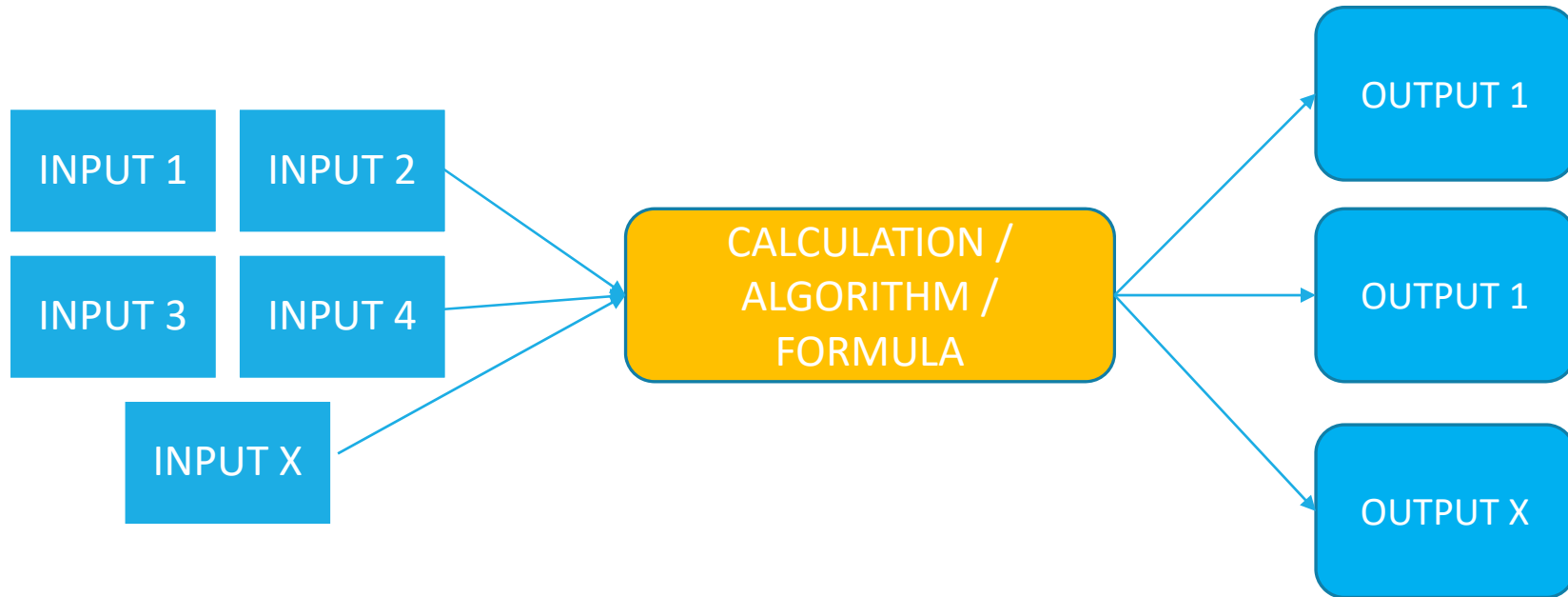
WHAT SUPPLY CHAIN CAN LEARN FROM FINANCIAL TRADING

SOME EXAMPLE CASE STUDIES IN SUPPLY CHAIN

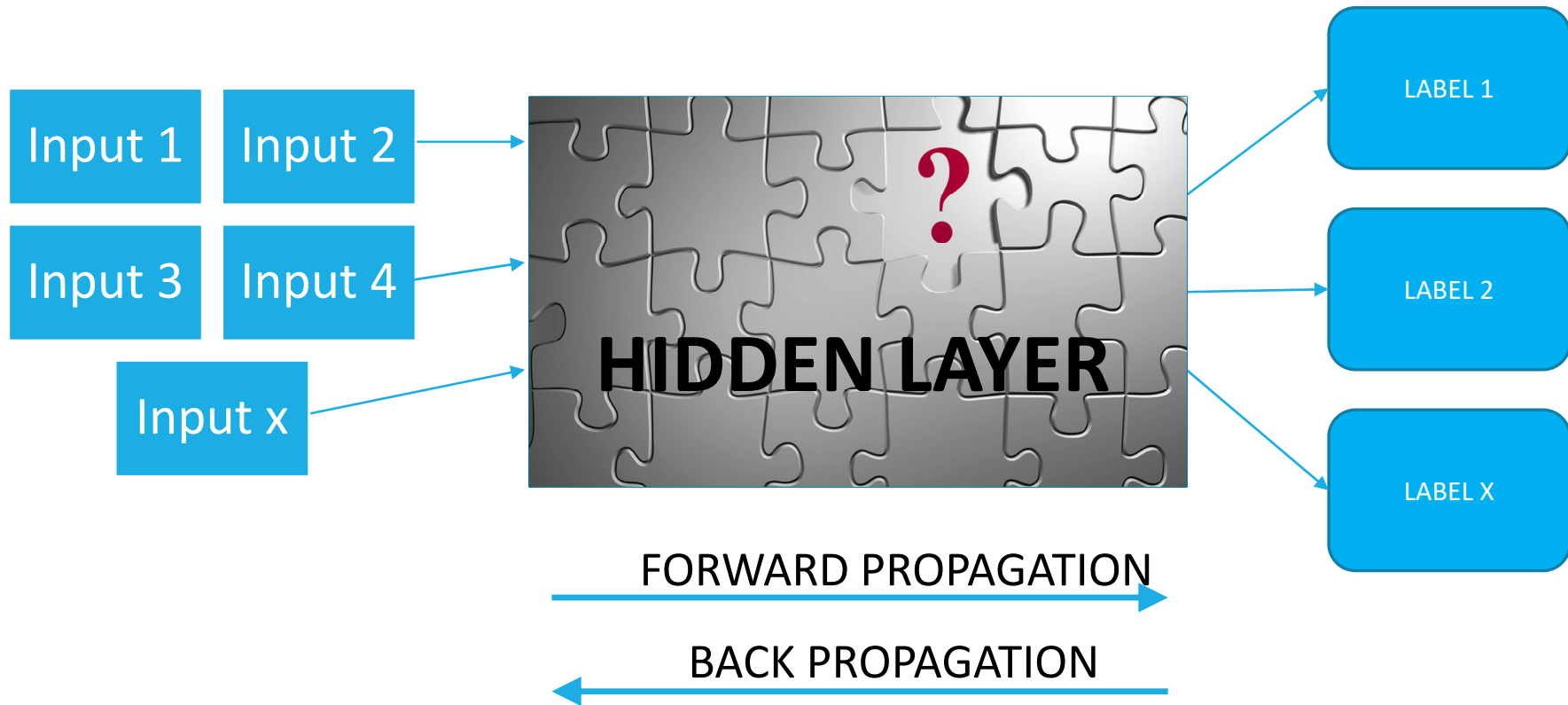
Artificial Intelligence



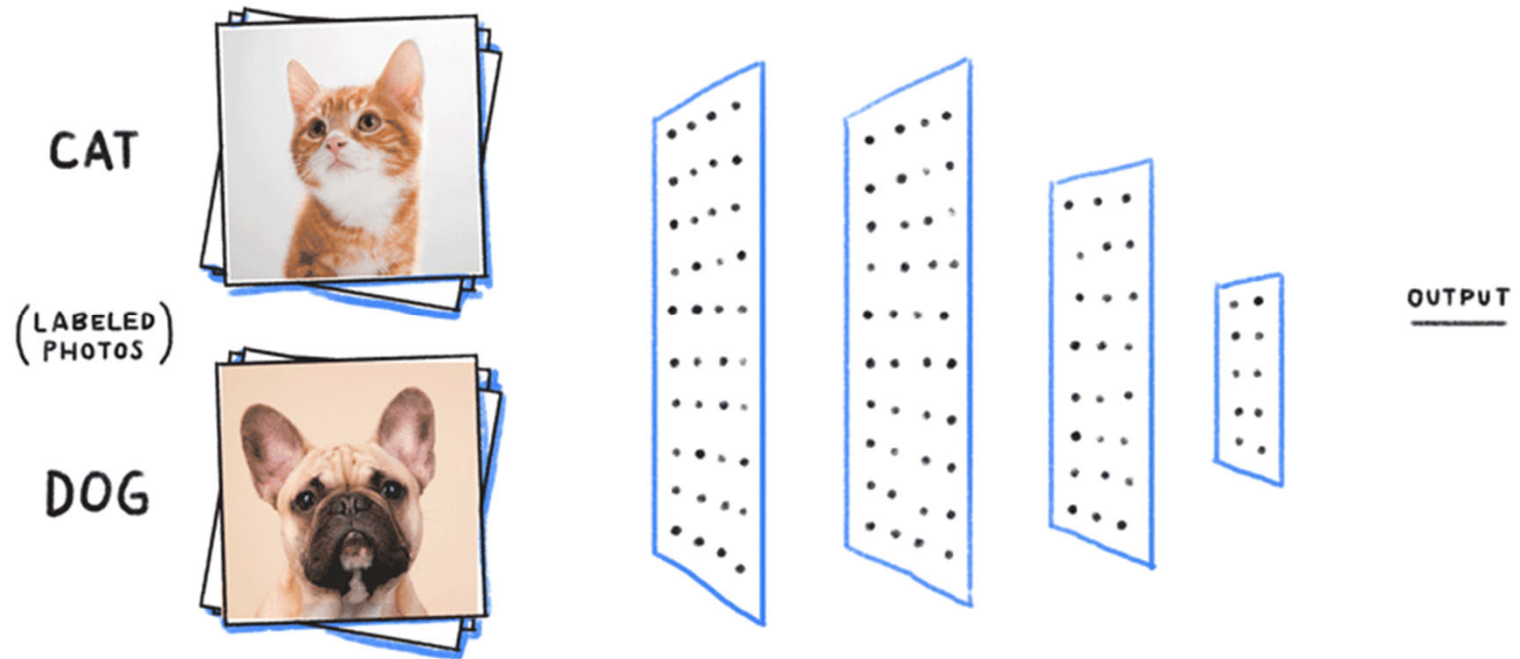
Traditional programming



Machine Learning



Example



Financial Trading and Big Data

DATA SOURCES:

Asset pricing data (daily OHLC / minute / tick level)

Company fundamentals (elements from the quarterly / annual report)

Non-financial data (Twitter sentiment, Google searches, activity data etc)

Trading Style	Time Frame	Holding Period
Position Trading	Long term	Months to years
Swing Trading	Short term	Days to weeks
Day Trading	Short term	Day only - no overnight positions
Scalp Trading	Very short term	Seconds to minutes - no overnight positions

LEARNING:

Even if you have 20 years of time-series history, you are still talking of Small Data instead of Big Data (20 years is 20 x 220 trading days is 4400 data elements)

Two approaches to being data-driven

1. Hypothesis based

- First develop an hypothesis
- Validate the hypothesis with the data available

2. Data based

- Findings trends of peculiarities in the data
- Try to find the root cause of these findings

LEARNING:

The hypothesis-based approach usually works best out-of-sample (c.q. in reality)

Case Studies



DYNAMIC TRANSPORT
PLANNING



CALCULATING VOLUME



AUTOMATIC RECOGNITION OF
PRODUCT SUBSTITUTION RULES



FILLING BOXES



SELF-LEARNING SAFETY STOCK
SETTINGS



AUTOMATIC PRODUCTION
(RE)PLANNING

Conclusie

1. Er is al heel veel mogelijk met A.I. technologie in combinatie met Big Data in de e-Fulfilment wereld
2. Er wordt nog te veel gedacht vanuit innovatie van bestaande dingen, en relatief weinig in “disruptive” innovaties die tegenwoordig ook mogelijk zijn
3. Bij time series data (zoals bij Logistiek en eFulfilment vaak het geval is) is er eerder sprake van Small Data dan Big Data
4. De hypothese gebaseerde aanpak van Big Data analyse is vaak te prefereren