

# GS1 Innovation Café

Artificial Intelligence for better data quality

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14 November 2019



# Agenda

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## **15:00 - Welcome by the chairman of the GS1 Innovation Committee**

Wouter Schaeckers - Supply Chain Innovation & Sustainability Procter & Gamble

## **15:05 - AI and Data Quality**

Jan Merckx - Innovation Manager, GS1 Belgilux  
Mayra Castellanos - Innovation Manager, GS1 Germany

## **15:30 - From the GS1 Research Labs**

Klaus Fuchs - Auto-ID Labs, ETH Zürich

## **16:00 - The use of AI at GS1**

Eelke van der Horst - Data Scientist, GS1 Netherlands

## **16:15 - Smart with Food**

Ellen Verhasselt - International Business Development, Smart With Food

## **16:30 - Q&A**

## **17:00 - Networking reception**



# Demystifying **ARTIFICIAL INTELLIGENCE**

Data has a better idea





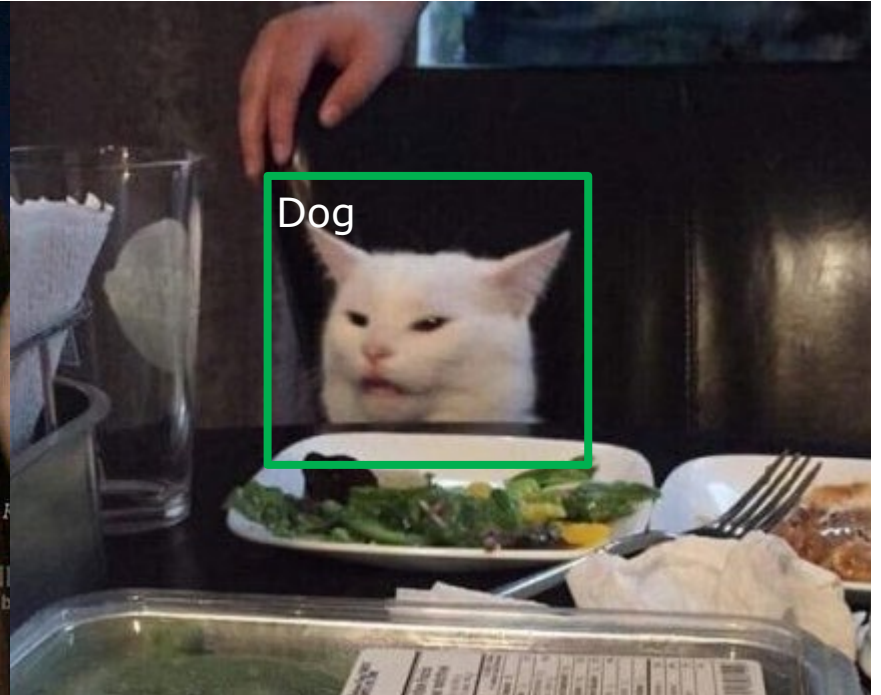




<https://thispersondoesnotexist.com/>



**People saying AI will take over the world**



**My Neural Network**

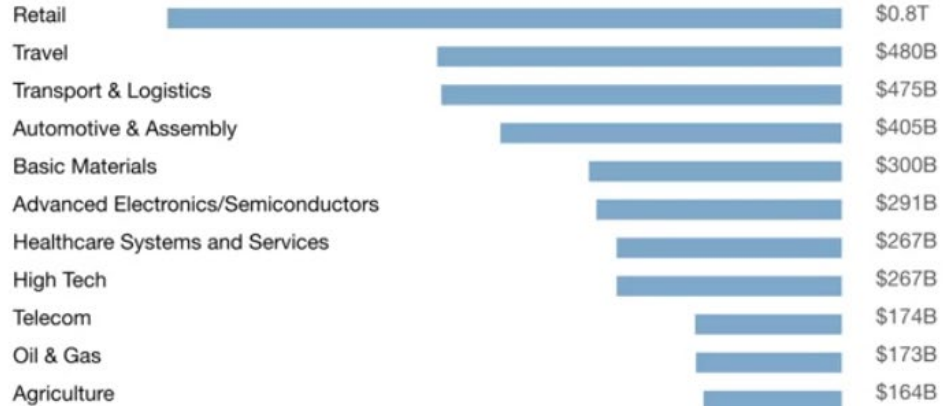


# Why AI?

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AI value creation  
by 2030

**\$13**  
**trillion**



[Source: McKinsey Global Institute.]

# But what does AI mean?

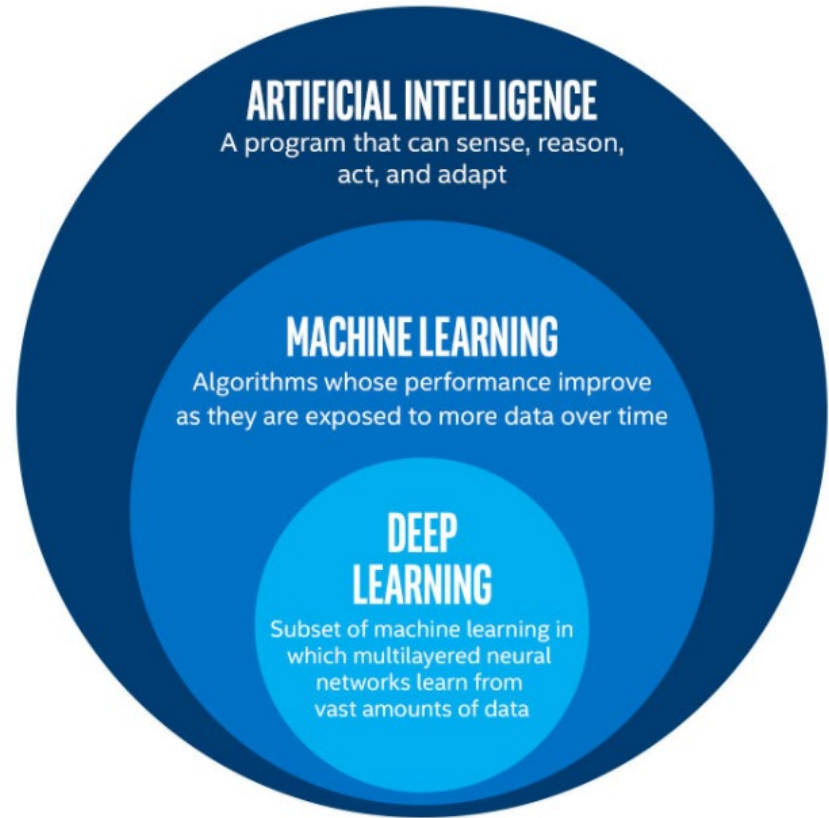
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amazon alexa

AI



Artificial Intelligence  
vs  
Machine Learning  
vs  
Deep Learning  
vs  
Neural Networks





Let's start calling things by its **name**

Machine Learning

Machine Learning

Machine Learning

# What can Machine Learning do TODAY?

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**Andrew Ng:** Stanford University, Google Brain, Coursera

*"If a typical person can do a mental task within less than one second of thought, we can probably automate it using Machine Learning either now or in the near future"*

- AI for Everyone, Coursera





# Machine Learning: A to B Mapping

Input (A)	Output (B)	Application
email	→ spam? (0/1)	spam filtering
audio	→ text transcript	speech recognition
English	→ Chinese	machine translation
ad, user info	→ click? (0/1)	online advertising
image, radar info	→ position of other cars	self-driving car
image of phone	→ defect? (0/1)	visual inspection

# The Periodic Table of AI Elements

<b>Sr</b> Speech Recognition	<b>Si</b> Speech Identification											
<b>Ar</b> Audio Recognition	<b>Ai</b> Audio Identification	<b>Pi</b> Predictive Inference	<b>Pl</b> Planning									
<b>Fr</b> Face Recognition	<b>Fi</b> Face Identification	<b>Ei</b> Explanatory Inference	<b>Ps</b> Problem Solving					<b>Lr</b> Relationship Learning				
<b>Ir</b> Image Recognition	<b>li</b> Image Identification	<b>Sy</b> Synthetic Reasoning	<b>Dm</b> Decision Making	<b>Lg</b> Language Generation	<b>Lc</b> Category Learning	<b>MI</b> Mobility Large					<b>Cm</b> Communication	
<b>Gr</b> General Recognition	<b>Gi</b> General Identification	<b>Da</b> Data Analytics	<b>Te</b> Text Extraction	<b>Lu</b> Language Understanding	<b>Lt</b> Knowledge Refinement	<b>Ms</b> Mobility Small	<b>Ma</b> Manipulation				<b>Cn</b> Control	

Source: <https://www.bitkom.org/Bitkom/Publicationen/Digitalisierung-gestalten-mit-dem-Periodensystem-der-Kuenstlichen-Intelligenz>

# ... it's all about **DATA QUALITY**

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**An ML algorithm is only as good as the data you feed it with**

Key Problems for Machine Learning are:

- Data bias
- Wrong labeling of data
- Messy and unstructured data
- Not enough data



# Regional Forum Milan – October 2019

## Lean Canvas Workshop

**3 pain points** were identified

# Use Cases

Data  
**Quality**  
(Images)



Data  
**Categorization**  
(Images)





# Use Cases

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**Categorization**  
(Customer  
Service  
Management)

# Reach out!

## Website

<https://www.gs1-germany.de/innovation/>

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MERCI !

