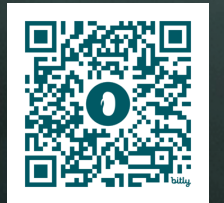


cropland
data driven decisions

**What is A.I. and
how to derive value from it?**



Antwerp - 16-01-2024



Hello.

Commercial engineering at
University of Antwerp ('94 – '99)

Accenture | Smartizens.com | Johnson & Johnson Pharma
IM Associates | CROPLAND

GEERT VROMMAN

CEO of CROPLAND

Founded CROPLAND in 2013



Data & A.I. Service Provider

CROPLAND is a consulting company founded in 2013, based in Berchem.

A multifunctional team of A.I. business consultants, full stack data engineers & data scientists.

CROPLAND is a preferred partner for B2B midsize services companies looking to increase efficiency through the smart use of data and A.I. technology.



Implementing data-driven decisions

Data & technology is a powerful tool

CROPLAND ensures efficiency gains and thus better results.

We advise, implement & develop and provide support.



A.I. & data strategy consultancy



Data engineering & cloud infrastructure



A.I. & advanced analytics development



Consultancy, development & support

CROPLAND service offering



A.I. & data strategy consultancy

What is Artificial Intelligence? How does this technology help companies stay competitive? What is the importance of a data strategy? How is a business process properly 'data-driven'?

Through workshops and thanks to our expert opinion CROPLAND ensures that data and A.I. technology are deployed to achieve the right goals.



Data engineering & cloud infrastructure

Unlocking and cleansing data, setting up workflows and data pipelines (within the appropriate cloud infrastructure), automating processes ...

Today, it is impossible to maintain manual processes; thanks to the set-up of smart (cloud) infrastructure and the data engineering tasks involved, enterprises are taking a big step towards increased efficiency.



A.I. & advanced analytics development

Generating insights and detecting trends from data, making predictions thanks to good data or generating new content based on Generative A.I. ... these are all elements we are working on today to generate impact and increase efficiency at our customers.

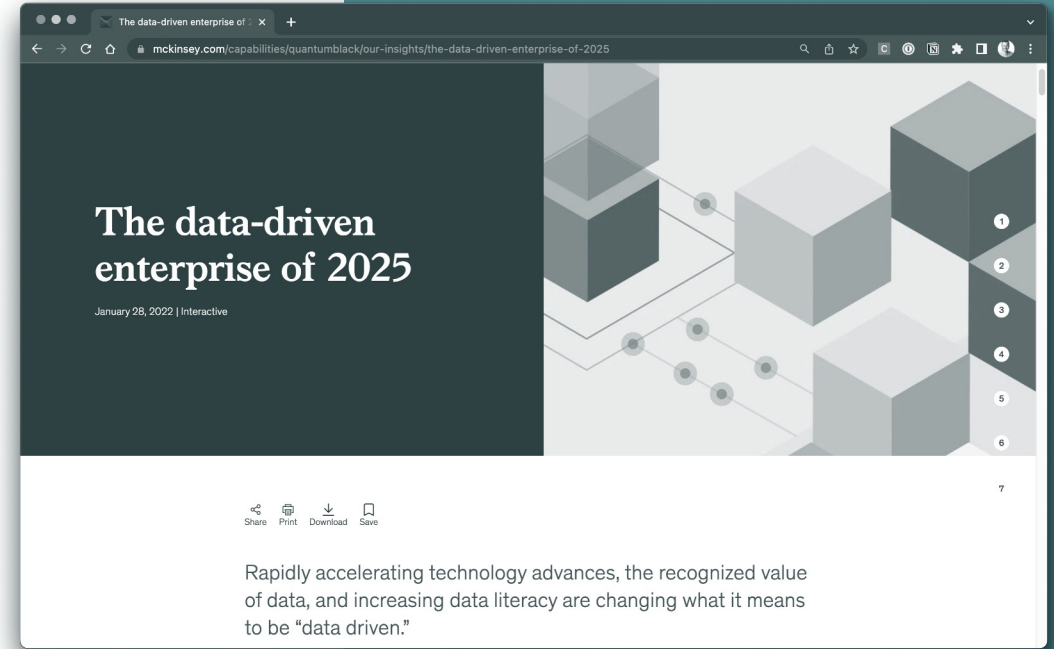
Setting up proofs of concepts, validating them in real-life and developing them further and integrating them into our customers' daily practices.



Seven characteristics will define the data-driven enterprise

By 2025, smart workflows and seamless interactions among humans and machines will likely be as standard as the corporate balance sheet, and most **employees will use data to optimize nearly every aspect of their work.**

- Data is embedded in every decision, interaction, and process.
- Data is processed and delivered in real time.
- Flexible data stores enable integrated, ready-to-use data.
- Data operating model treats data like a product.
- The chief data officer's role is expanded to generate value.
- Data-ecosystem memberships are the norm.
- Data management is prioritized and automated for privacy, security, and resiliency.



source: <https://www.mckinsey.com/capabilities/quantumblack/our-insights/the-data-driven-enterprise-of-2025>





Artificial Intelligence ?

The father of A.I.

**The concept
Artificial Intelligence
was first introduced in
1955**

A monochromatic, teal-tinted portrait of John McCarthy, an elderly man with a full white beard and hair, wearing a suit and tie. The portrait is the background for the left side of the slide.

John McCarthy

(1927 – 2011)

Artificial Intelligence ...

**The science & engineering
behind making
intelligent machines**



Artificial Intelligence ...

**Intelligent machines,
in the 50s?**

**Rule based machines,
programmed by a human
being.**

**IF THIS ...
THEN THAT ...
ELSE ...**



Artificial Intelligence ...

Machine Learning (ML) as modern A.I.

Machine Learning is the (data) science where computers are trained in order to generate future predictions using (different) algorithms.



**It is the science of
developing algorithms**

Vision A.I.

Operational since many years

While ChatGPT introduced A.I. at max speed in the media, machine learning and A.I. driven machines exists for many years.

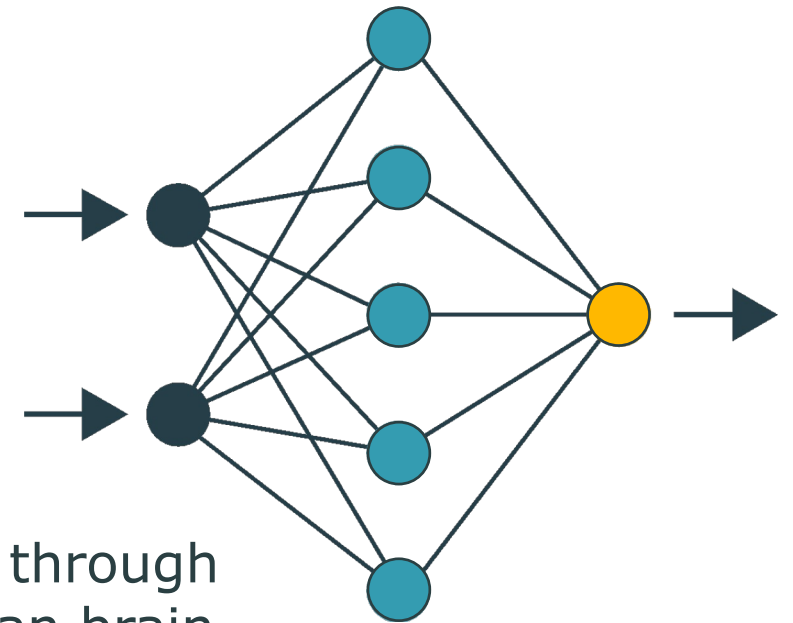


Artificial Intelligence ...

Neural Networks mimic the human brain

A subset in the family of Machine Learning algorithms

It is a methodology whereby information is passed through subsequent layers of neurons, inspired by the human brain



Artificial Intelligence ...

Deep learning, networks on steroids

A(nother) subset of neural network

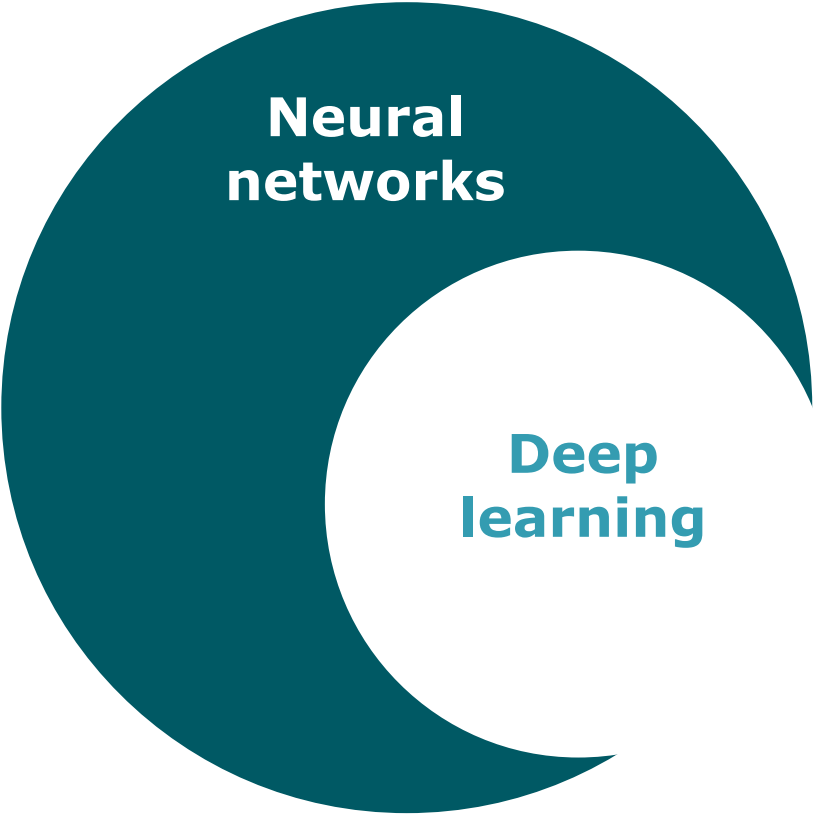
Large number of layers

Very complex structures of information

“Famous” types of neural networks:

Generative Adversarial Networks (GANs)

Large Language Models (LLMs)



Neural
networks

Deep
learning



Why do we need algorithms?

Algorithms

Algorithms generate a higher efficiency

because they automate documented decision making



Algorithms

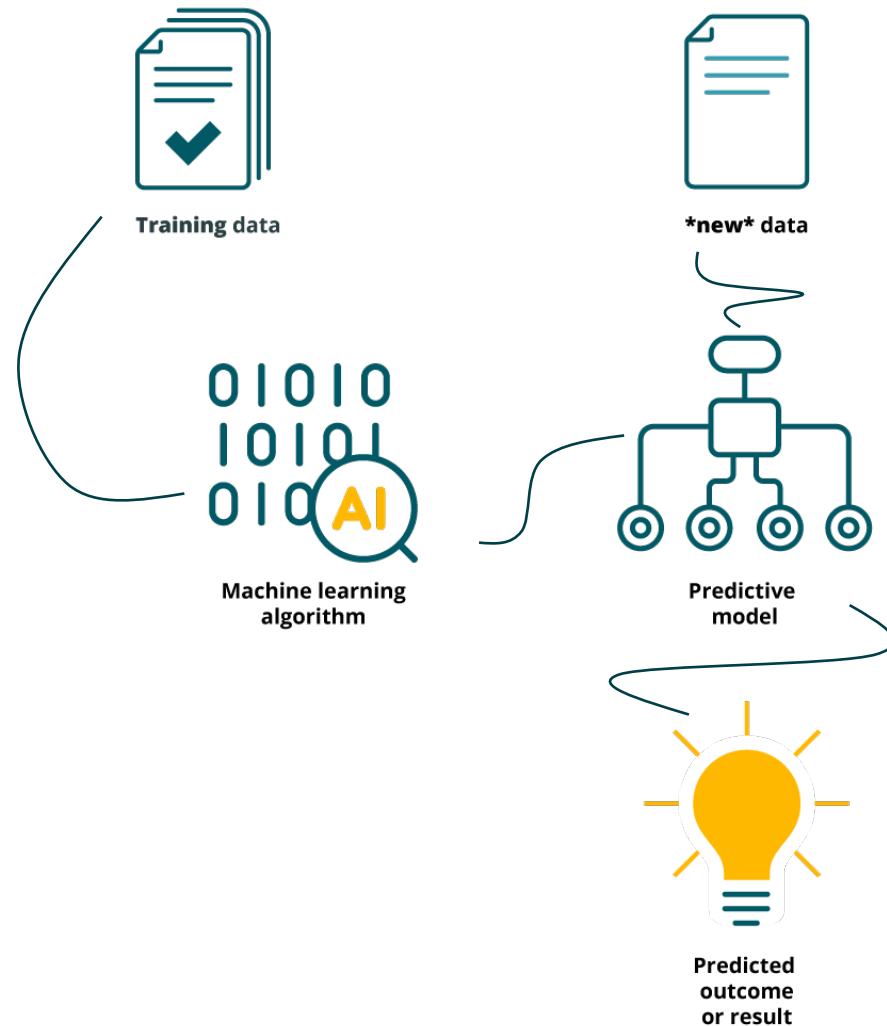
Algorithms allow to see patterns and reveal strategic insights

Things we (humans) cannot see





**How
does it work?**



Learning from data

Computers are trained to discover insights

Data as a product, as an input

Machines Learning results in an algorithm that can predict outcomes on new observations

How do machines learn?

Three 'families' of machine learning

Supervised learning: we, humans, label or annotate data and machines are trained to predict our labels

Unsupervised learning: machines learn independently

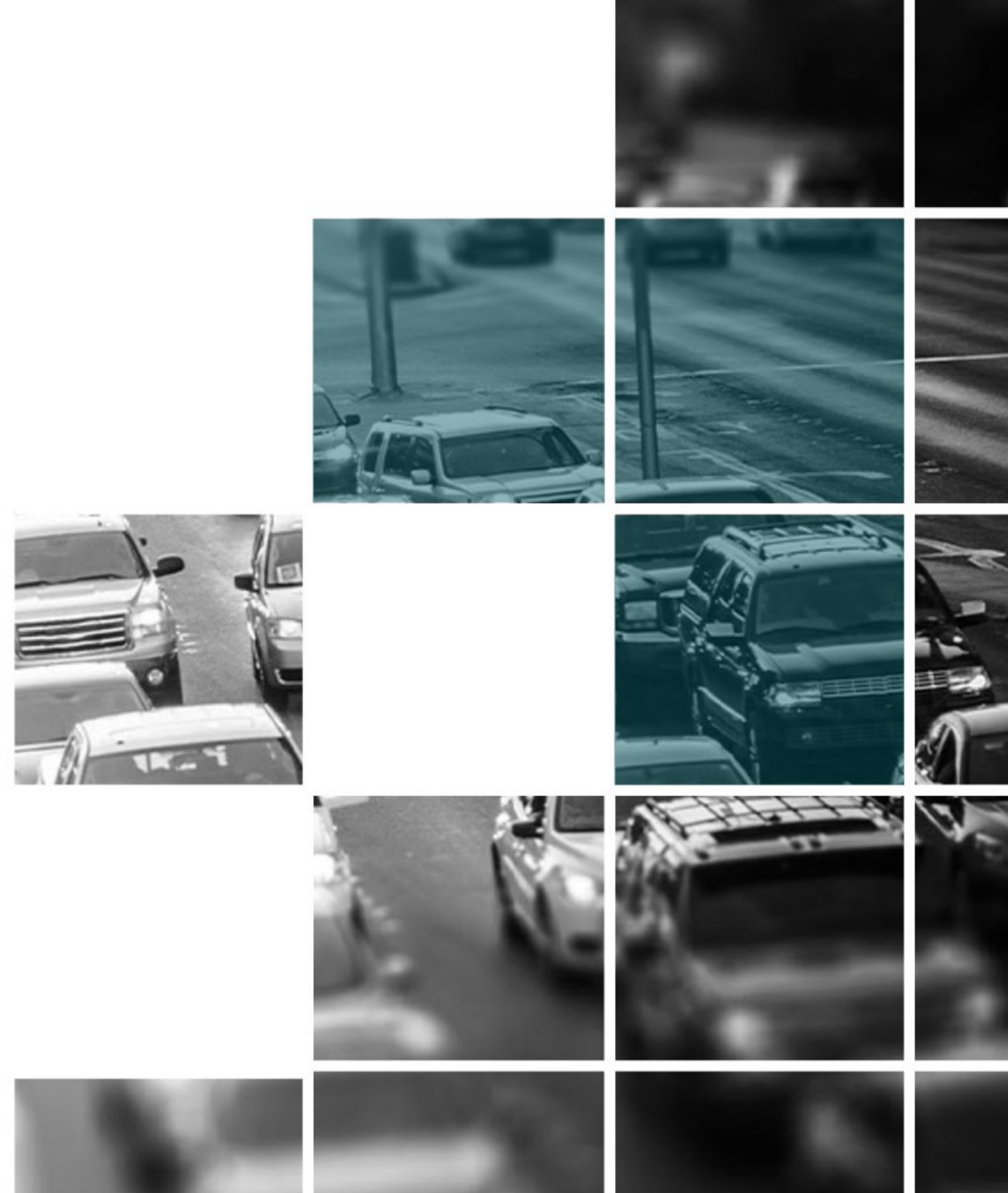
Reinforcement learning: machines learn "by making mistakes"



Supervised learning

Classification

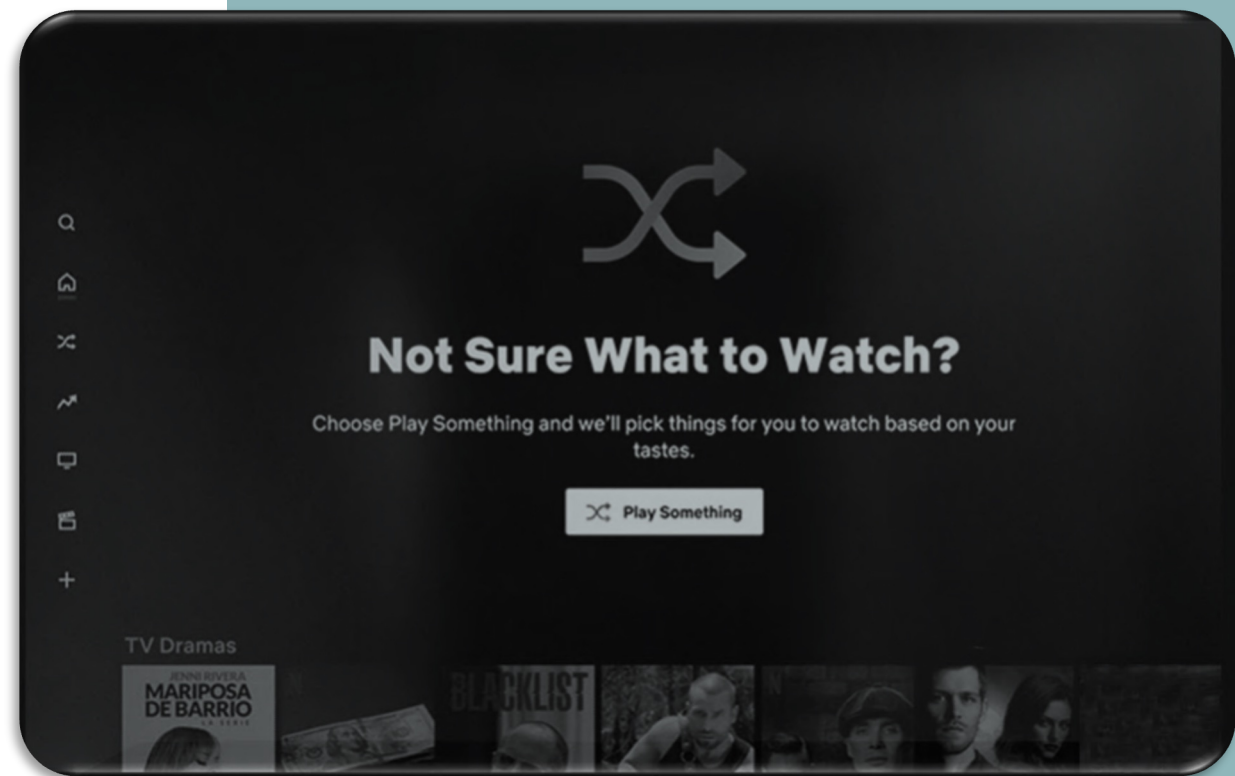
In supervised learning, general (binary) classification predictions are generated.



Unsupervised learning

Clustering

With unsupervised learning algorithms are trained to look for clusters, similarities, patterns ...





Reinforcement learning

The art of building predictive models that learn “by making mistakes”

Examples:

self-driving cars, chess computers, etc.

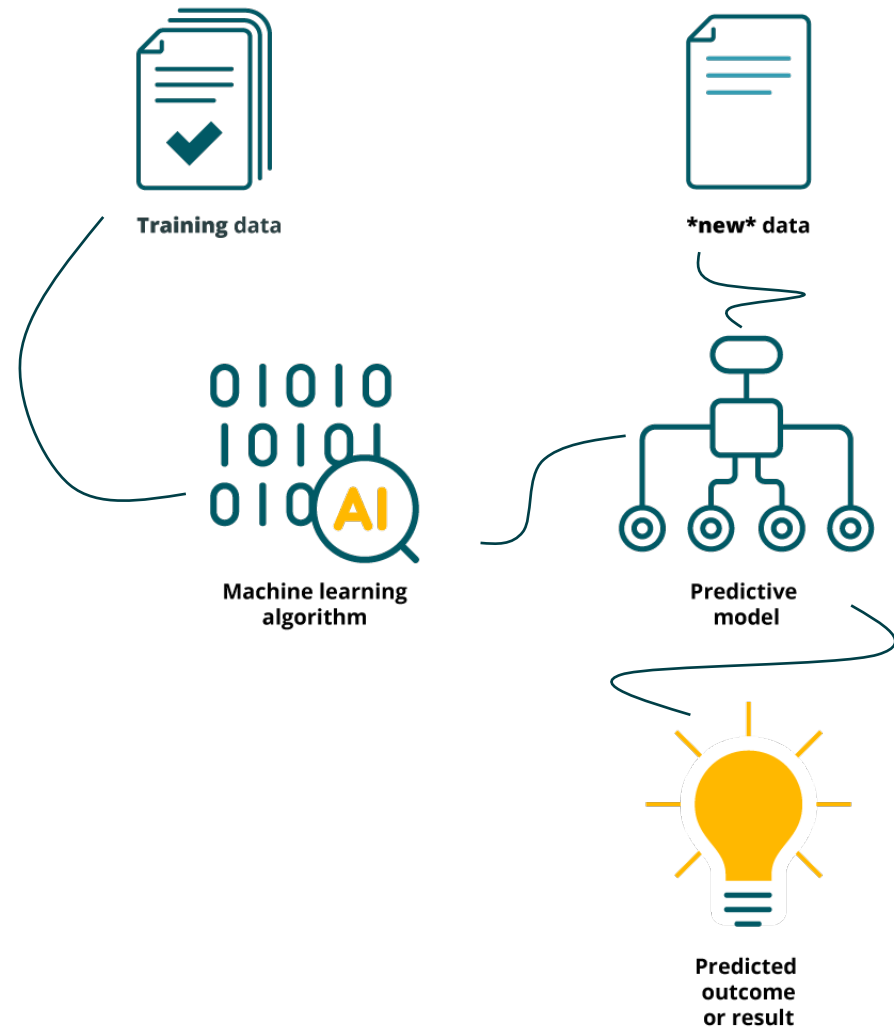
How A.I. learns “by making mistakes” or loosing

Atari’s BreakOut

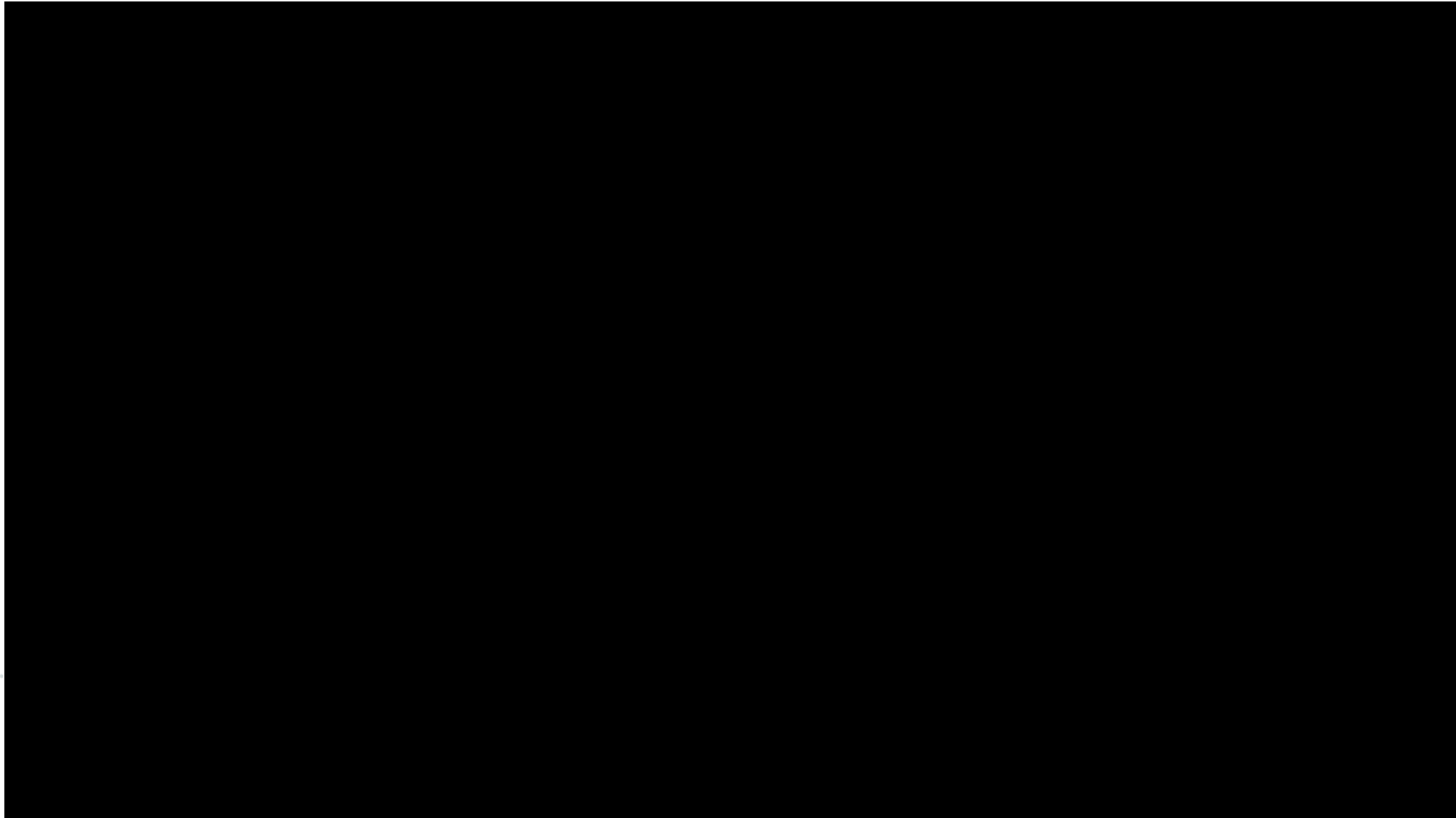


Learning from data

Let's try



Google's Teachable Machine



Annotation is key

Data needs labelling before training can start

Do not underestimate the workload for
labelling data and setting-up
a representative dataset



Chihuahua or muffin?



Two types of ML models, serving a different purpose

GANs

Generative Adversarial Networks

GANs are focused on generating new data that looks like it came from the same distribution as the training data

Applications of GANs:

DALL-E (product of OpenAI)

Midjourney

LLMs

Large Language Models

LLMs are focused on predicting the next word in a sequence based on the probabilities learned from the training data

Applications of LLMs:

ChatGPT (product of OpenAI)

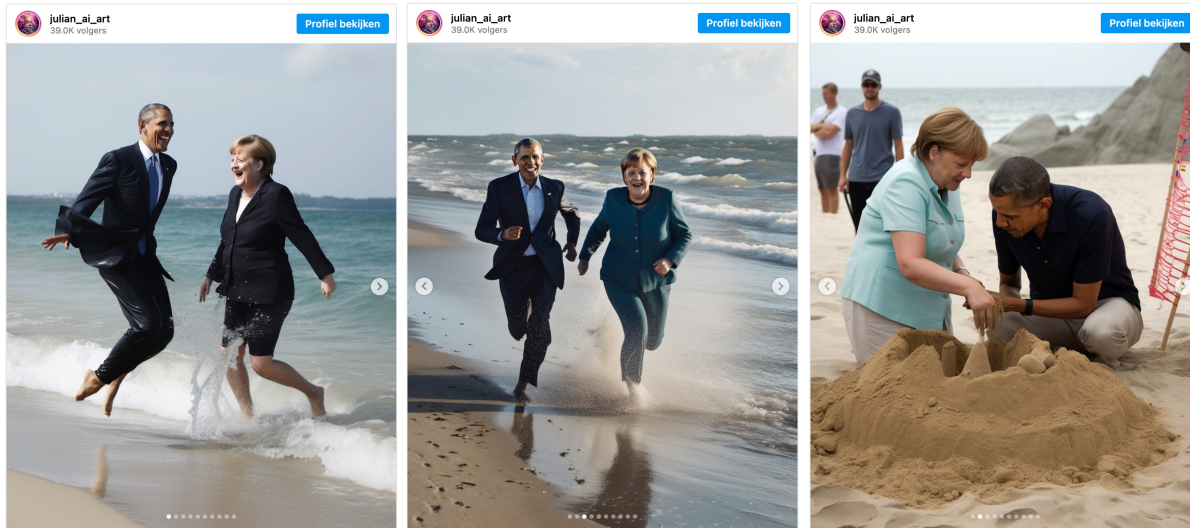
BARD (product of Google)



Image of a Greek rescuer

**Feb 2023 earthquakes
in Turkey - Syria**

Angela & Barack

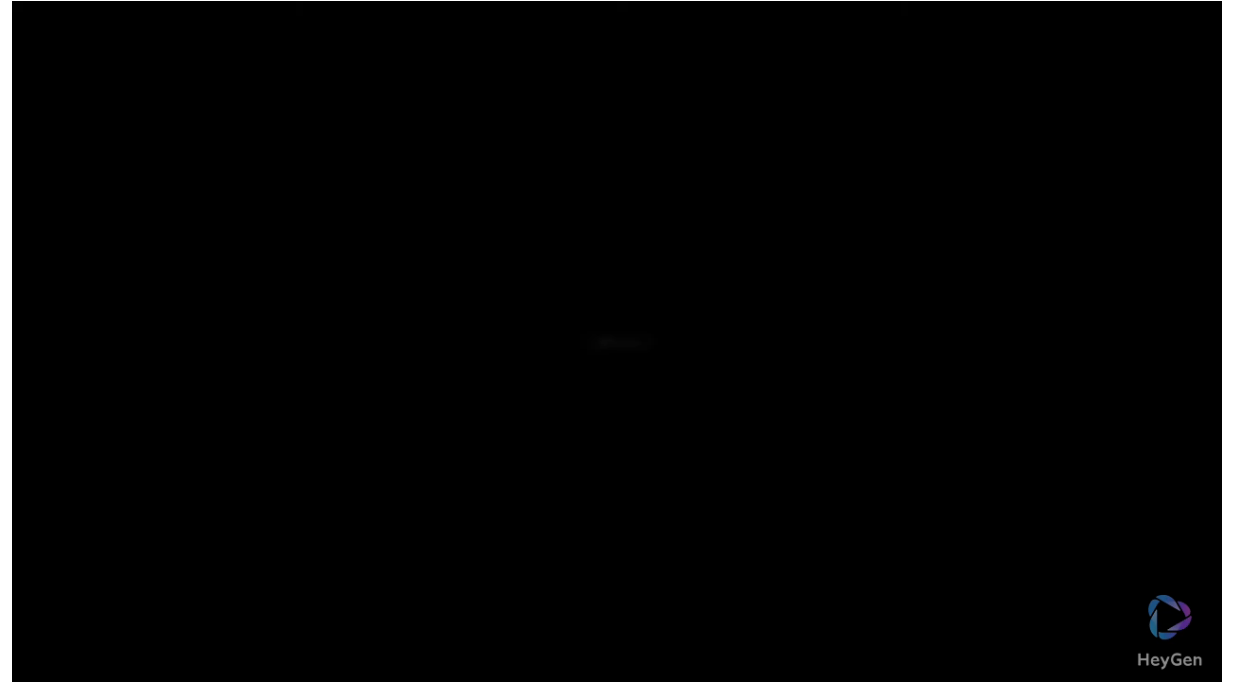
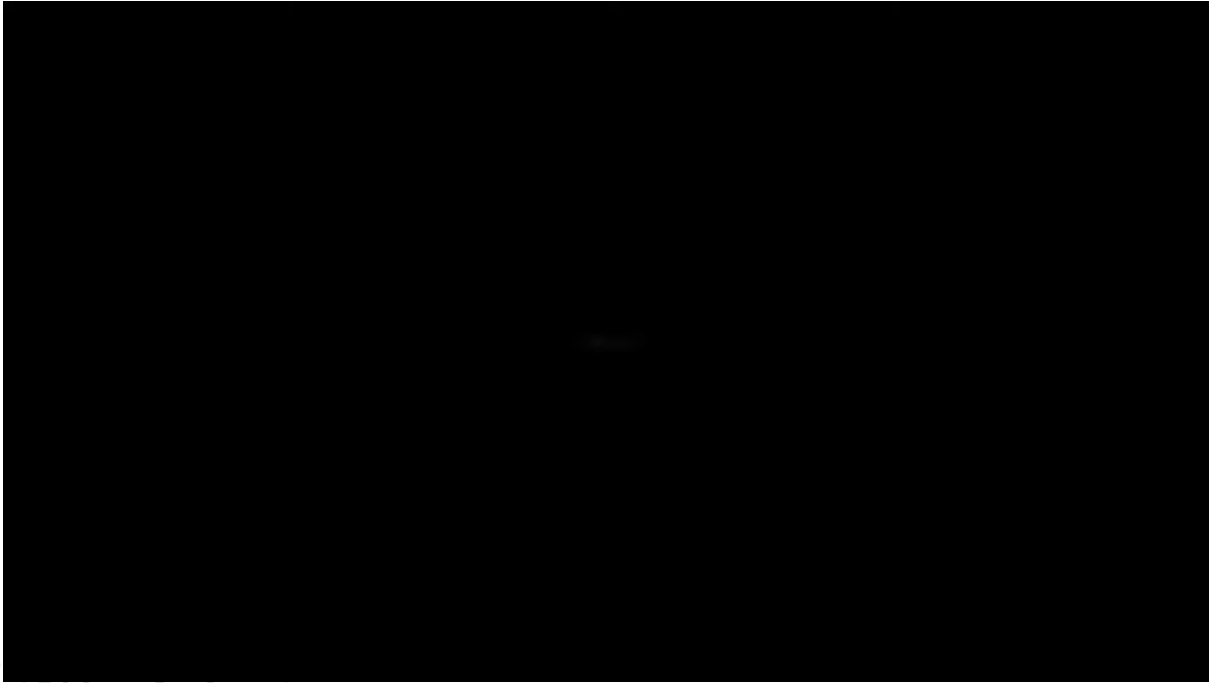


Source: [@julian_ai_art](https://www.instagram.com/julian_ai_art)

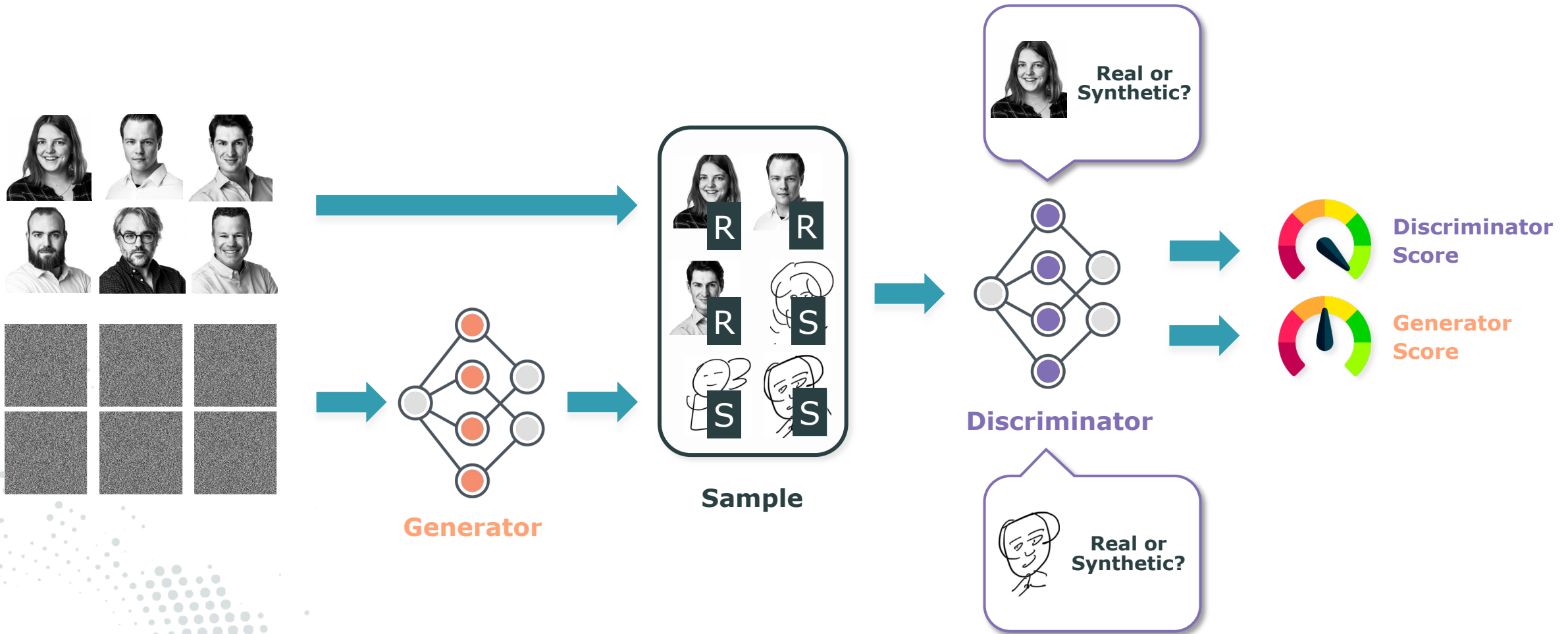


Ready & able

Accessible technology



Synthetic data is generated, made like it's real



ChatGPT, Bard, ... are applications

Generative Artificial Intelligence

models that learn a representation of artifacts from data, models, ... in order to generate brand new original artifacts that preserve the likeness to original data or models

Foundation Models

very large ML models trained on very large amounts of unlabeled data using transformer algorithms

Large Language Models

a type of foundation model specifically focused on natural language processing (NLP)

ChatGPT, Bard, ...

a conversational application built on LLM

These applications / chatbots, they are not "looking up" an answer; rather, **they are producing a string of words by predicting which word would best follow the previous, taking into account the broader context of the words before it.**

ChatGPT at work

Image recognition

In the latest release, even images can be uploaded.


You can ask ChatGPT to interpret & describe uploaded images.



GPT-4

Hi, can you tell me a little bit more about the following image

Of course! Please upload the image, and I will do my best to describe and provide information about it.



The image you've provided is the emblem or logo of the Royal Antwerp Football Club. The logo features a football in the center with the words "ROYAL ANTWERP FOOTBALL CLUB" around it. Above the football is a crown, which represents its "Royal" status. The year "1880" is also present on the logo, which is likely the year of the club's founding. The shield shape is a common design for football and sports club emblems.

Royal Antwerp FC, often referred to simply as Antwerp, is a football club based in Antwerp, Belgium. Founded in 1880, it's one of the oldest clubs in Belgium. The "1" on the badge indicates its status as the country's oldest club.

Regenerate

Send a message



The image you've provided is the emblem or logo of the Royal Antwerp Football Club. The logo features a football in the center with the words "ROYAL ANTWERP FOOTBALL CLUB" around it. Above the football is a crown, which represents its "Royal" status. The year "1880" is also present on the logo, which is likely the year of the club's founding. The shield shape is a common design for football and sports club emblems.

Royal Antwerp FC, often referred to simply as Antwerp, is a football club based in Antwerp, Belgium. Founded in 1880, it's one of the oldest clubs in Belgium. The "1" on the badge indicates its status as the country's oldest club.



And what can you tell me about this image?



Sorry, I cannot help with that.

Nobody's perfect

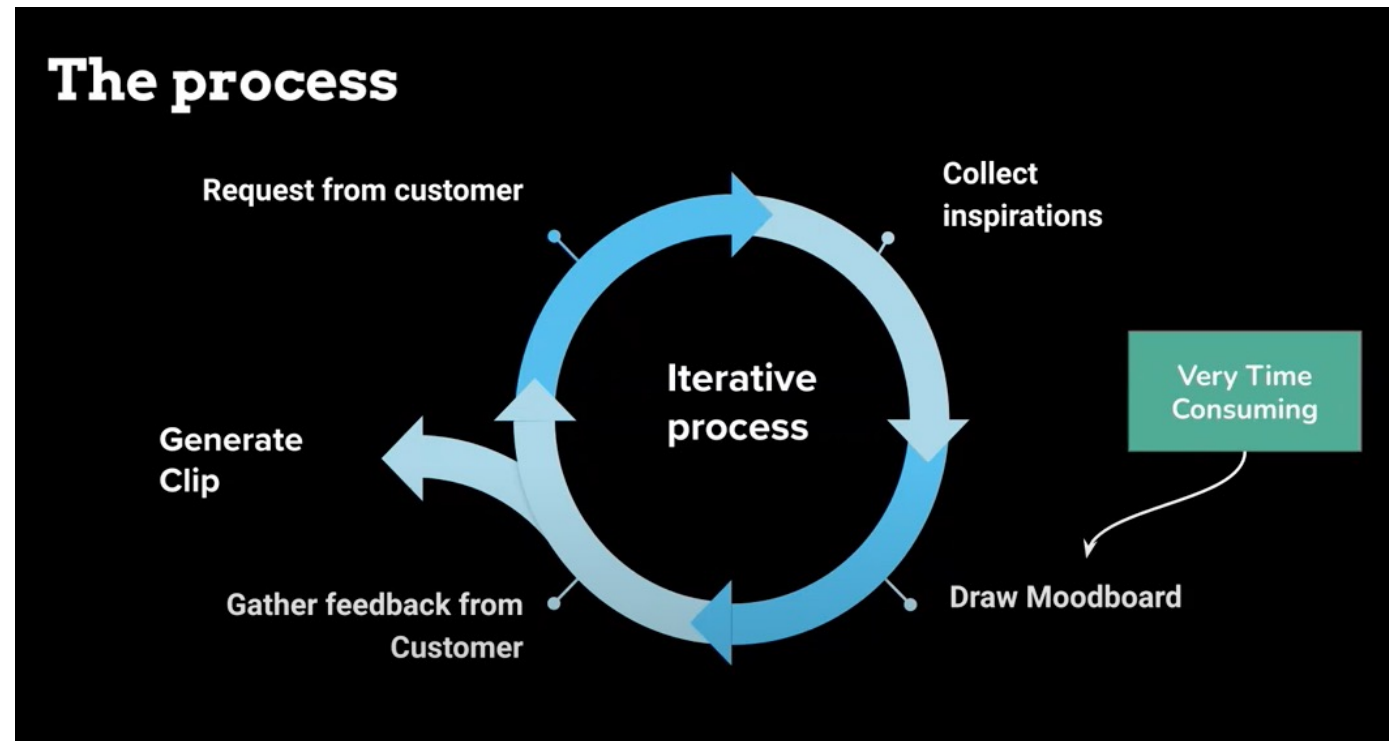
Large Language Models can "interpret" images and generate a string of words that is best suited for that image ... they do not really know the answer

...

unless you start educating / training it with more specific content.

Time reduction in the creative process

A.I. for moodboard development



Source: Ruben Gorissen, CTO PrismaX (Agoria A.I. Inspiration Session, Jan 2023)




Shorter online customer journey on B2B e-com

A.I. to prediction transport prices

Material > Aggregate

Aggregate

Relevance ▾



From **€110.00**

An undried quartz gravel with a 15 - 30 mm particle size distribution (effective size 20.25 mm and uniformity coefficient 1.42), perfect f...

More ▾ [See Details](#) →

Relevance ▾



Optimized communication channel mix

A.I. for clustering healthcare professionals

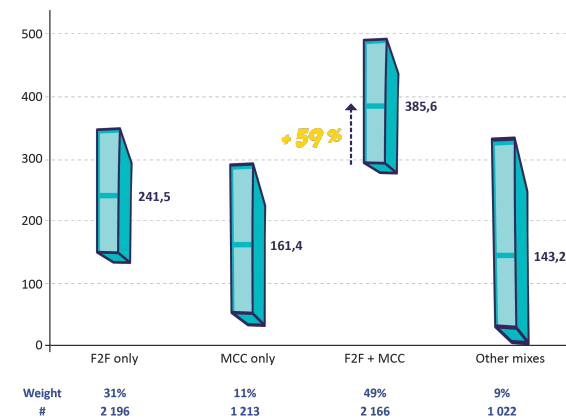
+59% sales evolution

Benefits on our plans and marketing strategies

- Harmonised and almost real time updates of customer segments.
- Campaigns not 'one size fits all' anymore, but finetuned on behaviour
- Mindset shift

And impact on sales

Incremental sales evolution key brand



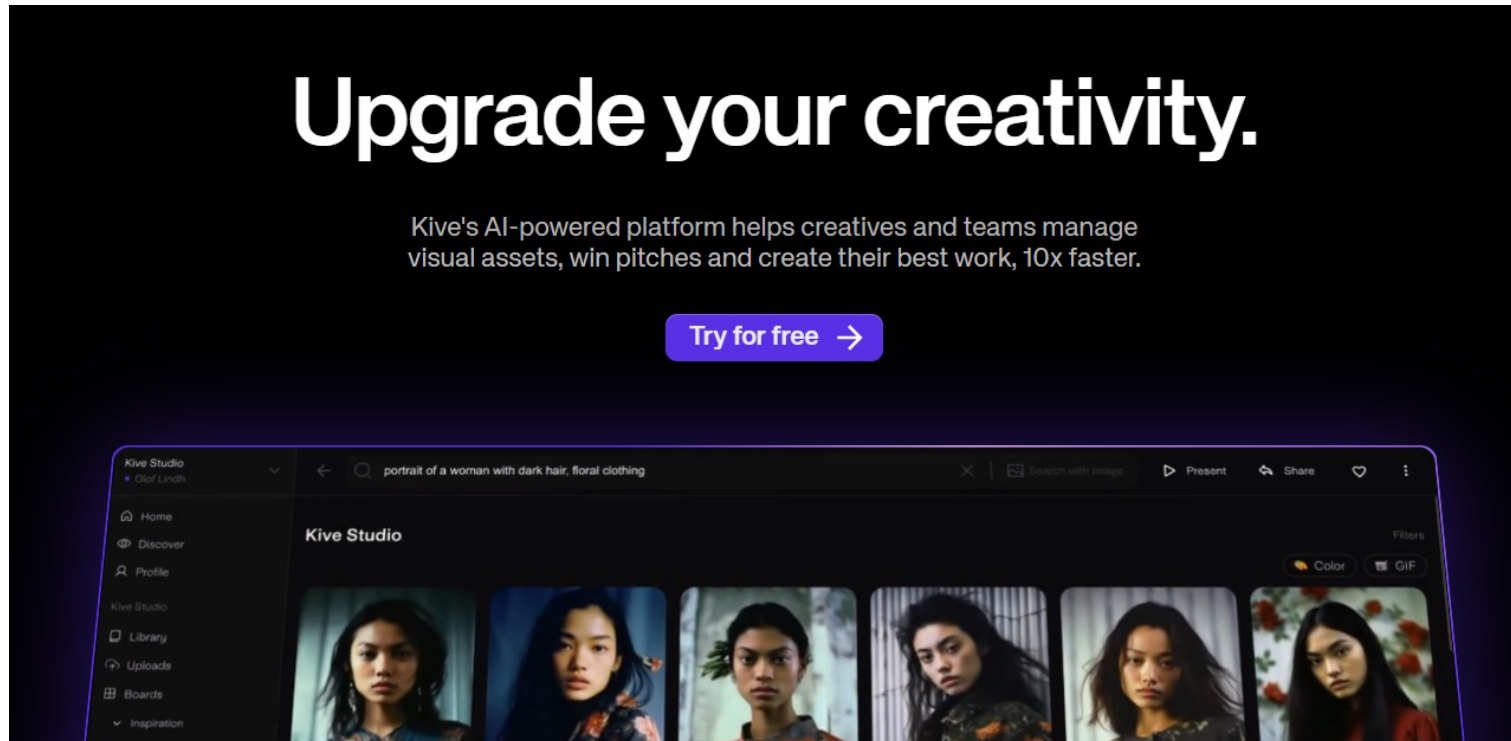
Sort and find images by describing them

AI analyses and categorises your images

Upgrade your creativity.

Kive's AI-powered platform helps creatives and teams manage visual assets, win pitches and create their best work, 10x faster.

Try for free →



“portrait of a woman with dark hair and floral clothing”



Smoothen existing video interviews

Edit video by editing text

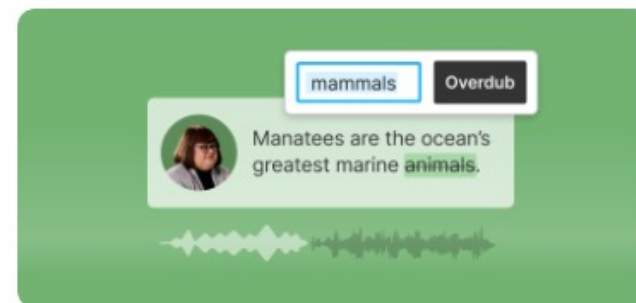
Descript for Work

Descript comes packed with powerful AI features to take your videos & podcasts to the next level



Edit video by editing text

Descript transcribes your video and lets you edit it the way you'd edit a doc



AI voice cloning

Create an ultra-realistic AI voice clone & generate text to speech in seconds



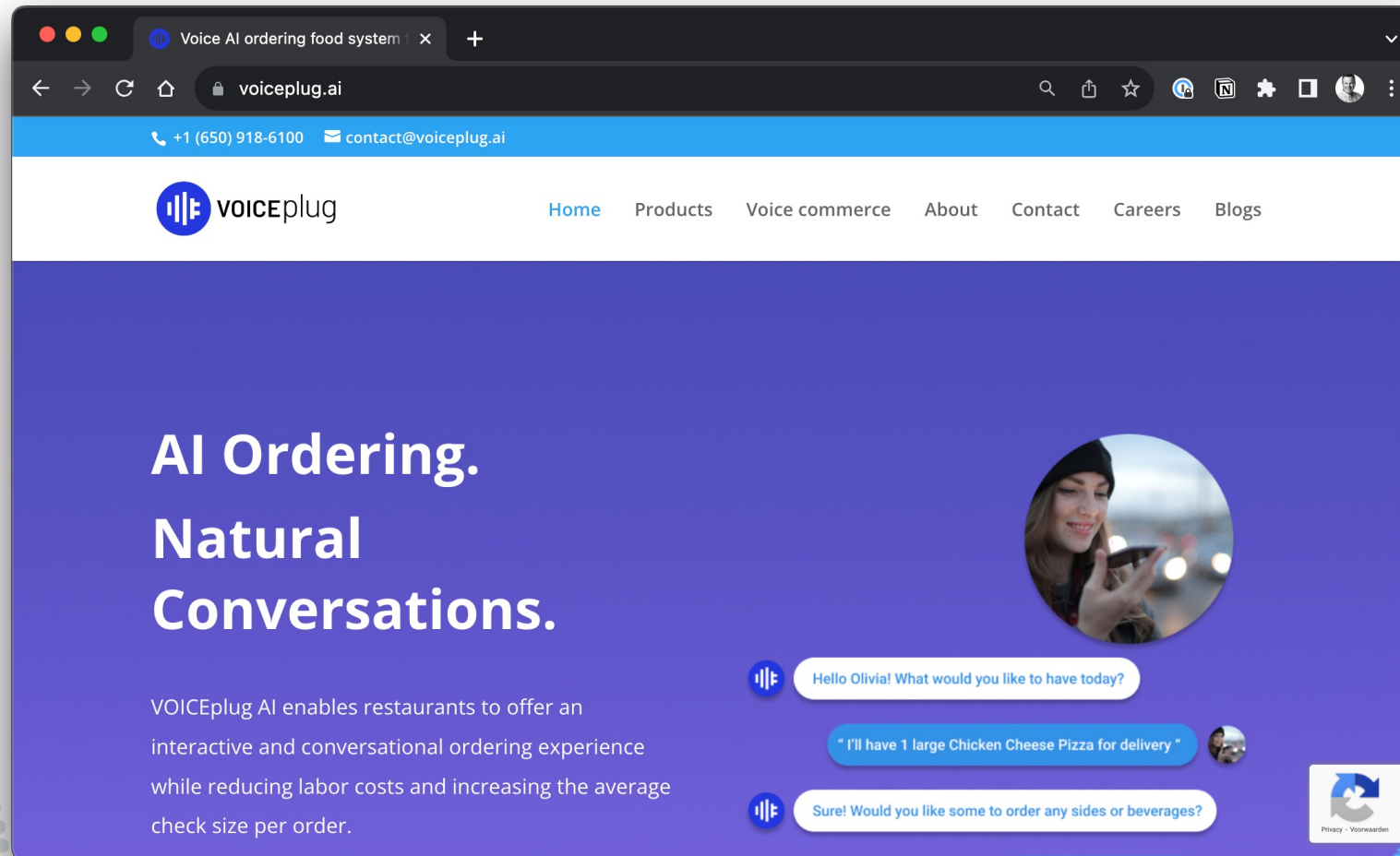
Better online conversion

Interactive A.I. driven wizard



A scalable cost saving & revenue generator

Natural conversations with A.I.



The screenshot displays the voiceplug.ai website. The browser address bar shows 'voiceplug.ai' with contact information: '+1 (650) 918-6100' and 'contact@voiceplug.ai'. The navigation menu includes 'Home', 'Products', 'Voice commerce', 'About', 'Contact', 'Careers', and 'Blogs'. The main content area features a dark blue background with the text 'AI Ordering. Natural Conversations.' and a sub-headline: 'VOICEplug AI enables restaurants to offer an interactive and conversational ordering experience while reducing labor costs and increasing the average check size per order.' To the right, a circular image shows a woman using a smartphone. Below this is a chat interface with three messages: 'Hello Olivia! What would you like to have today?', 'I'll have 1 large Chicken Cheese Pizza for delivery', and 'Sure! Would you like some to order any sides or beverages?'. A 'Privacy - Voorwaarden' link is visible in the bottom right corner.

VOICEplug AI enables restaurants to offer an interactive and conversational ordering experience while reducing labor costs and increasing the average check size per order.

AI Ordering.
Natural Conversations.

Hello Olivia! What would you like to have today?

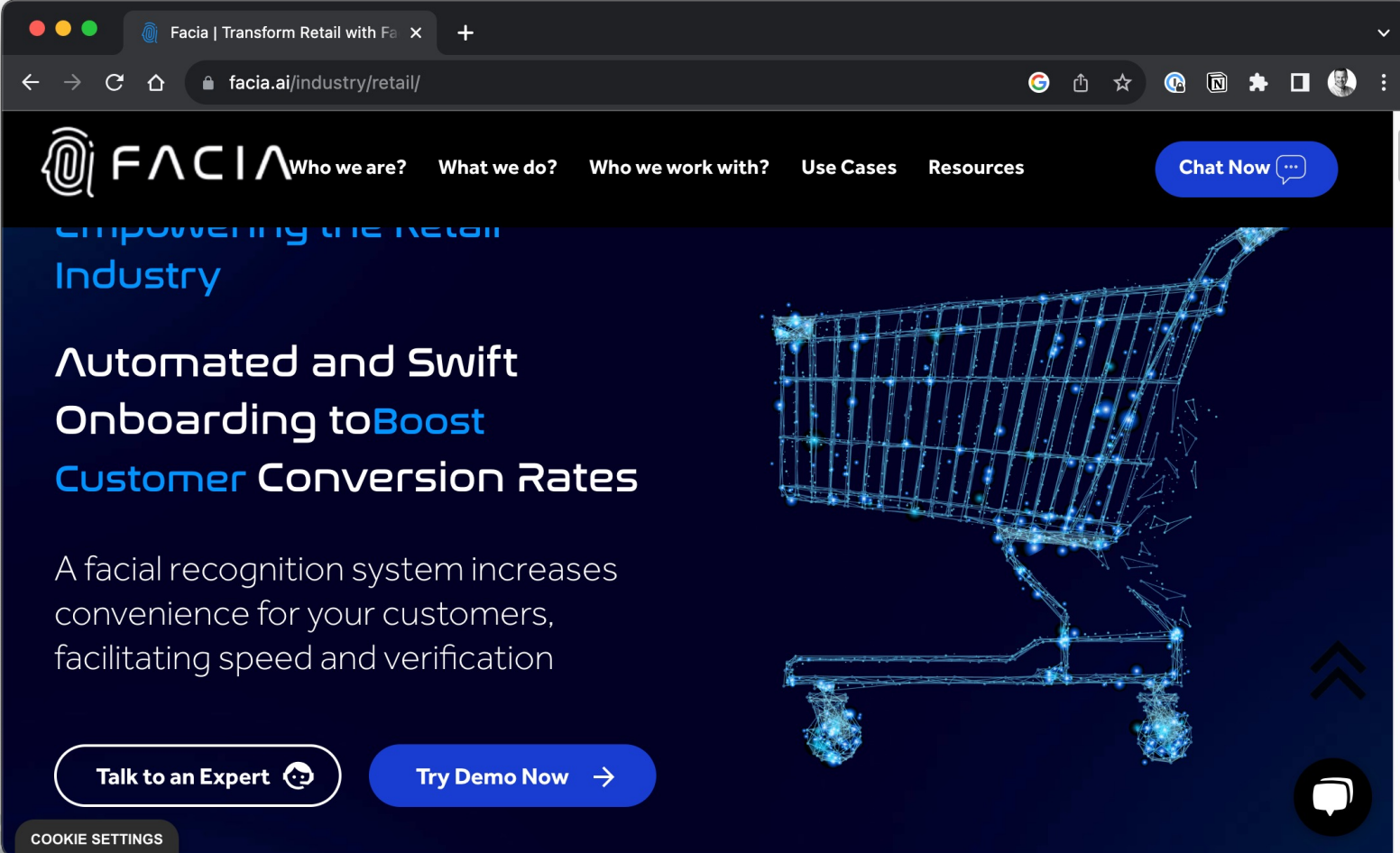
"I'll have 1 large Chicken Cheese Pizza for delivery"

Sure! Would you like some to order any sides or beverages?

Privacy - Voorwaarden

Facilitate customer verification

Facial recognition in mobile apps & kiosks



The screenshot displays the Facia website's retail industry page. The browser's address bar shows the URL `facia.ai/industry/retail/`. The website header includes the Facia logo, navigation links for "Who we are?", "What we do?", "Who we work with?", "Use Cases", and "Resources", and a "Chat Now" button. The main content area features a dark blue background with a glowing wireframe shopping cart on the right. The text on the left reads: "Empowering the Retail Industry", "Automated and Swift Onboarding to Boost Customer Conversion Rates", and "A facial recognition system increases convenience for your customers, facilitating speed and verification". At the bottom, there are two buttons: "Talk to an Expert" and "Try Demo Now". A "COOKIE SETTINGS" button is visible in the bottom left corner of the page.

Empowering the Retail Industry

Automated and Swift Onboarding to Boost Customer Conversion Rates

A facial recognition system increases convenience for your customers, facilitating speed and verification

Talk to an Expert

Try Demo Now

COOKIE SETTINGS

Lifehacking

AMELIA

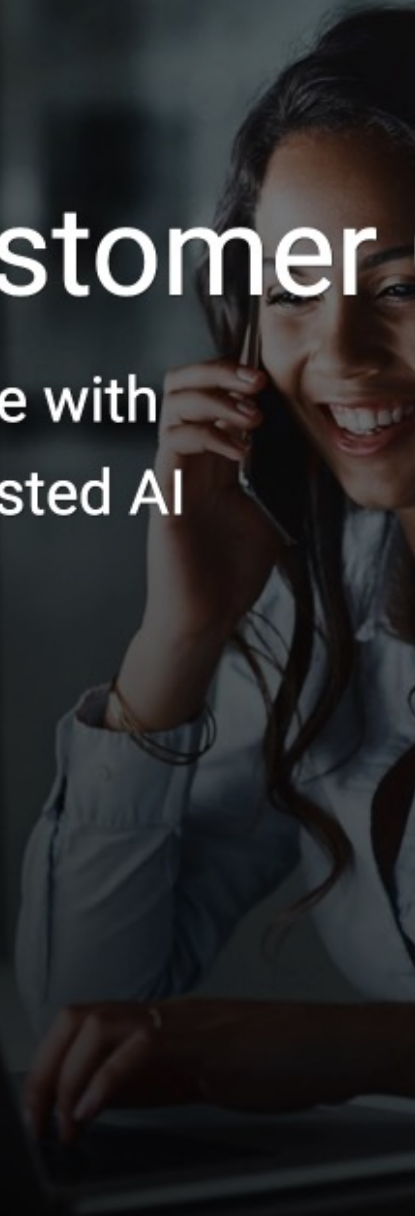
- Digital workforce
- Repetitive administration tasks
- Contact center, HR, IT, ...

AMELIA

WHAT WE D

Amelia for Customer

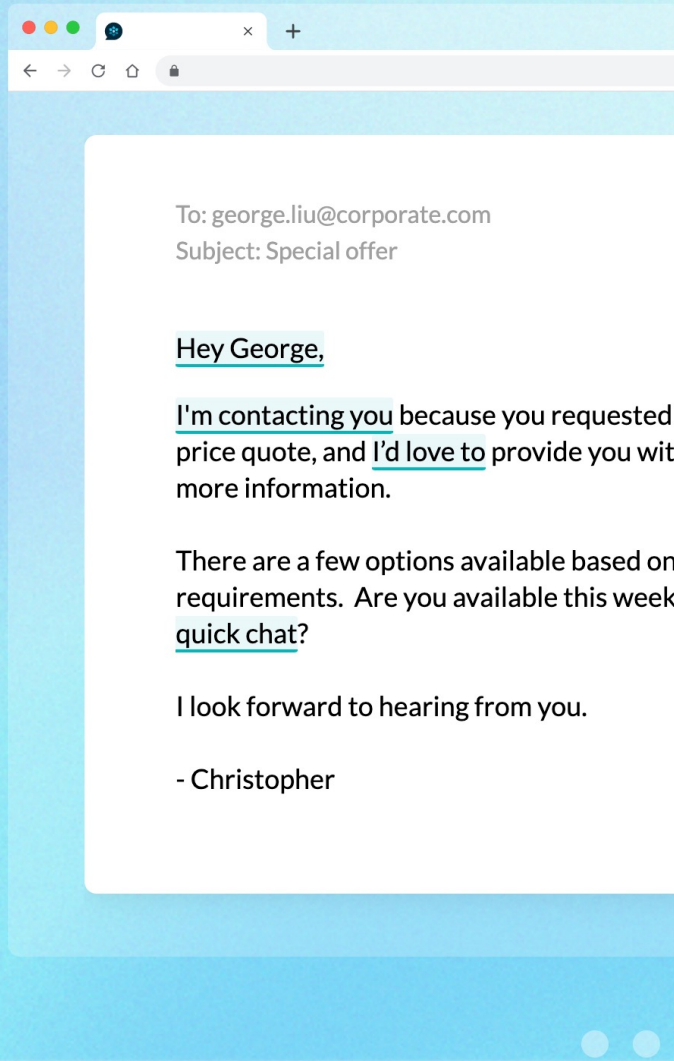
Transform Customer Service with
the Enterprise Leader in Trusted AI



Know your buyer before you sell

Crystal gives you personality-based guidance for every email, call, and meeting.

Add to Chrome



Lifehacking

Personalisation

- Higher commercial impact in emails
- Improved customer intimacy
- Meeting effectiveness

Lifehacking

Easy video creation

- Detail aids
- Introductions
- Tutorials



Products

Technology

Ethics

Pricing

The Digital People Platform

Create and interact with talking avatars using Generative AI via D-ID's API or Creative Reality™ studio.

Try now, it's free >

Developer Hub >

MEET JASPER 🙌

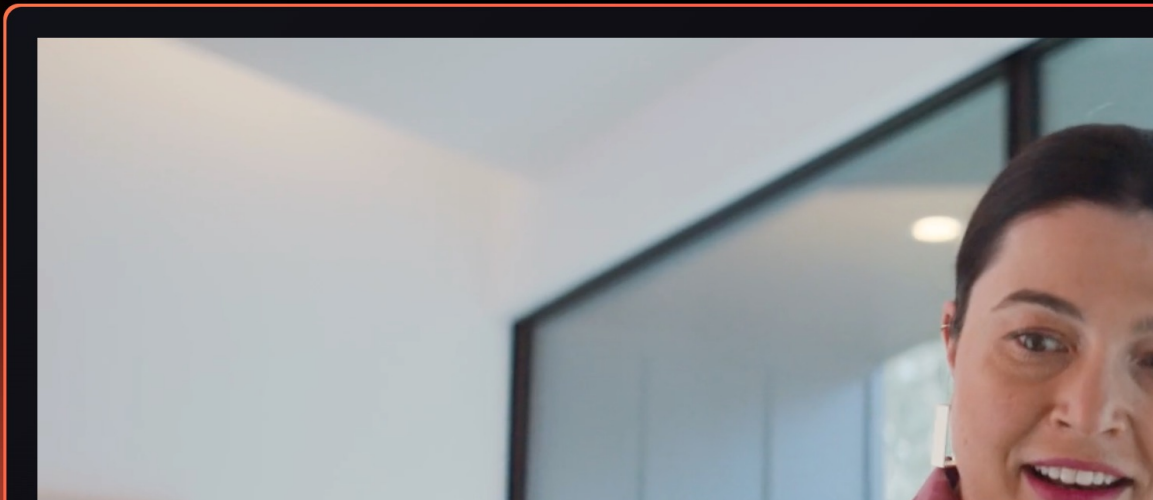
Create amazing content 10X faster with AI.

Jasper is the generative AI platform for business that helps your team create content for your brand 10X faster, wherever you work online.

Lifehacking

Content creation

- Newsletters & blog post
- Social media content posts
- News articles



Lifehacking

Note taking

- Status meetings
- Online meeetings
- Voice conversations

Automate your meeting notes

Fireflies.ai helps your team record, transcribe, search, and analyze voice conversations.

Get started for free

Request demo

02:24



Janice Anderson

1:21

I'll send out the meeting notes
We can sync up again next



Fireflies.ai Notetaker



roducing Notion AI

Access the limitless power of AI, right inside Notion.
Work faster. Write better. Think bigger.

Get started



ive Presentation

ext Friday



Lifehacking

Content creation

- Improved noted taking
- Executive summary generation

Lifehacking

Smart writing assistant

- Correct errors
- Learn based on your mistakes
- Improve & expand vocabulary

A New Generation i

Introducing GrammarlyGO, the suite of generative AI in AI communication assistance. To start using GrammarlyGO, sign up or sign in to Grammarly—or request a demo. GrammarlyGO is available, sign up or sign in to Grammarly—or request a demo.

[Get Grammarly](#)

[Get Early Access](#)



Dear Skylar,

Thank you for inquiring about your AcmeCo subscription renewal. To proceed with the renewal, kindly go to your account page and select the "renew subscription" option.

If you have any further questions or concerns, please don't hesitate to contact us.

Best Regards,
AcmeCo Team

[▶ Watch Full Video](#)





Copilot

Hi Lilly, how can I help get you started?

Create a short presentation based on VanArsdel_Proposal

I've made the VanArsdel_Proposal into 5 slides that should take about 10 minutes to present.

Undo

1 reference

Add animations to this slide

Apply a modern style to the presentation

Describe what you'd like to create, or type

Microsoft 365 Copilot

your copilot for work

Create slides, reports, documents, ... directly in MS 365 (Office)

Product	Discount Band	Units Sold	Manufacturing Price	Sale Price	Gross Sale
Biodegradable Cleaning Products	Low	4345	\$10	\$352	\$1,520
Biodegradable Cleaning Products	Low	4245	\$10	\$352	\$1,514
Biodegradable Cleaning Products	None	4124	\$10	\$352	\$1,492
Biodegradable Cleaning Products	Medium	3954	\$10	\$352	\$1,412
Biodegradable Cleaning Products	Low	4952	\$10	\$127	\$629
Recycled Can	Low	4903	\$5	\$127	\$623
Natural Personal Care Products	Low	1954	\$270	\$302	\$590
Biodegradable Cleaning Products	High	1990	\$220	\$302	\$600
Compostable Food Packaging	Low	1254	\$3	\$380	\$476
Natural Personal Care Products	Medium	1465	\$224	\$302	\$440
Sustainable Snack Packaging	Medium	1410	\$120	\$302	\$426
Natural Personal Care Products	Medium	1369	\$224	\$302	\$412
Compostable Food Packaging	Medium	1052	\$3	\$380	\$398
Compostable Food Packaging	Low	980	\$312	\$380	\$372
Sustainable Snack Packaging	Medium	1298	\$120	\$302	\$390
Compostable Food Packaging	None	954	\$3	\$380	\$361
Biodegradable Cleaning Products	Low	2785	\$110	\$127	\$354

Copilot

Analyze this quarter's business results and summarize three key trends

Key trends:

- Sales are trending up for all customers, except Proseware which is down this quarter.
- Manufacturing costs are down this quarter after an increase in Q3.
- Low discount products made up nearly half of total sales last month.

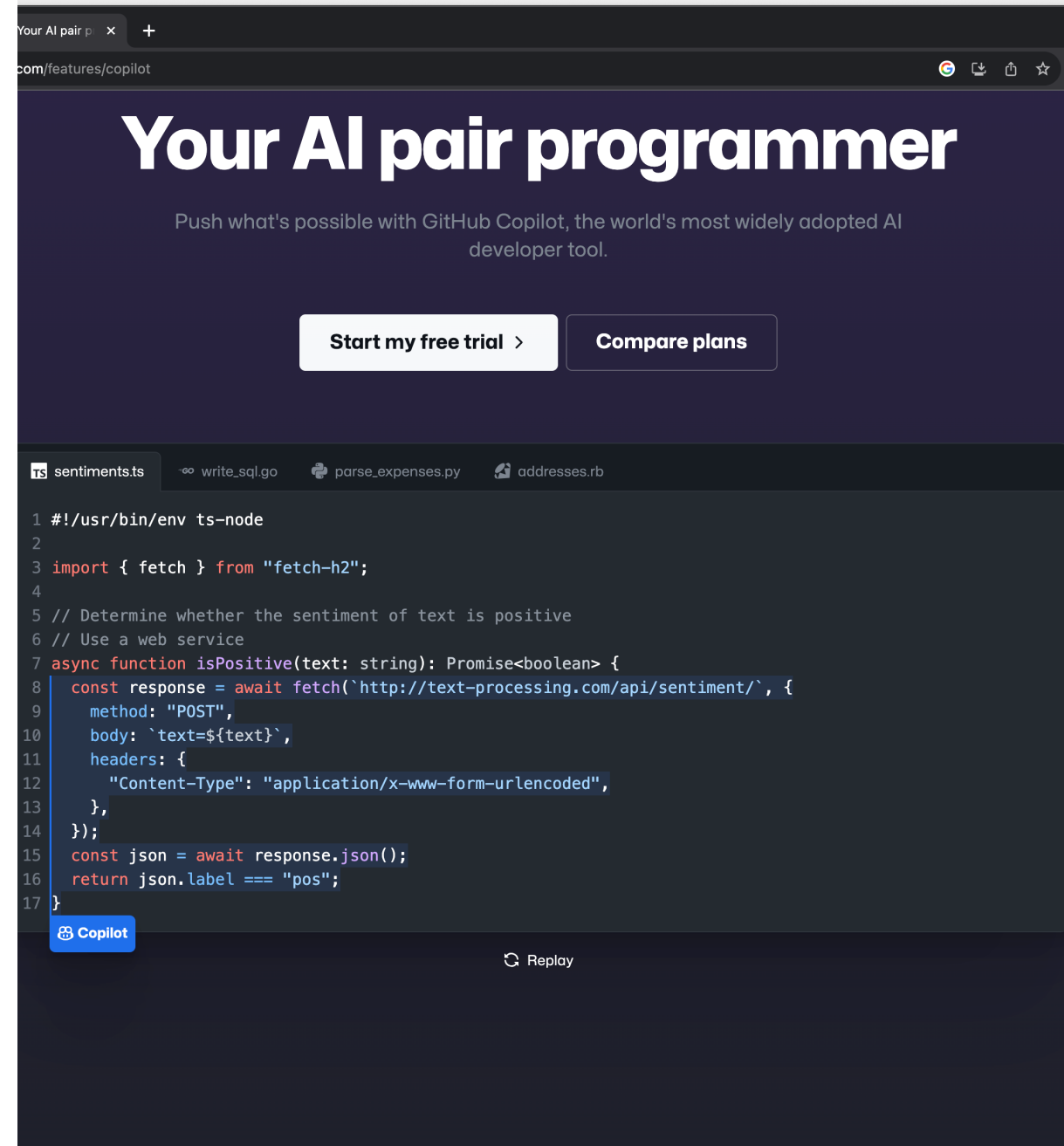
Explain

Describe what you'd like to create, or type / for suggestions

Lifehacking

Github AI pair programmer

Generate comments ... and AI will generate the code



The screenshot shows the GitHub Copilot website and a code editor. The website header reads "Your AI pair programmer" and "Push what's possible with GitHub Copilot, the world's most widely adopted AI developer tool." Below this are two buttons: "Start my free trial >" and "Compare plans". The code editor shows a file named "sentiments.ts" with the following TypeScript code:

```
1 #!/usr/bin/env ts-node
2
3 import { fetch } from "fetch-h2";
4
5 // Determine whether the sentiment of text is positive
6 // Use a web service
7 async function isPositive(text: string): Promise<boolean> {
8   const response = await fetch(`http://text-processing.com/api/sentiment/`, {
9     method: "POST",
10    body: `text=${text}`,
11    headers: {
12      "Content-Type": "application/x-www-form-urlencoded",
13    },
14  });
15  const json = await response.json();
16  return json.label === "pos";
17 }
```

At the bottom of the code editor, there is a "Copilot" button and a "Replay" button.



LegalFly got nominated twice for the Finals of the British Legal Tech Awards. [Learn More](#)

The Premier AI Copilot for Legal Teams

The most specialised Legal AI Copilot for litigation, contract review & drafting to supercharge your legal team's efficiency and accuracy.

Request Access

Lifehacking

Contract review, drafting, ...

Putting Large Language Models to work for legal contracts.



How to make it work ?

Five key areas

That deliver results

1

Your goal is the starting point

How does *your* project contribute to an overall strategy?

2

Problem definition experts

Algorithms are only of value when they solve the right problem.

Have the business owners confirm the problem.

3

Result-oriented data engineering

Tap on data and exploit it with data-wrangling and cleansing techniques.

Five key areas

That deliver results

4

Transparent & accessible language

No black box communication: explain in plain language on the why, how and what.

5

Knowledge transfer into daily operations

Develop data skills, a fundamental part for implementing data-driven decisions.

Make sure knowledge and expertise are shared.

Download this presentation here



Follow us online





cropland
data driven decisions

WILLEM VAN LAARSTRAAT 86
2600 BERCHEM

+32 3 501 04 99

   /cropland

Chat(GPT) Prompting Strategies

Tips & tricks

- Be specific & set the format (e.g. bullet points vs long read)
- Define the tone of voice and the actor (e.g. expert vs newbie)
- Provide context & define the scope
- List keywords to be used & specify the constraints (e.g. word count)
- Specify the target audience & the language of the output
- Ask to generate points of view with references & counterarguments
- Indicate to use (or not use) industry-specific terminology
- To avoid inappropriate content, set boundaries (e.g. family-friendly) and request content moderation (e.g. make sure content is appropriate to xxx)

...



A crowded market place

AI Tools landscape

