

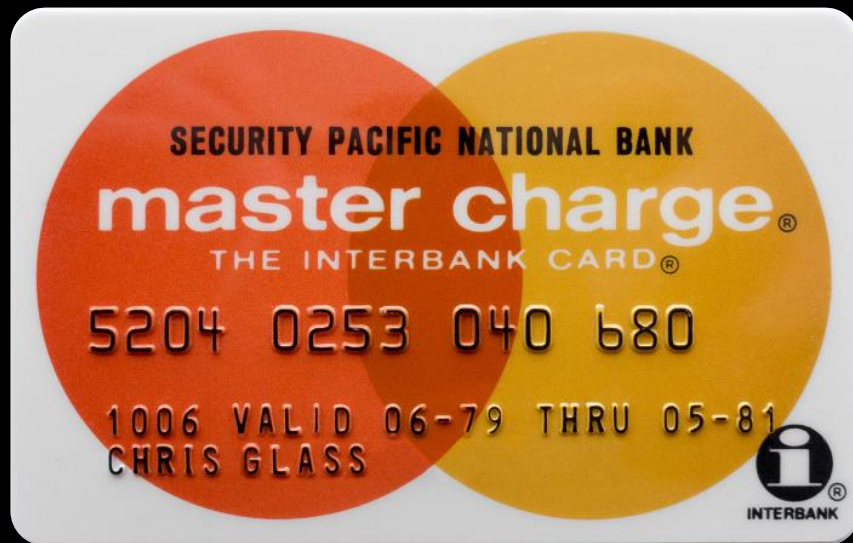


AI and Trust in Payments

Dr. Peter Robejsek – Geschäftsführer Mastercard Deutschland



60's
A NEW NATIONAL
BRAND



A high-speed train is stopped at a modern train station platform. The platform is covered with a large, curved, white, ribbed roof structure. Several people are waiting on the platform, including a woman in a black coat with a fur collar in the foreground. A clock is visible on the wall of the platform. The train is blurred, suggesting it is moving quickly. The overall scene is bright and modern.

A HIGHWAY FOR TRAVEL

THE ESSENTIAL INGREDIENT OF THIS ECOSYSTEM IS TRUST

AI IN PAYMENTS





Part I: The boring stuff – that we know works



*As soon as
it works,
no one
calls it AI
any more*



Offering a seamless customer experience without becoming exposed to fraud has become a critical challenge for the payment industry



13.7%

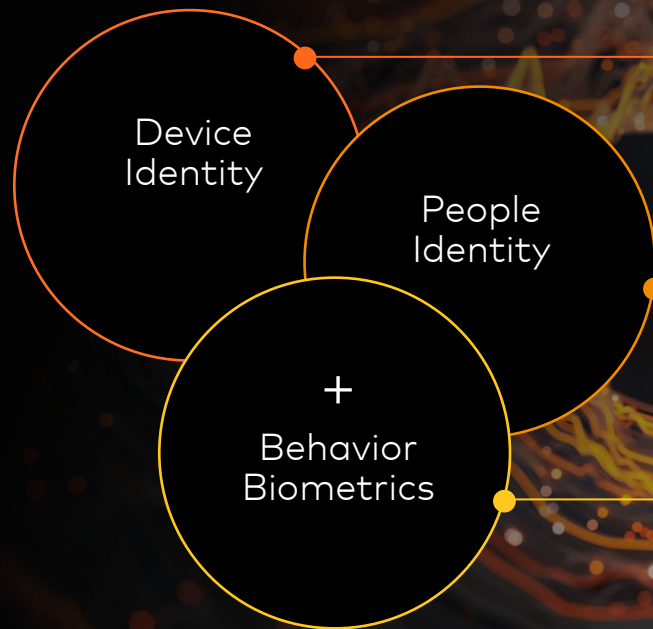


>60%



71%

By connecting people, device and behavioural data, Mastercard enables FIs to verify their customer's identity without adding unnecessary friction



Bot Detection/Good Device Validation

- IP
- Timezone
- User Agent
- Language
- Screen Resolution
- Plug Ins
- Account Identifier



Identity Intelligence

- Phone
- Name
- Email
- Address
- IP

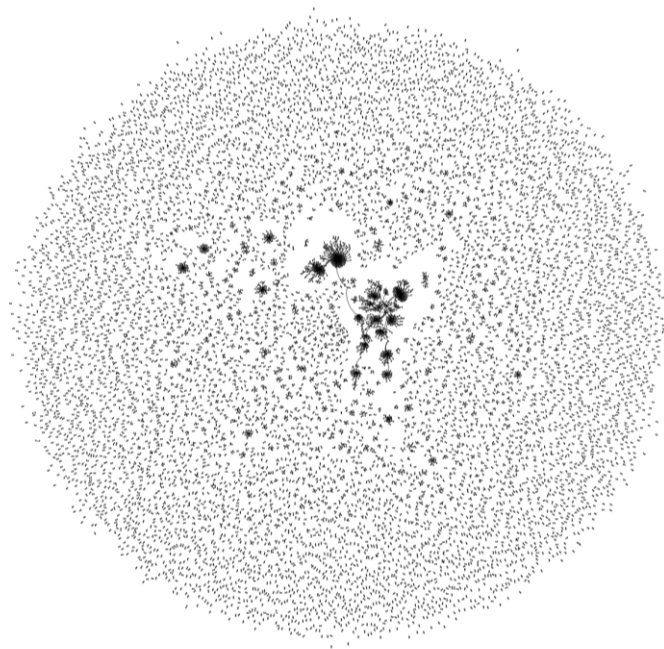
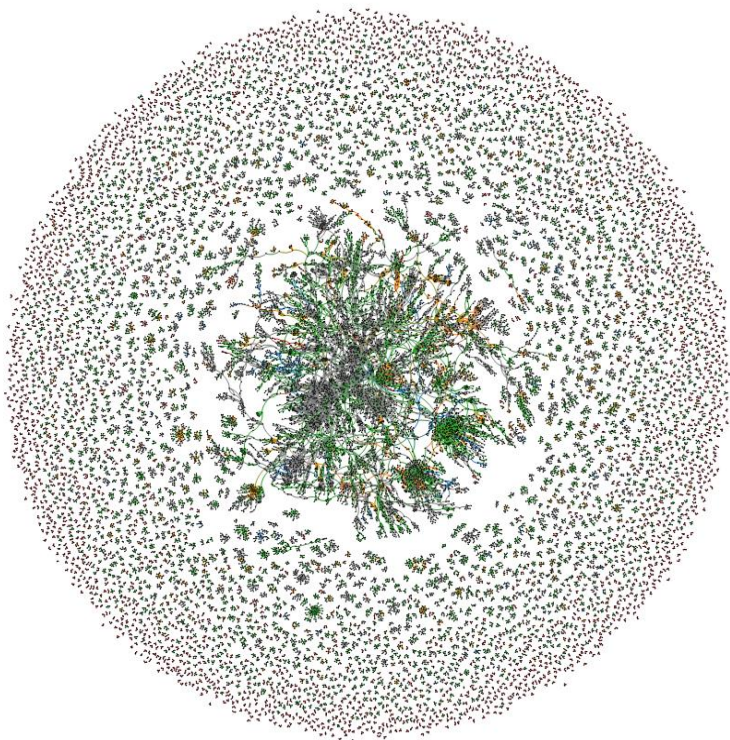


Good User or Continuous Validation

- Typing Cadence
- Angle of Device
- Dynamics of Mouse Interactions



NETWORK





TRANSACTIONS

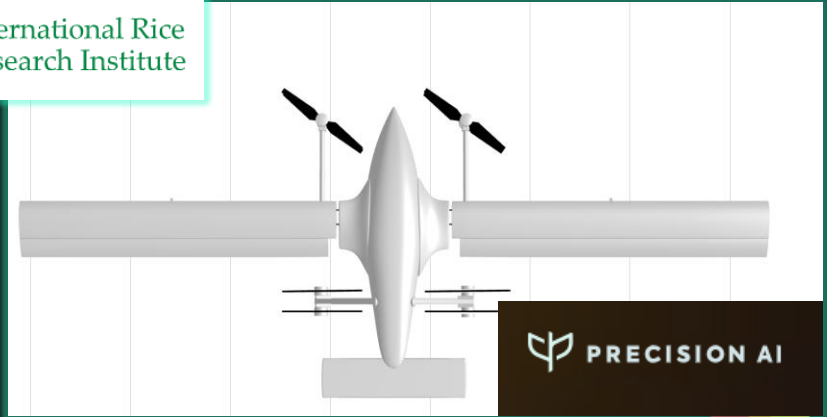
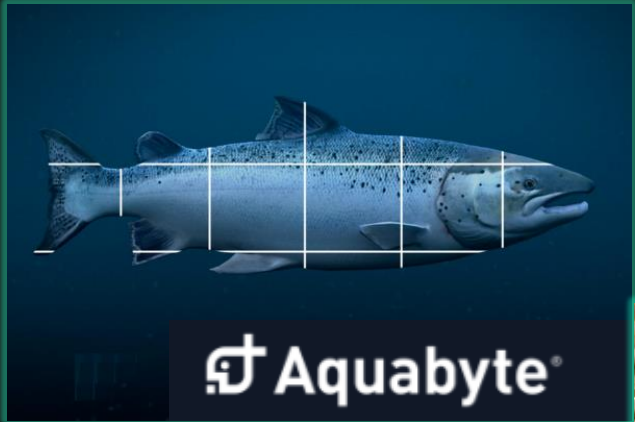


DETECTION RATE



MONEY LAUNDERING
DATA POINTS

AI helps to solve some of the world's hardest problems



And then this
happened



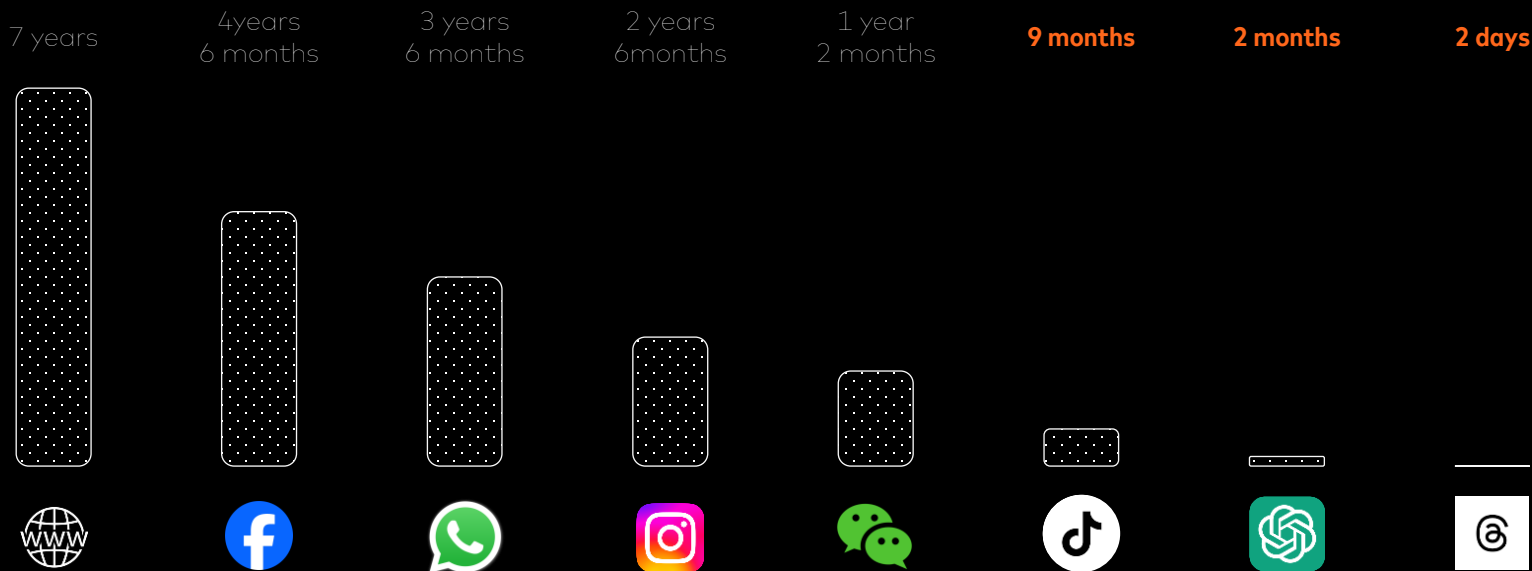
AI in Payments





The road to 100M users

Change is accelerating





Part II: The fun stuff – that may work

Broad brushstrokes technology implications...



Internet



Cloud



GenAI

Marginal cost of...

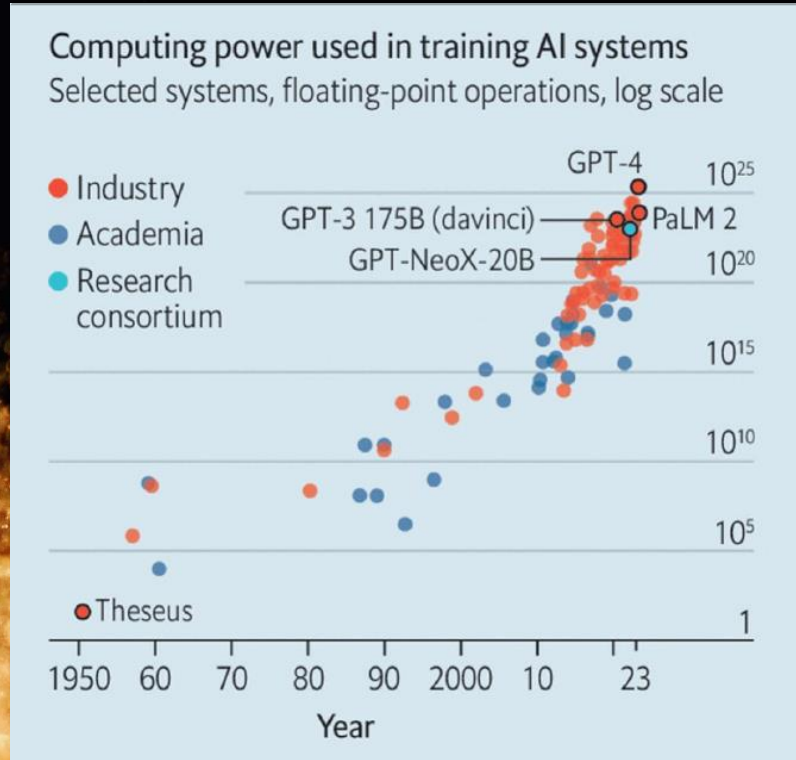
Distribution

Storage

Content
Creation



But we have never seen anything like this before



Some use cases are already being identified, but where should we search for more?

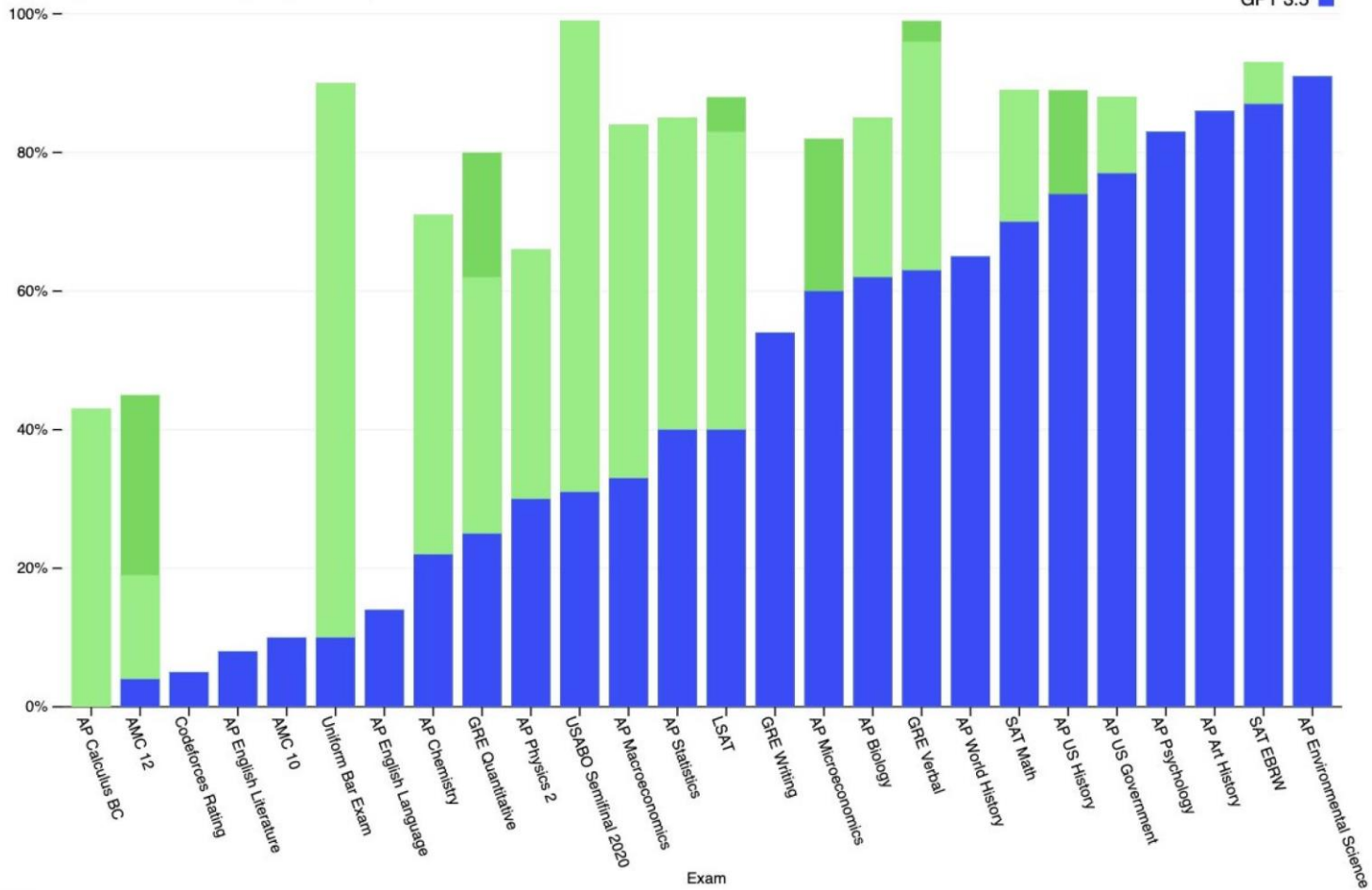
Data Analysis	89%
Marketing Content	87%
Market Research	84%
Document Editing / Summarizing	83%
Customer Service / Help Desk	82%
Software Development	78%
Product Design	73%
Supply Chain Management	71%
Employee Recruiting	67%
Legal Contracts	58%



Exam results (ordered by GPT 3.5 performance)

Estimated percentile lower bound (among test takers)

GPT 4
GPT 4 (no vision)
GPT 3.5



15000 B.C.



1350 C.E.



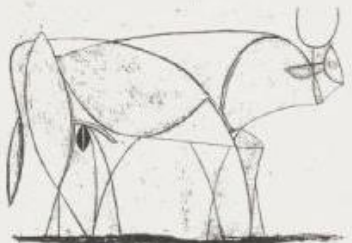
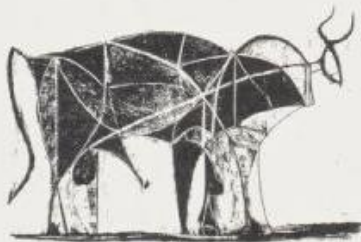
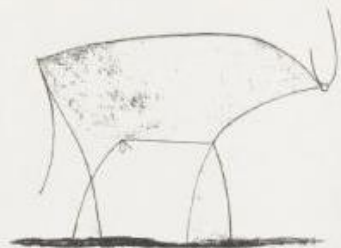
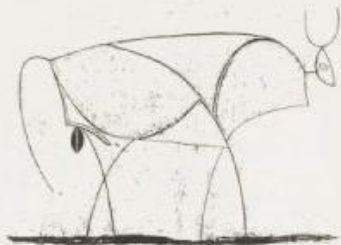
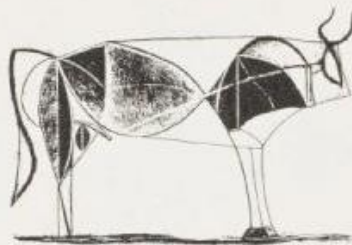
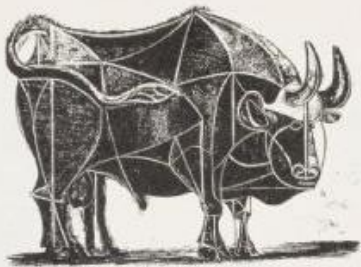
1730 C.E.



~ 1850 C.E.



1945 C.E.



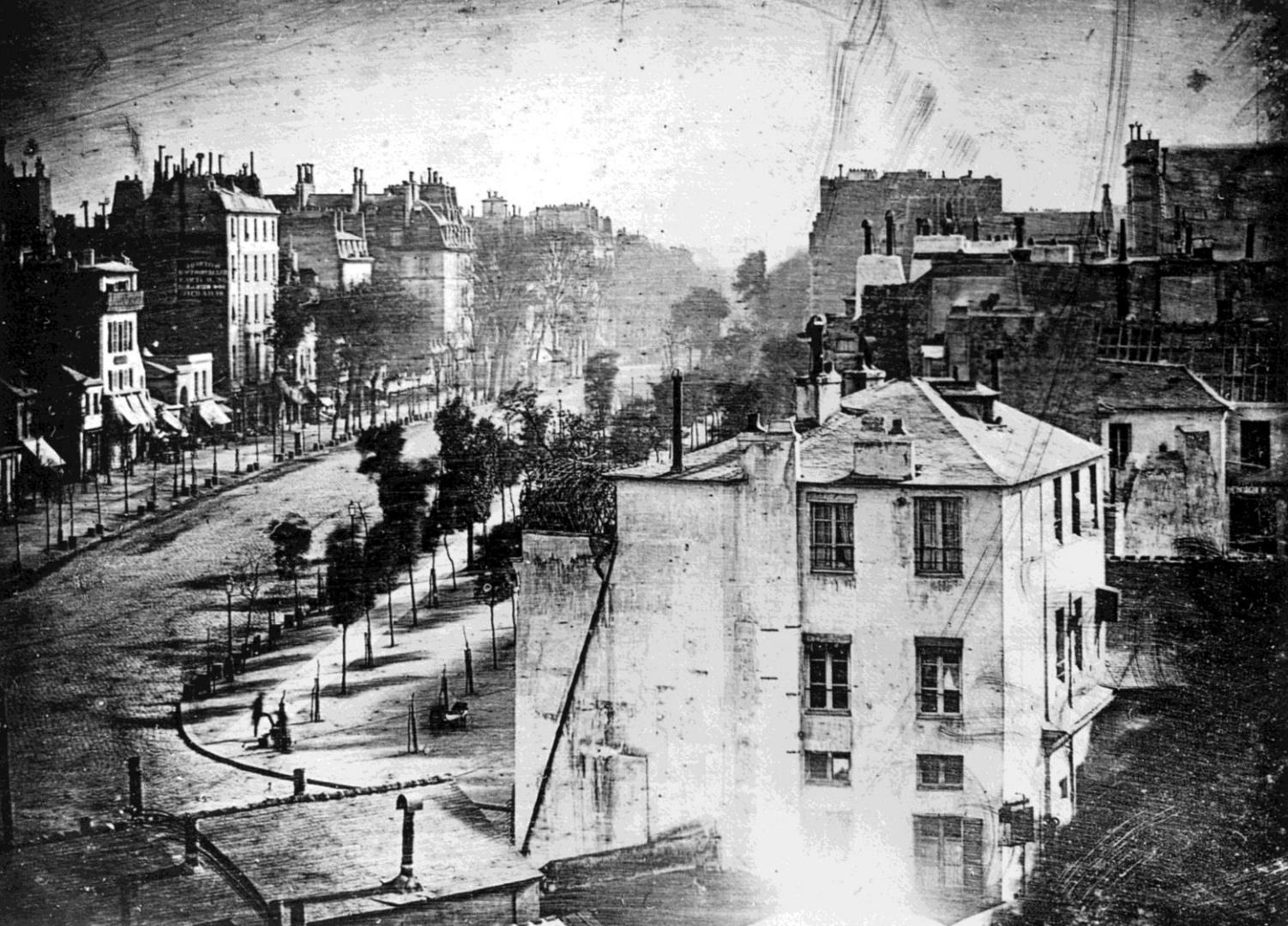
P. Picasso

WHY NOW?



The first photograph

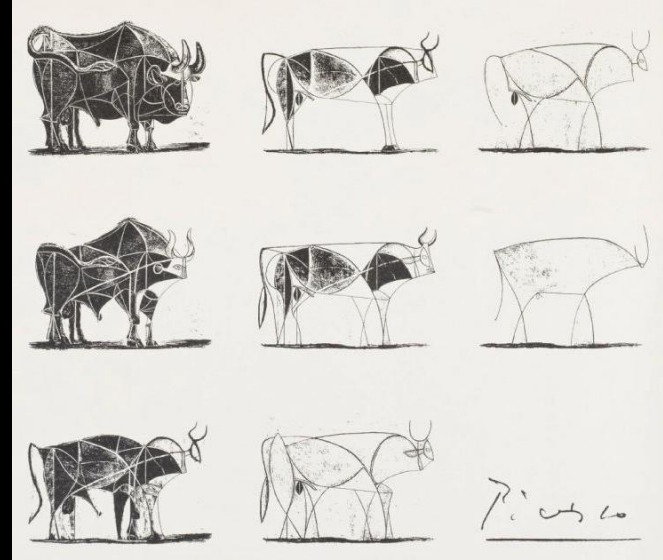
by Louis Daguerre,
1838



MACHINE LEARNING



GEN AI



Where should we look further for applications of Gen AI?

Structuring – defining the right variables/ dimensions



Define what I am looking for



Capture – gather and reproduce



Gather the data = lots of bulls



Pattern recognition – group together correctly



Learn the pattern = there are different bulls



Theorize – having a theory of causation



Explain what just happened





Part III:
Why the fun stuff
is not working
100% - yet
...
and what it means
for us

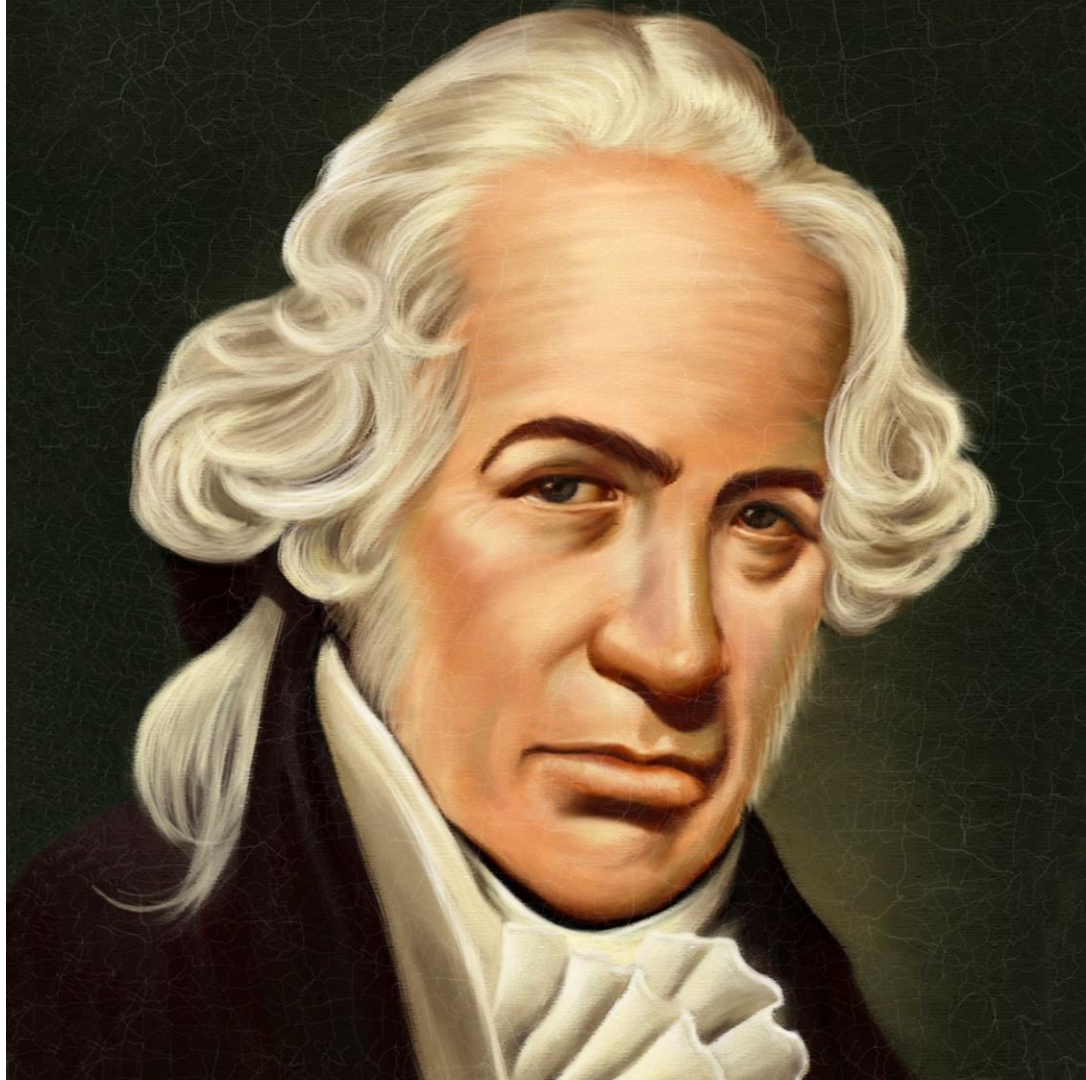


Chat GPT does
dramatically better
at one of these.

Why?

$$y = 7/5 x + 31$$

$$y = 9/5 x + 32$$



Interesting scientific insights



Explain the benefits of real time payments for cell development in bacteria



Real-time payments, in the context of cell development in bacteria, do not refer to financial transactions, but rather to the rapid and efficient transfer of resources and genetic information within bacterial cells. This process is essential for the growth, replication, and survival of bacteria. Let's explore the benefits of real-time payments in cell development for bacteria:



1. **Nutrient Acquisition:** Bacteria need a constant supply of nutrients to grow and reproduce. Real-time payments, in this case, refer to the swift acquisition and utilization of nutrients as they become available in the surrounding environment. Bacteria that can efficiently capture and process nutrients in real-time have a competitive advantage and can thrive in various conditions.
2. **Rapid Response to Environmental Changes:** Bacteria encounter changing environmental conditions, such as fluctuations in temperature, pH, and the presence of toxins or competitors. Real-time payments allow bacteria to quickly adapt by adjusting their cellular processes and gene expression to survive and thrive in the new conditions.
3. **Efficient Energy Management:** Bacteria need to efficiently manage their energy resources, such as ATP, to support various cellular functions, including DNA replication, protein





Belgian man dies by suicide following exchanges with chatbot

Tuesday, 28 March 2023

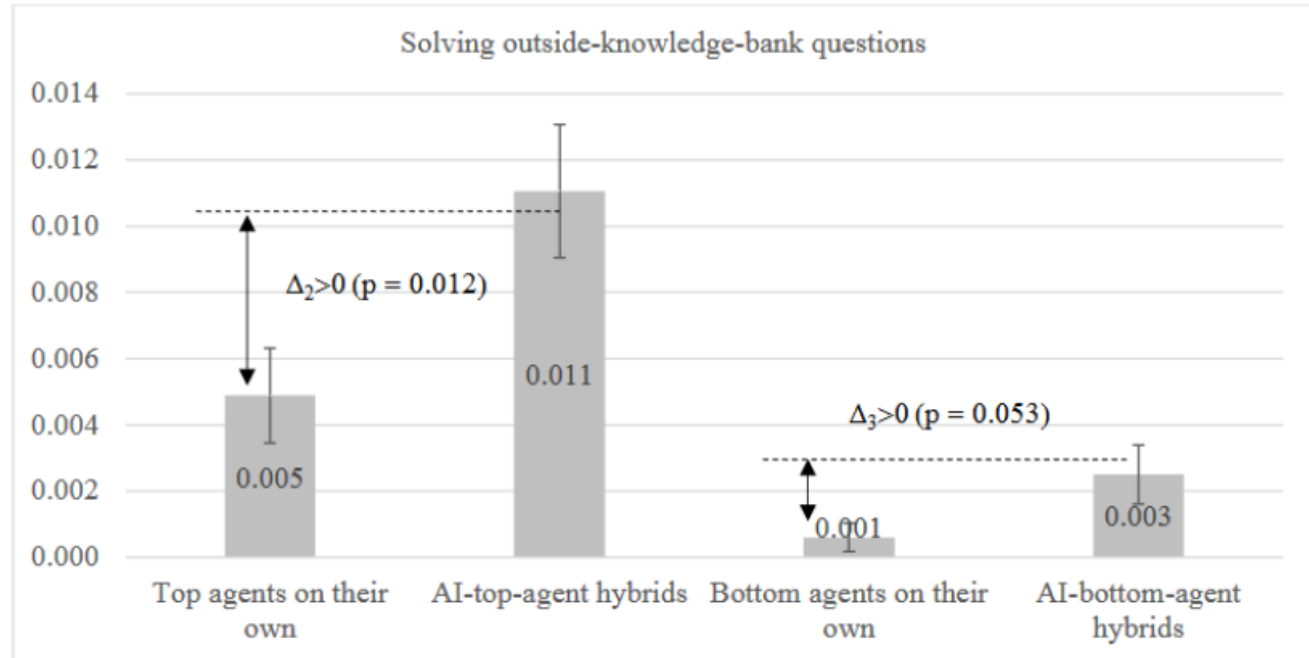
By **Lauren Walker**



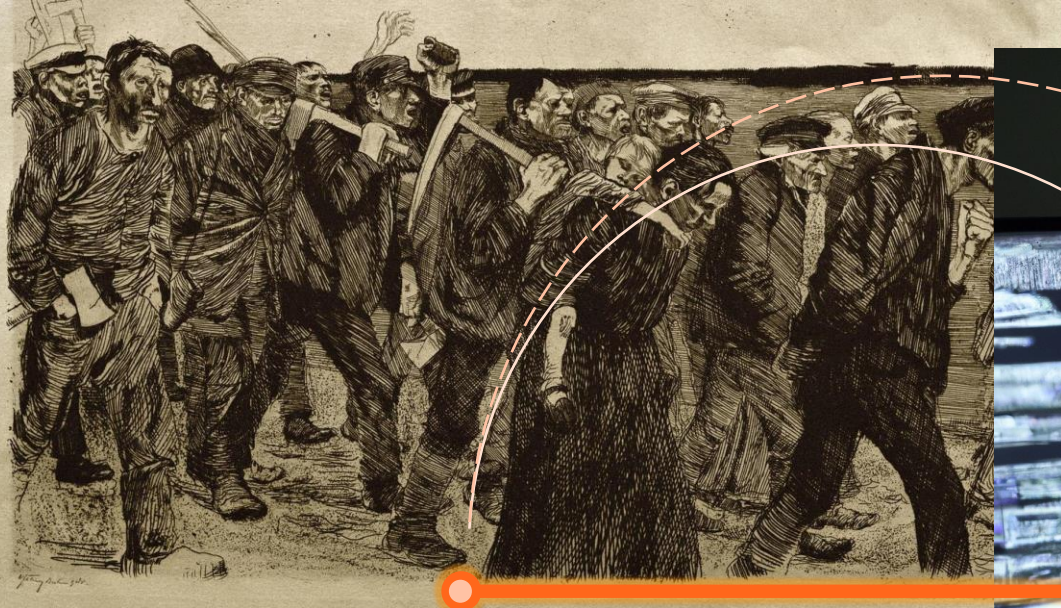
The ChatGPT artificial intelligence software generates human-like conversation. Credit: Belga/ Nicolas Maeterlinck



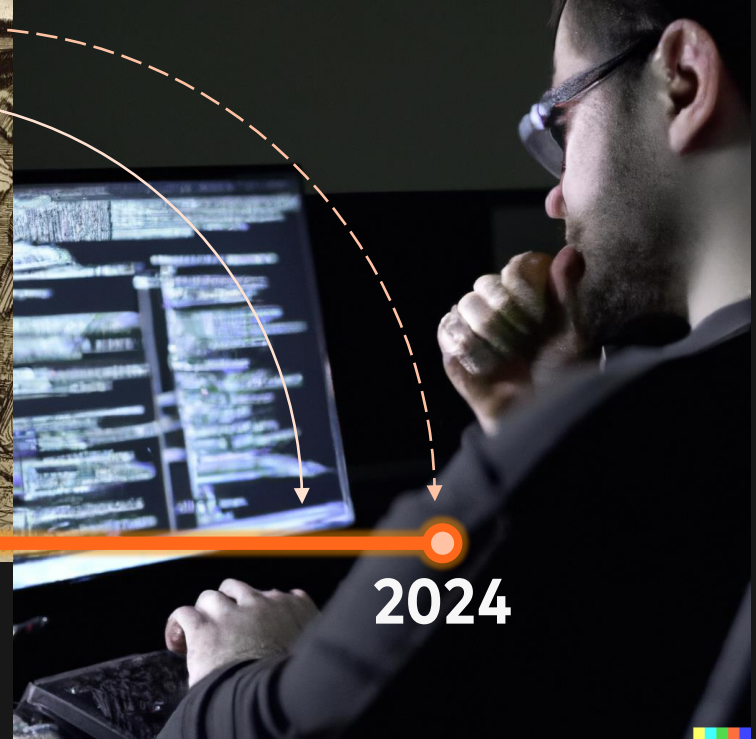
Figure 4. Comparison of top vs. bottom agents, with and without AI assistance in solving outside-knowledge-bank questions



180 years, 180 degrees



1844



2024



All but 3 images in this presentation are provided by DALL·E 2 – can you pick them out?

