

Artificial Intelligence: Forrester predictions

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Agenda

- What we mean when we say AI
- What AI can do:
 - Established, announced use-cases, and experimental use-cases
- What AI can't do
 - Who fears AI?
 - The real issue with AI

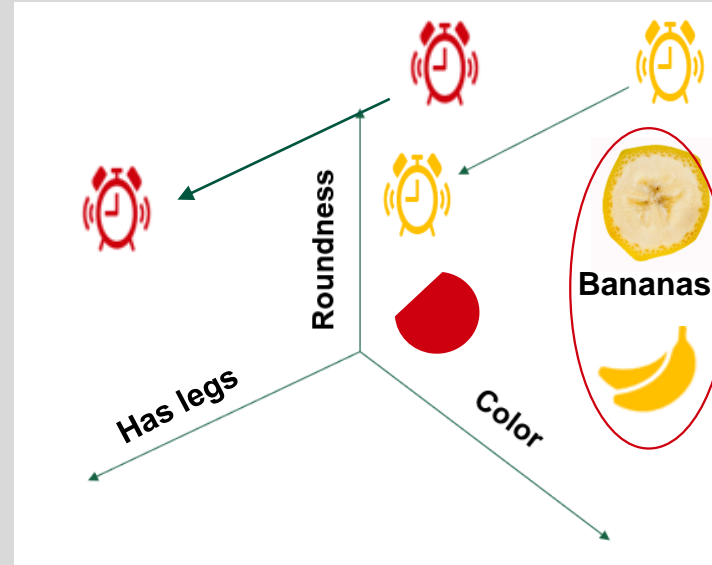
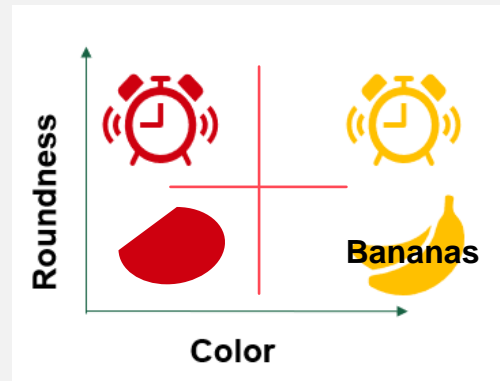


**AI has already been with
us for many years**

**So why all the fuss about
ChatGPT and
Generative AI?**

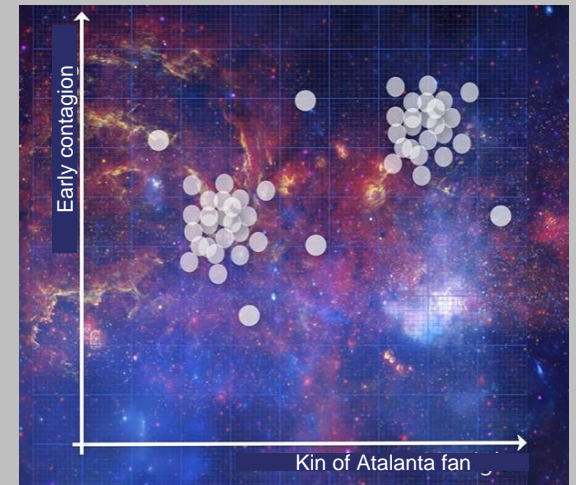
How We Got To Deep Learning and Generative AI

Natural language processing: generating content that makes sense to humans through iterations



* START all that glitters is not gold well ends END

START	0	2	0	0	0	0	0	0	0	0	0
all	2	0	1	0	1	0	0	0	0	0	0
that	0	1	0	1	0	0	0	1	1	0	0
glitters	0	0	1	0	1	0	0	0	0	0	0
is	0	1	0	1	0	1	0	1	0	0	0
not	0	0	0	0	1	0	1	0	0	0	0
gold	0	0	0	0	0	1	0	0	0	0	1
well	0	0	1	0	1	0	0	0	1	1	1
ends	0	0	1	0	0	0	0	1	0	0	0
END	0	0	0	0	0	0	1	1	0	0	0



Deep Learning → Unsupervised

NPL →

What is generative AI and who are the top players?



Edward Hopper: Nighthawks



Image created by Chatsonic when I prompted "A room full of people listening to a conference in Edward Hopper Style"

A set of technologies and techniques that leverage massive corpuses of data, including large language models, to generate new content (e.g., text, video, images, audio, code). Inputs may be natural language prompts or other non-code and non-traditional inputs.

It is in its essence probabilistic and open to error.

Topic	ChatGPT	Bard	Chatsonic
Company ownership/funders	OpenAI – major stakes by Elon Musk and Microsoft	Google	Writesonic (Indian startup)
Underlying algorithm	Non deterministic	Non-deterministic	Non deterministic
Data sets	Real-time information after integration with Bing	Real-time information drawn from google search	Real-time information drawn from google search
Key characteristics	Developed for information/written text	Developed for conversation/spoken communication ADDED: image-to-text capabilities added through partnership with Adobe	Claims to specialize in text-to-image
Geographies	Available in EU	Not available in EU	Available in EU
User training	Limited	Limited	No user training

Likely impacts of Generative AI

1

It will change **SEO strategies**: what happens to SEO when GenAI gives me as a query output a text rather than a list of blogs, websites?

2

It will enhance and speed up **customer insight**: I can ask GenAI “find most likely correlation between having product x and any other product in my portfolio”

3

It will make **content creation insight-driven**: I can ask GenAI: “What are audiences saying about the Ukrainian war?” OR “What are Italians saying about increasing interest rates?”

AI predictions for 2023

AI becomes an indispensable and trusted enterprise coworker

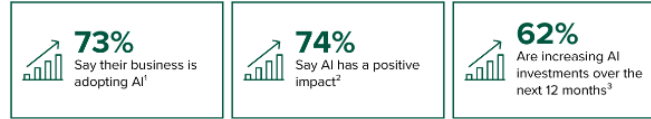


- TuringBots will write 10% of worldwide code and tests
- Ten percent of Fortune 500 enterprises will generate content with AI tools
- One in four tech execs will report to their board on AI governance
- AI in retail healthcare will reduce time to care by 25%
- Companies will drop the humanlike pretense for chatbots and virtual assistants to improve trust

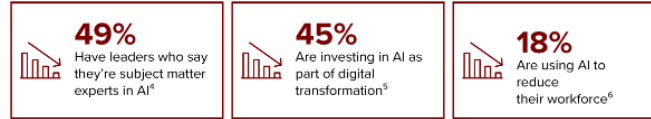
AI adoption is no longer an “emerging” trend – it’s a trend

Companies are using AI to create efficiencies and reduce risk

AI's enterprise strengths



AI's enterprise weaknesses



1. Base: 2,198 global data and analytics technology decision-makers. Source: Forrester's Data And Analytics Survey, 2022
2. Base: 1,606 global data and analytics decision-makers whose firm is implementing or expanding use of AI. Source: Forrester's Data And Analytics Survey, 2022
3. Base: 4,640 global business and technology professionals who are familiar with their organization's technology strategies and priorities. Source: Forrester's Priorities Survey, 2023
4. Base: 3,947 global business and technology professionals. Source: Forrester's Priorities Survey, 2022
5. Base: 1,377 global services decision-makers who have a role in their organization's digital transformation process. Source: Forrester's Business And Technology Services Survey, 2022
6. Base: 3,474 global data and analytics business decision-makers or technology decision-makers whose firm is interested in, planning to, implementing, or expanding use of AI. Source: Forrester's Data And Analytics Survey, 2022

Source: Forrester Research, Inc. Unauthorized reproduction, citation, or distribution prohibited.

The Benefits Of AI Often Accrue To Workers And Workforce-Related Processes

“Which could be/are benefits for your organization when using artificial intelligence (AI) technologies?”

(Select up to five)

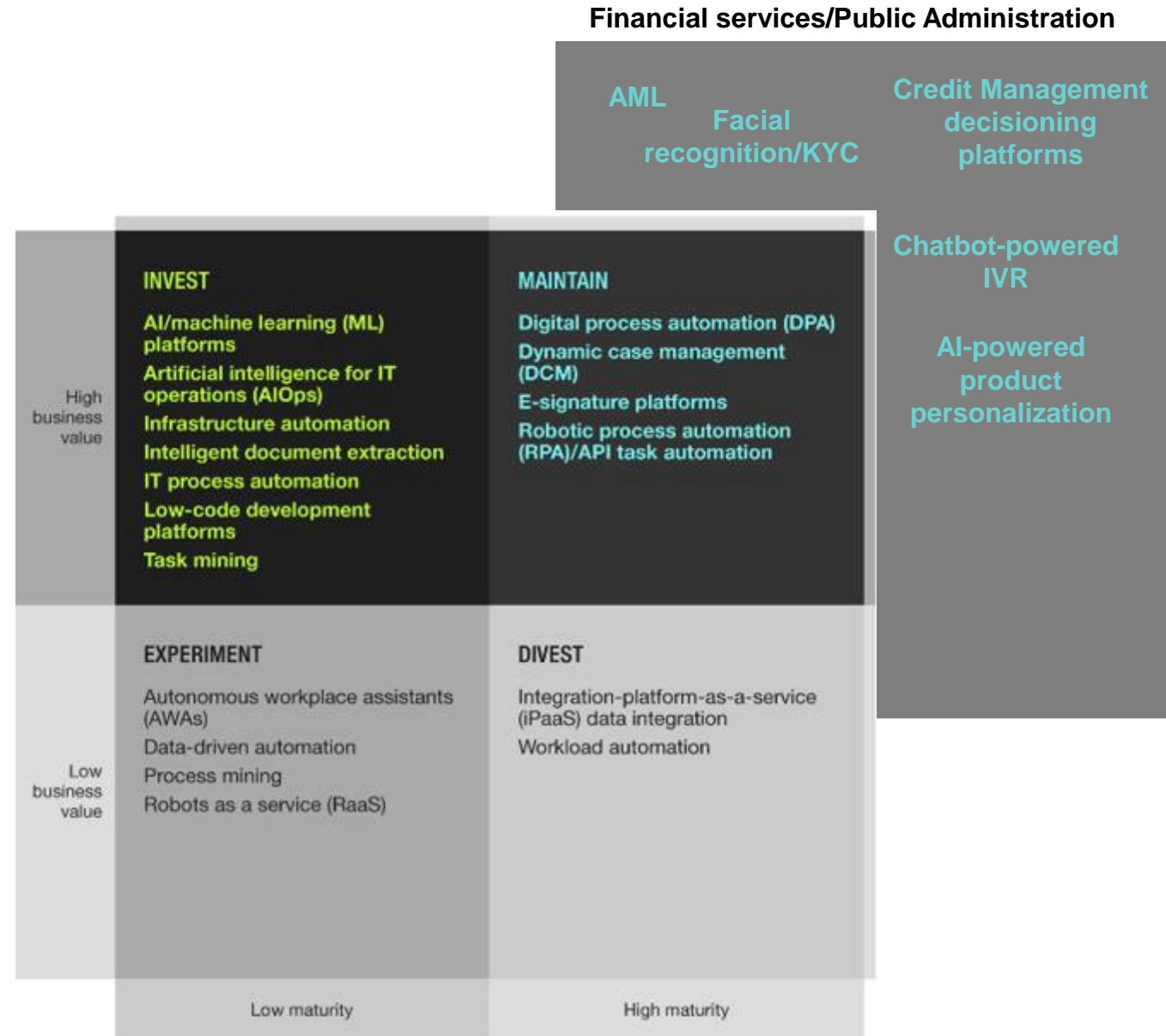
Increase automation of internal processes	35%
Improve ability to anticipate and respond to competitive/market changes	32%
Improve operational efficiency and effectiveness	30%
Improve customer experience	30%
Increase safety	29%
Increase automation of customer-facing services	29%
Increase employee productivity	28%
Innovation in new and existing products and services	28%
Improve security	27%
Increase revenue growth	26%
Democratize intelligence and insight across the workforce	25%
Uncover new revenue streams	22%
Reduce workforce	18%

Internal process benefits Workforce-specific benefits

Base: 3,474 global data and analytics business decision-makers or technology decision-makers whose firm is interested in, planning to, implementing, or expanding use of AI
Source: Forrester's Data And Analytics Survey, 2022

Latest stages AI technologies are still immature

Artificial Intelligence technologies for process automation



Agenda

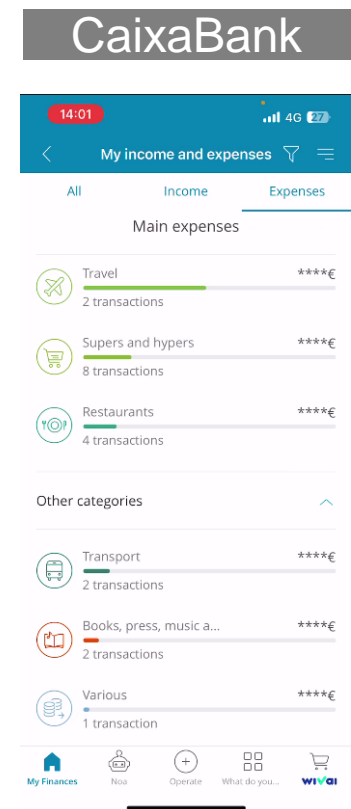
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MAIF cleverly uses
NPL algorithms to
enhance customer
service



Leading banks use Neural Networks and Big Data to enhance the banking app experience

- In app experience is a 10-year trend by now. Banking app have also been a fertile ground for experiment for many banks, which have built AI/ML teams tasked with using transactional data for increasingly more complex tasks – from transaction categorization to contextual marketing
- Latest trends in the field are predictive models geared towards hyper-personalized product recommendation and development of sophisticated virtual assistants



Synesthesia and HourOne use AI to accelerate video content generation

- Human-produced content-creation will never be fast enough to address the need for personalized content at scale, and in the next year we expect to see at least 10% of companies invest in AI-supported digital content creation

The image shows a screenshot of the HourOne website and a demo of the AI video generator interface. The website header includes the HourOne logo, navigation links for Features, Pricing, Use Cases, Resources, and Book a Demo, and buttons for Login and Create a free video. The main content area features the headline "Best AI Video Generator for Businesses" and the sub-headline "Professional Video Delivered in Less Than 10 Minutes!". Below this, three bullet points list features: "Full video from a single text prompt", "100s of beautiful video templates", and "100s of virtual human presenters & languages". A "Create a free video" button is positioned at the bottom left of this section. The demo interface on the right shows a browser window with the HourOne AI interface. It includes a "My Projects / Demo" header, a grid of video thumbnails, and a large central video player showing a virtual presenter. Below the video player, there is a "Script wizard" button and a "Listen" button.

PacBio Uses AI to sequence human genome with high accuracy

One of the most critical stages of sequencing projects is variant calling, where researchers identify differences between a patient's sample and the reference genome. This helps:

- Clinicians determine what genetic disease a critically ill patient might have
- Researchers look across a population to discover new drug targets.

[← All press releases](#)

OCTOBER 25, 2022

PacBio Announces Revio, a Revolutionary New Long Read Sequencing System Designed to Provide 15 Times More HiFi Data and Human Genomes at Scale for Under \$1,000

Significant Advances in SMRT Cell Design, Compute, and a New System Architecture Will Enable Revio to Dramatically Increase Throughput and Lower Cost While Leveraging the Power of HiFi for Exceptional Accuracy and Direct Methylation Detection

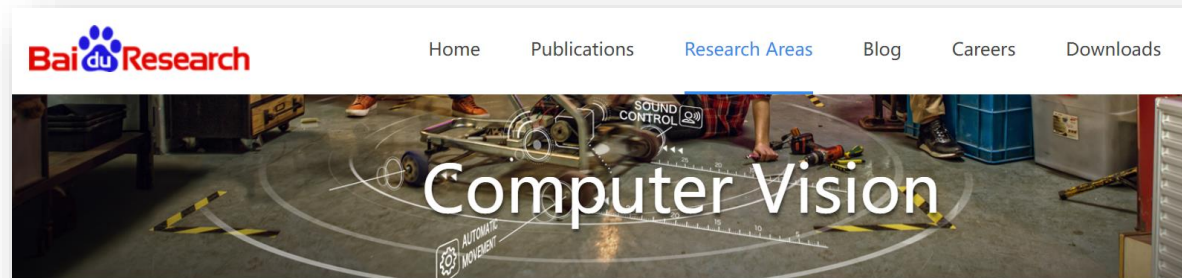
This release is available in [Japanese](#) and [Chinese](#)

MENLO PARK, Calif., Oct. 25, 2022 /PRNewswire/ — [PacBio](#) (NASDAQ: PACB), a leading developer of high-quality, highly accurate sequencing solutions, today announced the Revio™ long-read sequencing system, which will enable customers to dramatically scale their use of PacBio's celebrated HiFi sequencing technology. Revio is designed to provide customers with the ability to sequence up to 1,300 human whole



Baidu, Huawei and others launched their digital content services powered by computer vision

- Computer vision enables technicians who need to inspect the physical space gain efficiency by obtaining relevant data about that space in real time.
- “3D+AI”, developed by Baidu AI Cloud, has been applied in Chinese TV coverage of the Beijing Winter Olympics. It is also being used for training in sports ranging from diving to table tennis by China’s national team.



PUBLICATIONS

Toward Faster and Simpler Matrix Normalization
Rank-1 Update
European Conference on Computer Vision (ECCV) 2020



Australia and New Zealand Banking Group uses AI for testing

- Generative AI is remarkably powerful at producing software code snippets in various programming languages, since it has been trained with code present in the public domain.
- ANZ is experimenting with GenAI to:
 - Test code: GenAI will read the code and propose the complete test case to properly exercise that code
 - Pre-scan generated code to verify compliance against rules and regulations

3 Mar 2023

Artificial intelligence at ANZ: Growing responsibility



Tim Hogarth

Chief Technology Officer, ANZ

All of us have had our lives transformed by technology. Whether we are at the beginning or the twilight of our careers, our working and personal lives are utterly different from just a few years ago.



BBVA is piloting a project for **internal queries**

- Partnering with Bosonit, BBVA has also applied NLP to its help desk.
- This experiment led to expose limitations of the OpenAI tools – e.g., OpenAI is unsuited to analyze technical texts and provide nuanced answers.
- So BBVA had to develop their own models – interestingly, they trained the model with both syntheses of single interactions and multilayered models when threads involve more than one person or interaction.



Case study: Latest developments in the field of natural language processing (NLP), a PoC for BBVA

From Bosonit and [Nfg](#) we have tested the latest advances in Natural Language Processing (NLP) in a PoC with the BBVA Innovation department of CIB & CS, applying AI and Machine Learning to the democratisation of the knowledge of the technical teams, achieving advances in the resolution and management of technical queries and incidents.

The PoC has enabled the group to gain an understanding of the current state of the NLP field. Also the limits of the state-of-the-art models in the field and their possible applications. The result of this PoCs is a Q/A (Questions/Answers) tool for the resolution of queries/incidents based on the historical information from [BBVA](#).

State Farm (hopes to) use AI to predict and prevent and gain underwriting insights

- State Farm and ADT, a smart home provider, announced that State Farm will make a \$1.2 billion equity investment in ADT, a move that will give the nation's largest insurer a 15% ownership stake in ADT.
- Through the partnership State Farm hopes to trigger a change in mindset – switching to an AI-powered “predict and prevent” model that will win customers' minds and change forever the way owners think about insuring their goods and houses.

State Farm



Intesa Sanpaolo launches Lisa, a tool to predict future trends

- Lisa (Linguistic Intelligence for Supervisory Awareness), uses NLP algorithms to scan documents for correlations and patterns of meaning to help predict future trends.
- Intesa has a dedicated team of people who worked with Lisa, validating its results but also expanding its awareness of banking regulatory issues, including interviews, statements, regulatory texts, laws, and in-depth studies.

Synopsis

The machine learning tool, dubbed Lisa or Linguistic Intelligence for Supervisory Awareness, uses language processing algorithms to scan documents for correlations and patterns of meaning to help predict future trends.

Reuters interview to Walter Chiaradonna, Head of Intesa's Indirizzo strategico di vigilanza



Deutsche Bank launches an exploratory partnership with NVIDIA

- DB has struck a partnership with NVIDIA to explore three different AI application fields:
 - Deriving insights out of unstructured data
 - Redefining customer service with interactive avatars
 - Next-generation risk management through accelerated compute

Digital banking & services

Media Release | December 7, 2022

Deutsche Bank Partners with NVIDIA to embed AI into Financial Services

- Multi-year innovation partnership aims to accelerate the use of AI to improve financial services
- Companies developing a range of applications, including intelligent avatars, speech AI, and fraud detection
- Deutsche Bank and NVIDIA to develop applications to improve risk management, boost efficiency and enhance customer service using NVIDIA AI Enterprise software
- Partnership will expand the bank's internal AI center of excellence to develop, foster and promote Explainable and Responsible AI in the financial services industry

Deutsche Bank today announced a multi-year innovation partnership with NVIDIA to accelerate the use of artificial intelligence (AI) and machine learning (ML) in the financial services sector.

Combining Deutsche Bank's financial industry expertise with NVIDIA's leadership in AI and accelerated computing will hasten the development of a broad range of regulatory-compliant AI-powered services. The partnership will support Deutsche Bank's cloud transformation journey, for example by using AI and ML to simplify and accelerate cloud migration decisions.

"AI, ML and data will be a game changer in banking, and our partnership with NVIDIA is further evidence that we are committed to redefining what is possible for our clients," said Christian Sewing, CEO, Deutsche Bank.

"This partnership is a significant step forward in our AI and ML ambitions. It will help us take a leading position in the usage of these technologies in financial services," added Bernd Leukert, Deutsche Bank's Management Board Member responsible for Technology, Data and Innovation.

"Accelerated computing and AI are at a tipping point, and we're bringing them to the world's enterprises through the cloud," said Jensen Huang, founder and CEO, NVIDIA. "Every aspect of future business will be supercharged with insight and intelligence running at the speed of light. Together with Deutsche Bank, we are modernizing and reimagining the way financial services are operated and delivered."

★ 55 Rating(s) — 3.5/5

👍 53 Like(s)

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Who fears Artificial Intelligence?

- Most fears show that (once again) we're thinking about AI as doomsday or salvation...
- ...but perhaps we're misplacing our fears – the educational system, or life as it has become, rather than AI, are the real issue

The real issues with Artificial Intelligence

- Unexposed AI-powered social mechanisms are dangerous
- What is our B plan when, having so heavily relied on AI for routine tasks to the point that no human will be able to execute them anymore, AI breaks down?

TO CONCLUDE: Do we really want machines to invent a Turing Test for human beings?

Thank You.

**BOLD
AT
WORK**