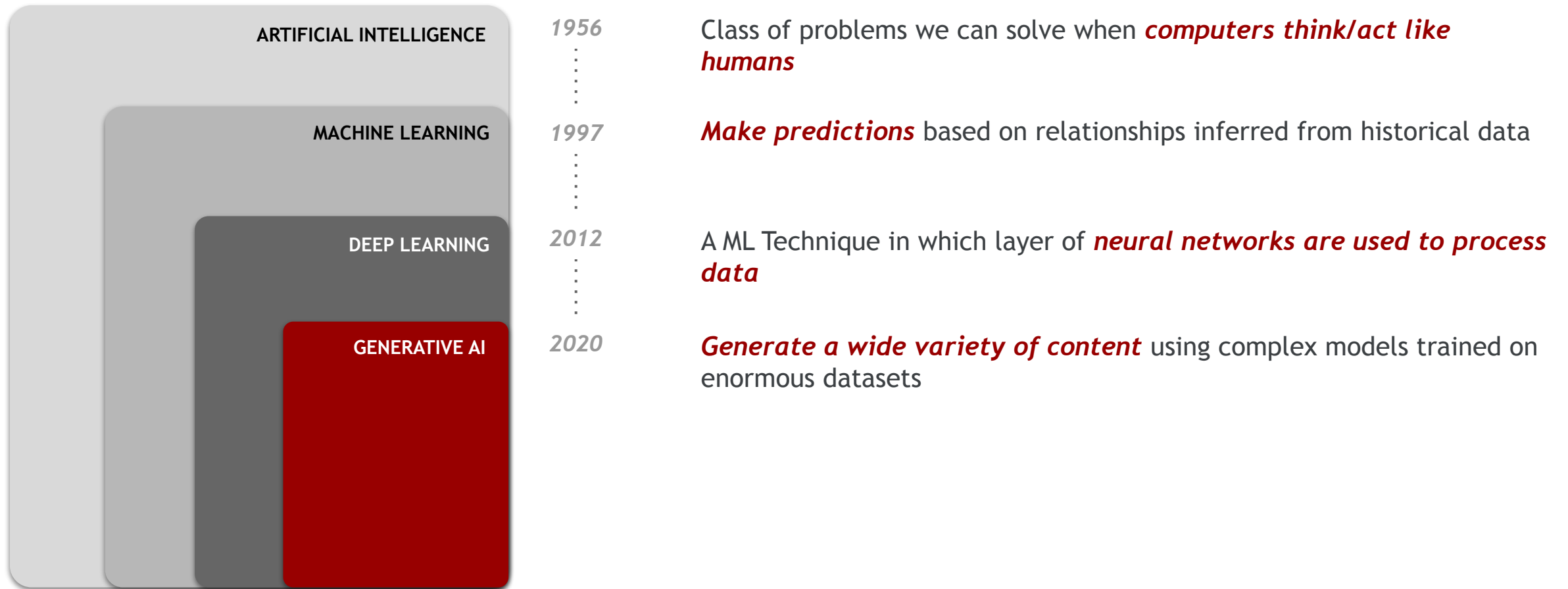




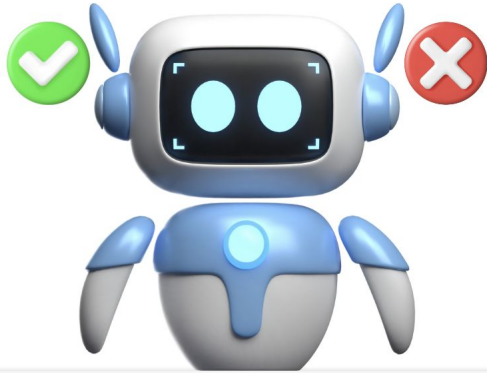
Generative AI Overview

Ramping up Managers to lead and manage Generative AI Projects in an effective way!

Machine Learning is a type of AI, and Generative AI (GenAI) is a type of machine learning

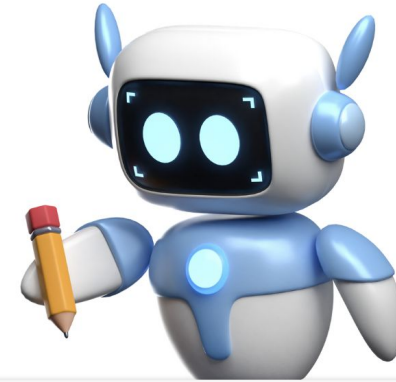


Deep Learning Key Model Types



DISCRIMINATIVE MODEL

Used to classify or predict



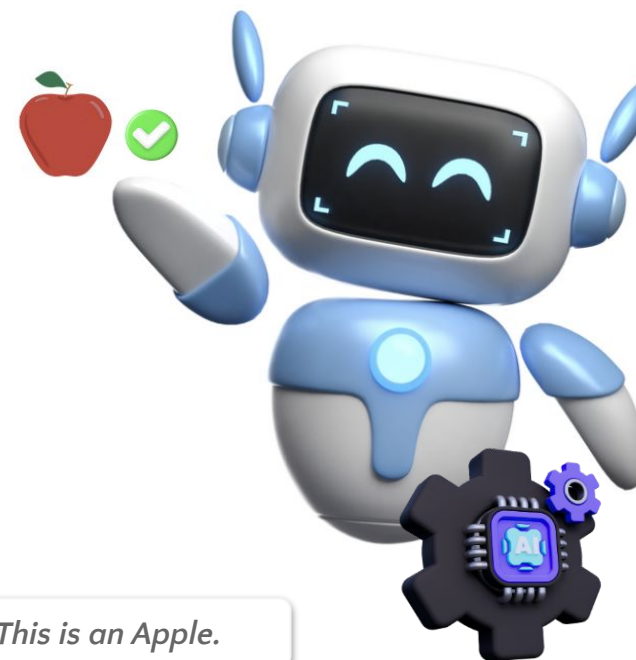
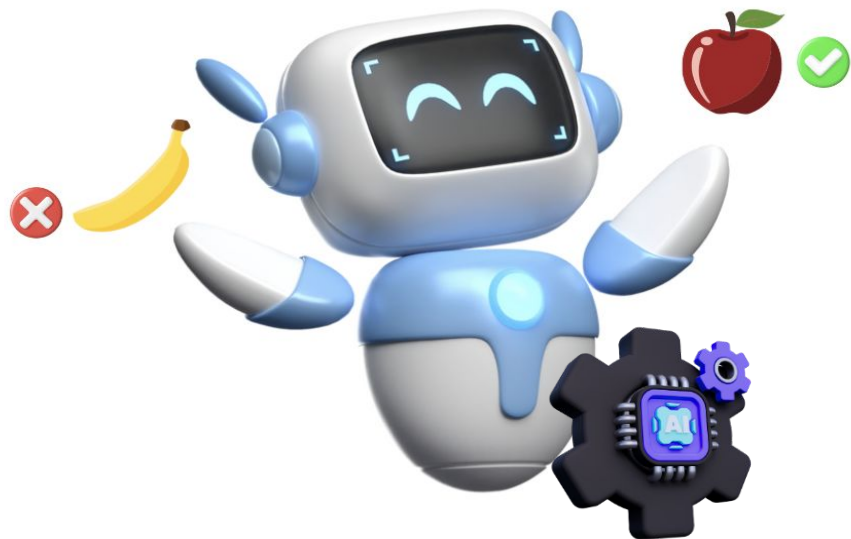
GENERATIVE MODEL

Generates new data

Discriminative Models

This is not an Apple.

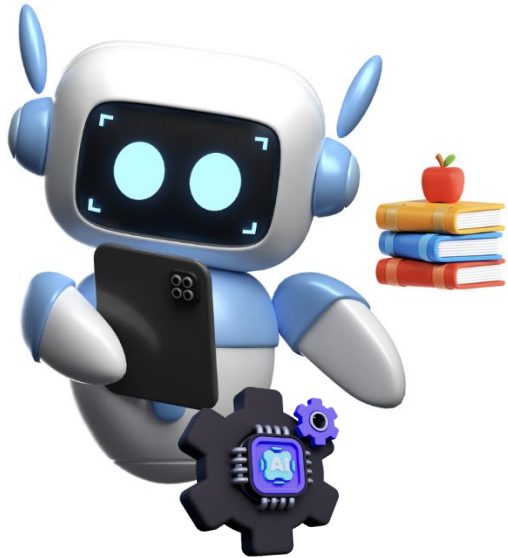
This is an Apple.



This is an Apple.

Generative Language Model

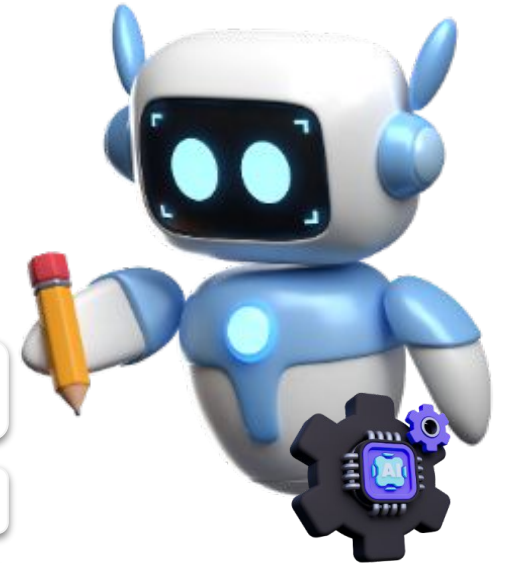
Read this huge pile of books on apples



So, you have read about apple and its various types

Now tell me what is an apple?

An apple is a ...





Q U I Z

Question: InnovateTech Solutions is developing an AI-driven platform to revolutionize content creation for digital marketing campaigns. The company aims to generate creative and personalized content to enhance user engagement. As the Chief Data Scientist, you are leading the team in selecting the most suitable ML model for this task. Which of the following key ML models is pivotal for InnovateTech Solutions for generating new and personalized content for digital marketing campaigns?

- A. Descriptive Model
- B. Generative Model

Question: InnovateTech Solutions is developing an AI-driven platform to revolutionize content creation for digital marketing campaigns. The company aims to generate creative and personalized content to enhance user engagement. As the Chief Data Scientist, you are leading the team in selecting the most suitable ML model for this task. Which of the following key ML models is pivotal for InnovateTech Solutions for generating new and personalized content for digital marketing campaigns?

A. Descriptive Model

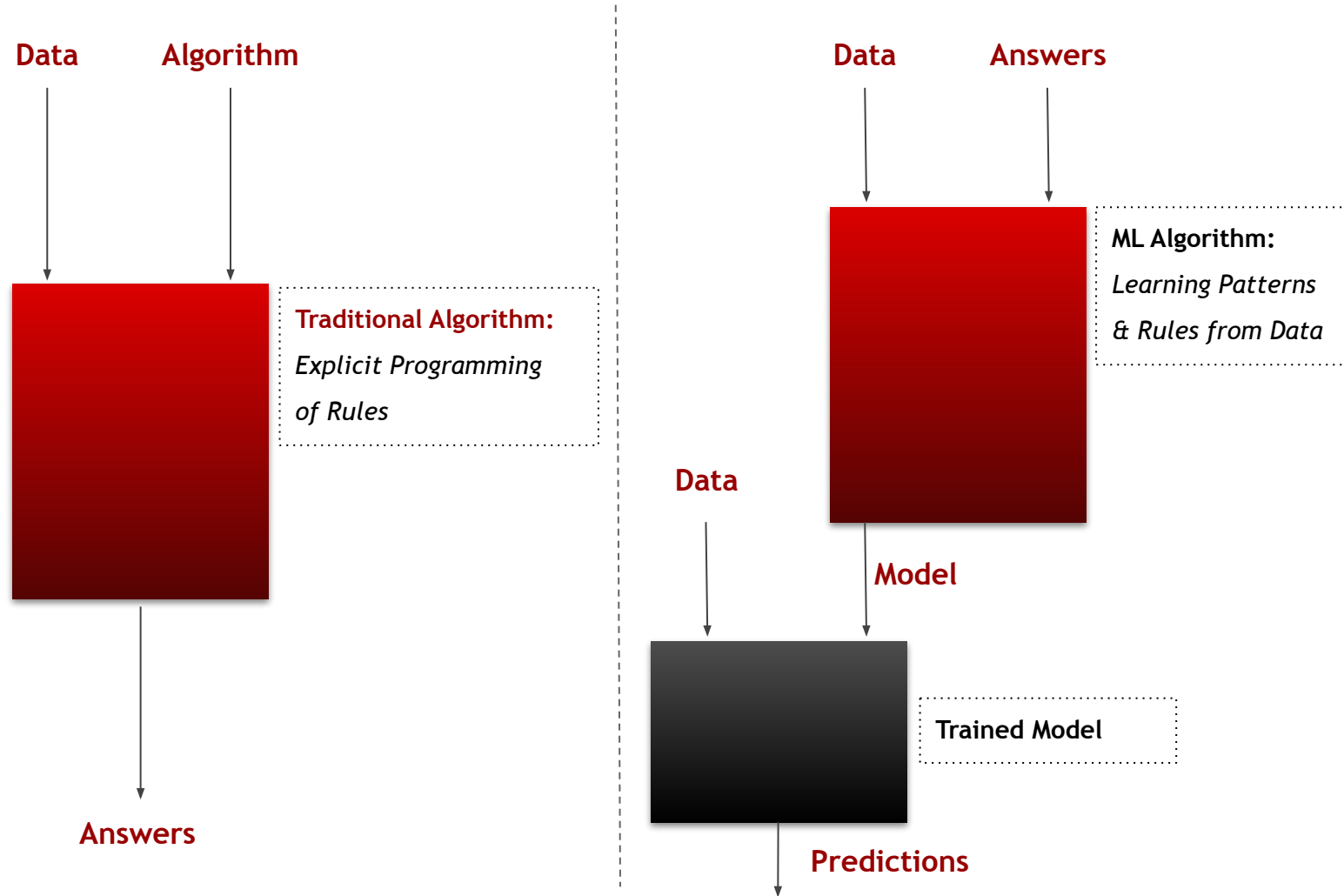
✓ B. Generative Model

Machine Learning allows computers to learn without explicit programming

- In traditional programming, the programmer writes the code to perform a task
- In machine learning, algorithms are trained to make predictions using historical data
 - Computers iterate over the algorithm making adjustments to find the best solution



Traditional Systems vs ML based Systems



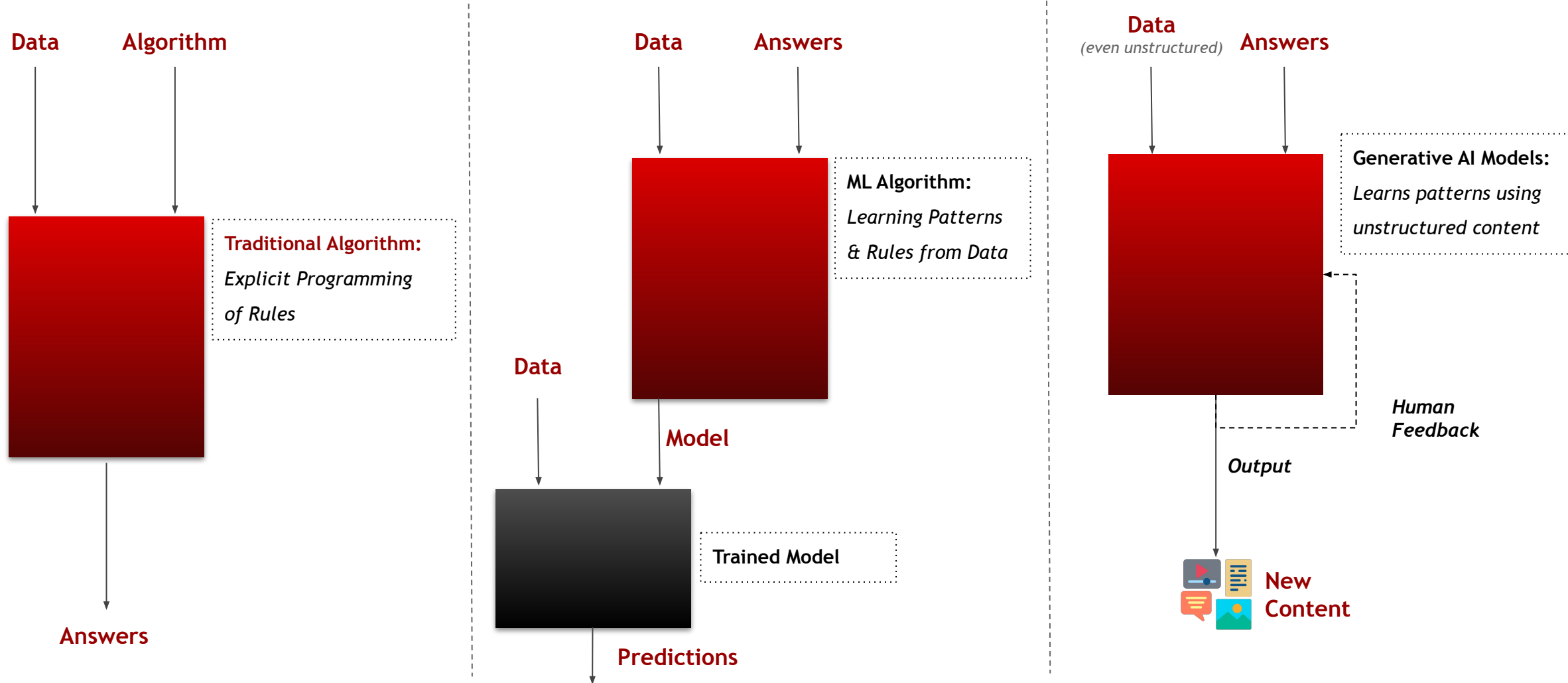
Generative AI Overview

- Generative AI is a type of artificial intelligence that can create new content, such as text, images, or music
- It works by learning from large datasets of existing content and then using that knowledge to generate new content that is similar to the training data

<https://www.thispersondoesnotexist.com>



Traditional Systems vs ML based Systems vs Generative AI Systems



Generative AI Overview

Write code faster, Solve more complicated problems, and Build experiences not possible before

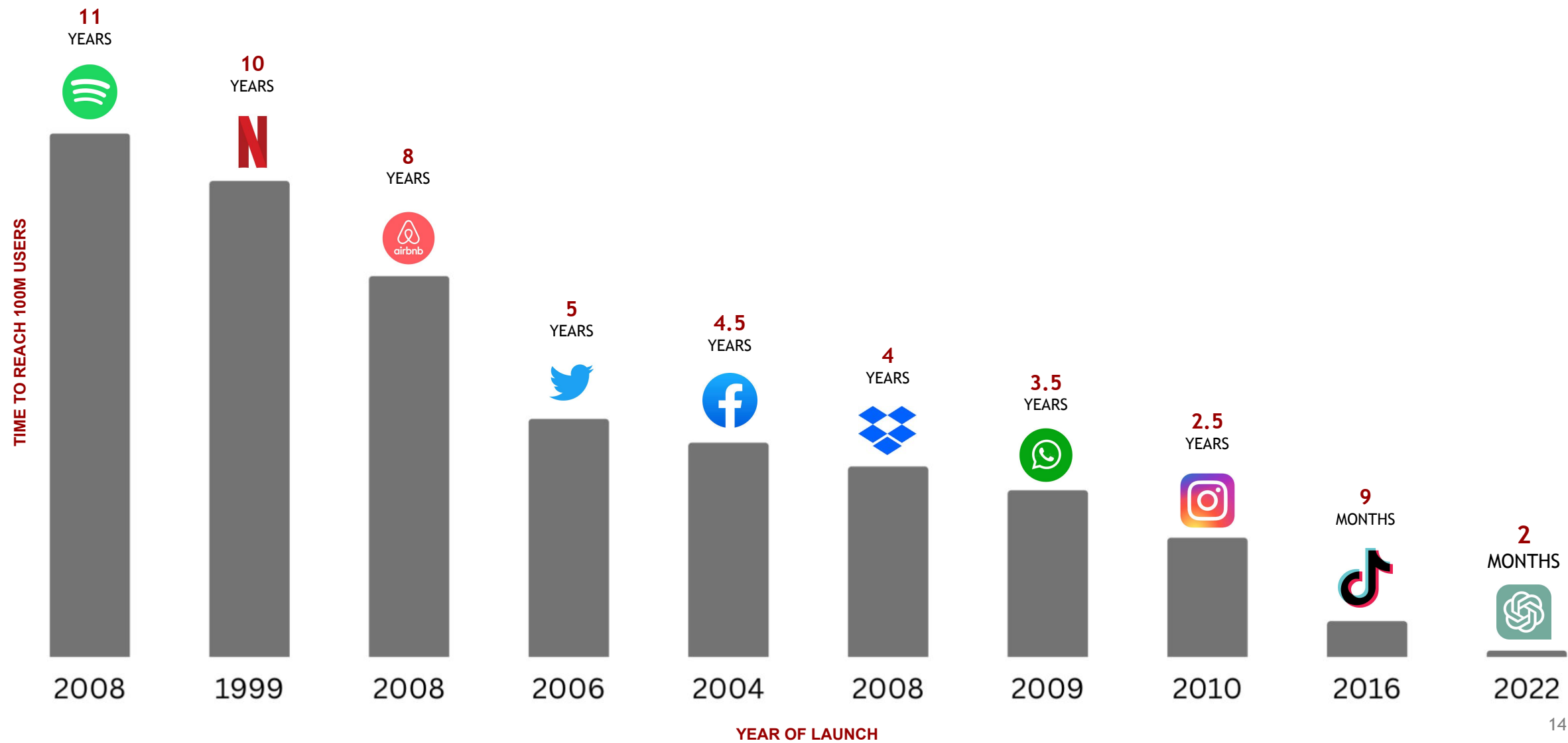
How much of your work involves these things?

- **Finding Information** - Googling errors, Debugging
- **Explaining Concepts** - Learning new technologies
- **Generating and Fixing Code** - Writing scripts, tests, functions, components etc.
- **Building new applications** - Natural language processing, speech-to-text

Gen AI's great at...

- *Finding Information*
- *Explaining Concepts*
- *Generating and Fixing Code*
- *Building new applications*

A New Wave!!



A New Wave!!



90% of My Skills Are Now Worth \$0

...but the other 10% are worth 1000x



KENT BECK
19 APR 2023

In my experience, the most successful software development projects are those that are driven by a combination of human creativity and expertise, as well as the efficient use of tools like ChatGPT. **Rather than seeing the rise of AI technology as a threat to our skills, we should view it as an opportunity to enhance and augment our abilities as software developers.**

Rather than allowing our skills to become obsolete, we should focus on finding ways to integrate AI tools like ChatGPT into our work **in a way that complements our human expertise and creativity.**

As per Gartner

By 2025

30% of outbound marketing messages from large organizations will be synthetically generated. That's up from less than 2% in 2022

By 2025

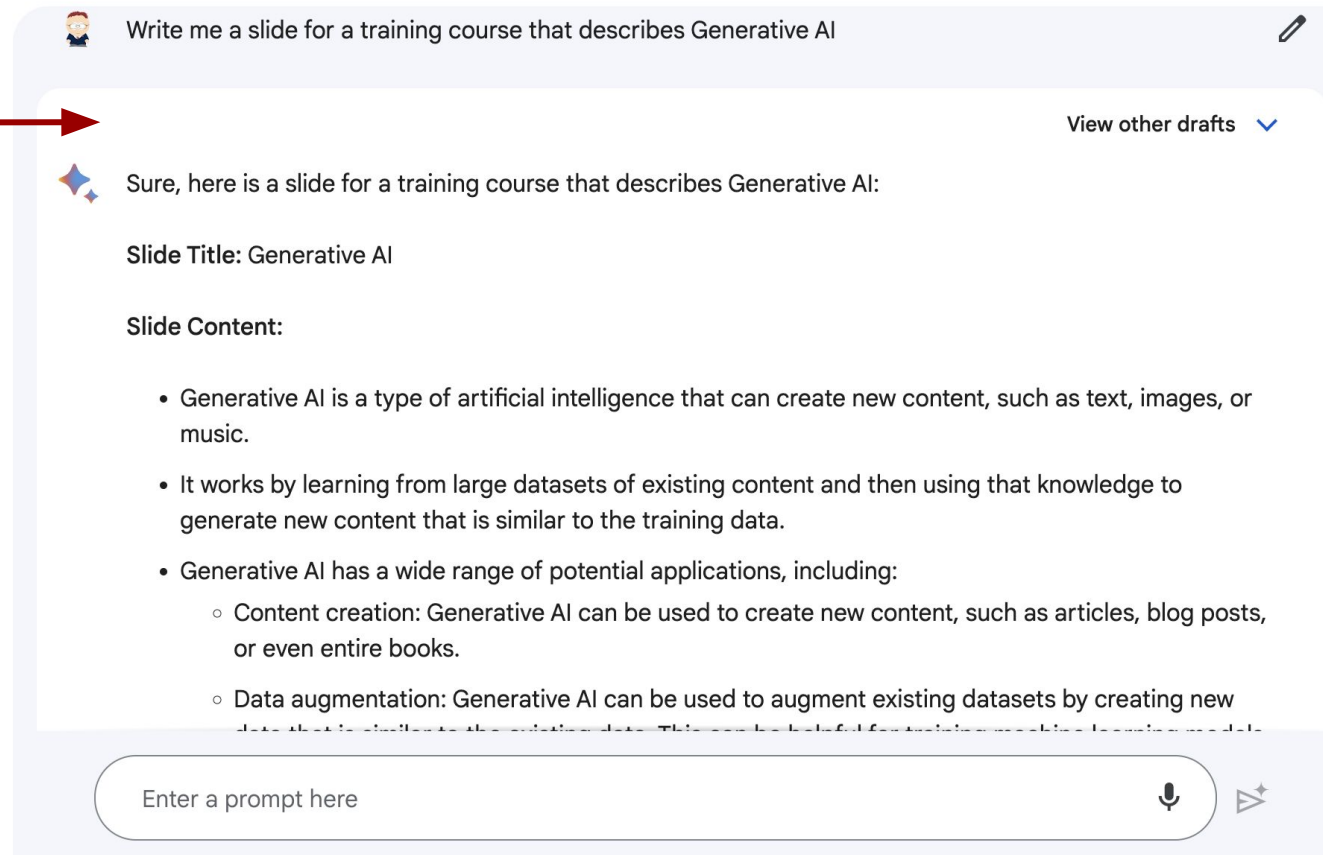
The use of synthetic data will reduce the volume of real data needed for machine learning by 70%

By 2025

35% of large organizations will have a Chief AI Officer who would report to CEO or COO

A New Wave!!

The slide!



The screenshot shows the Google Bard chat interface. At the top, a prompt says "Write me a slide for a training course that describes Generative AI". Below this, the AI's response is displayed as a slide. The slide has a title "Generative AI" and a bulleted list of content. A red arrow points from the text "The slide!" to the slide content. At the bottom of the interface is a text input field labeled "Enter a prompt here" with a microphone icon and a send button.

Write me a slide for a training course that describes Generative AI

View other drafts ▾

Sure, here is a slide for a training course that describes Generative AI:

Slide Title: Generative AI

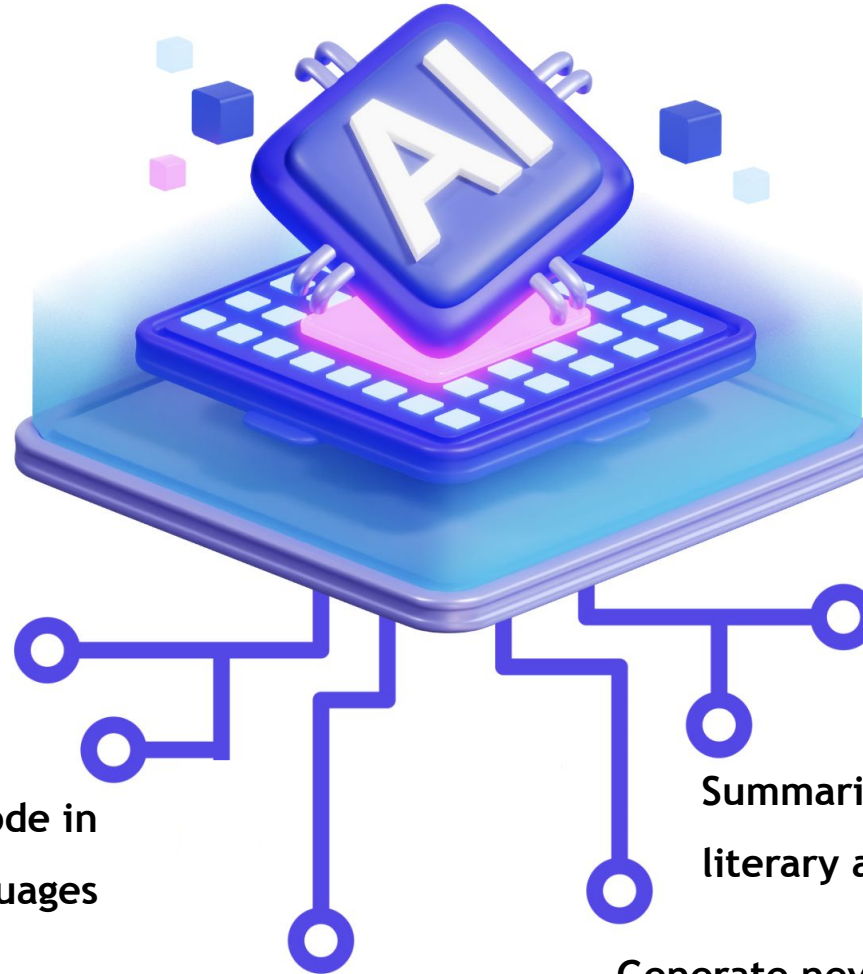
Slide Content:

- Generative AI is a type of artificial intelligence that can create new content, such as text, images, or music.
- It works by learning from large datasets of existing content and then using that knowledge to generate new content that is similar to the training data.
- Generative AI has a wide range of potential applications, including:
 - Content creation: Generative AI can be used to create new content, such as articles, blog posts, or even entire books.
 - Data augmentation: Generative AI can be used to augment existing datasets by creating new data that is similar to the existing data. This can be helpful for training machine learning models.

Enter a prompt here

**Bard is Google's
consumer-oriented
Generative AI tool for
creating custom text-based
content**

Why Generative AI?



It can generate audio (music, sounds, and even human voice) based on prompts

It can generate or complete the code in most programming languages

Chatbots can automatically engage stakeholders like employees & customers

Generate creative text copies based on context and target audiences' persona

Summarize and explain the long chapters, literary articles, and complex topics

Generate never-before images based on prompts

Journey to Generative AI





Q U I Z


Question: DataSolutions Tech (a leading IT organization focused on data-driven solutions) aims to boost its software development process by leveraging the best features of Generative AI. As the CIO, you want to explore how Generative AI can contribute to the innovation and efficiency of the organization's coding practices.

Which of the following best describes a key benefit or feature of Generative AI for an IT organization in the context of software development?

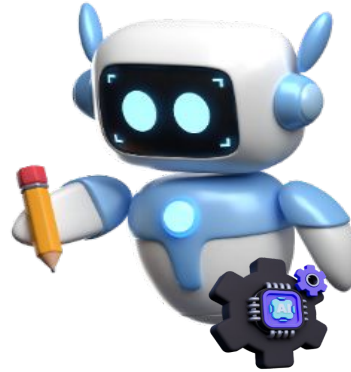
- A. Incorporating Generative AI to dynamically generate code snippets and assist developers in rapid prototyping and software development
- B. Applying Generative AI for cybersecurity measures, automatically identifying and mitigating potential threats to the IT infrastructure
- C. Integrating Generative AI to analyze and optimize network performance, ensuring seamless connectivity for all employees
- D. Utilizing Generative AI to automate routine IT tasks and administrative processes within the organization

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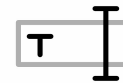
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Types of Generative Models

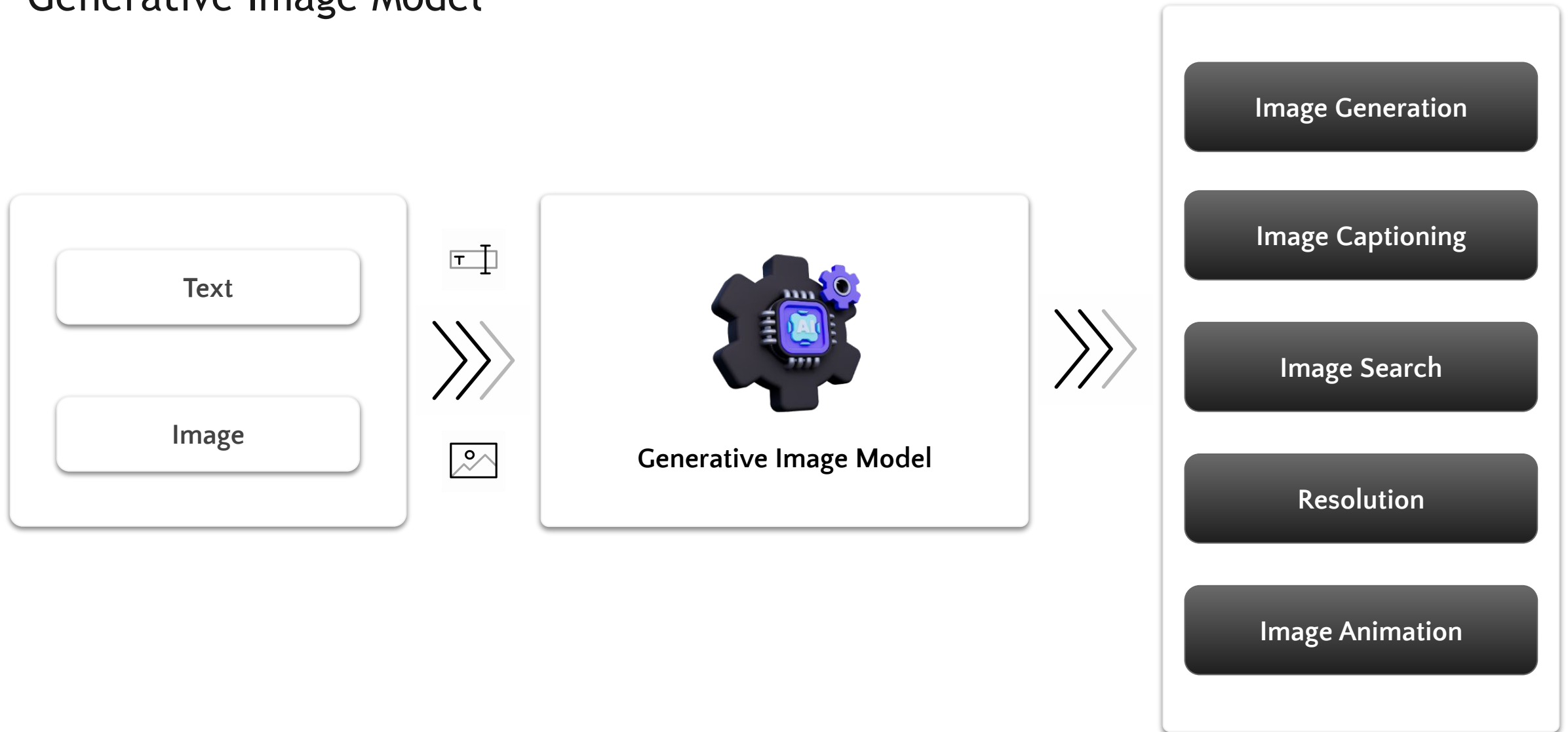


Generative Image Model

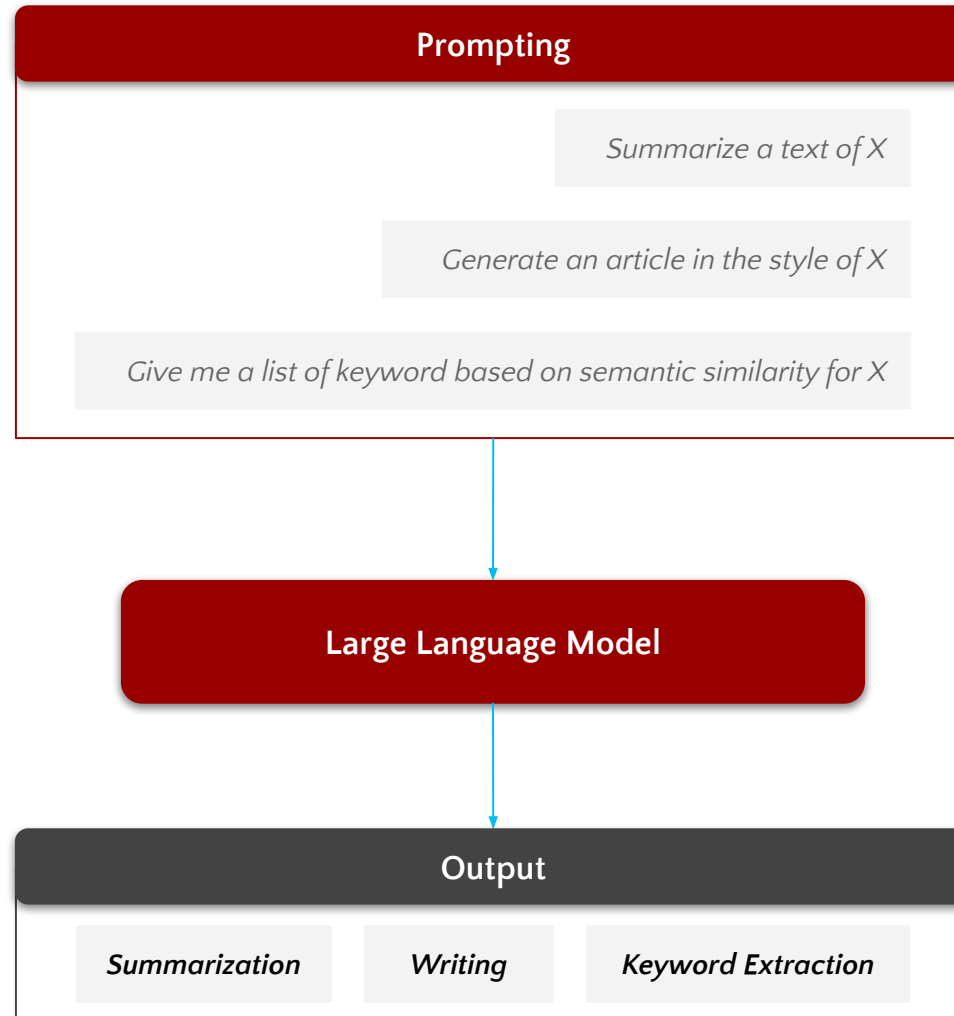


Generative Language Model

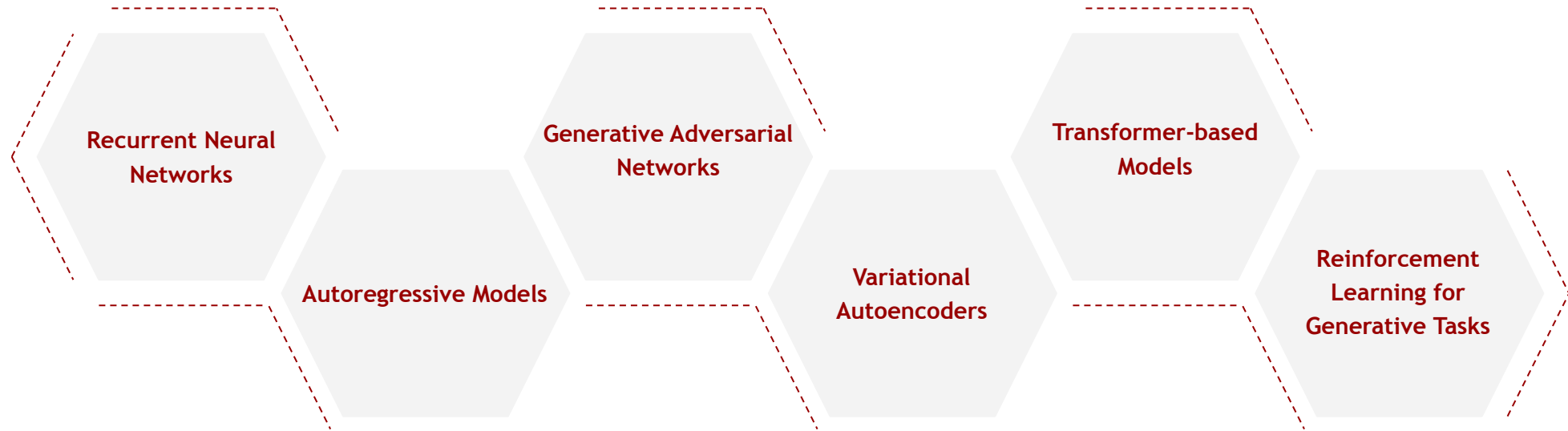
Generative Image Model



Generative Language Model

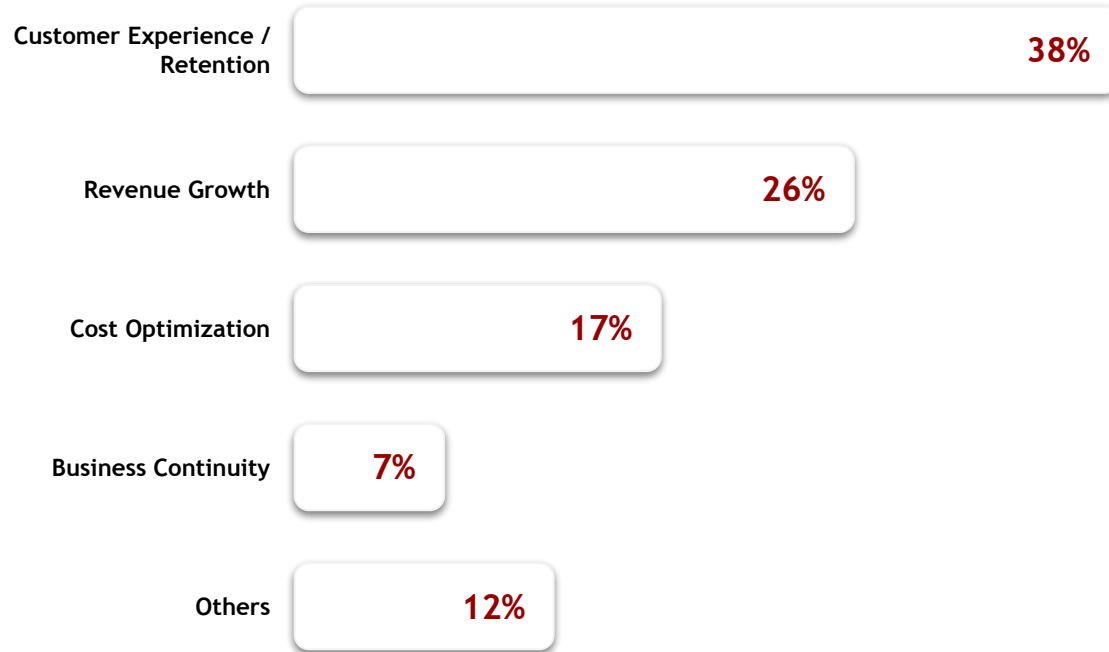


Various Generative Models



Primary focus of Generative AI

As per Gartner, following are the primary focus of Generative AI Initiatives



Source: <https://www.gartner.com/en/topics/generative-ai>



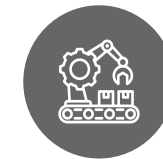
Technology & IT



Healthcare & Medicine



Entertainment & Media



Automotive & Manufacturing



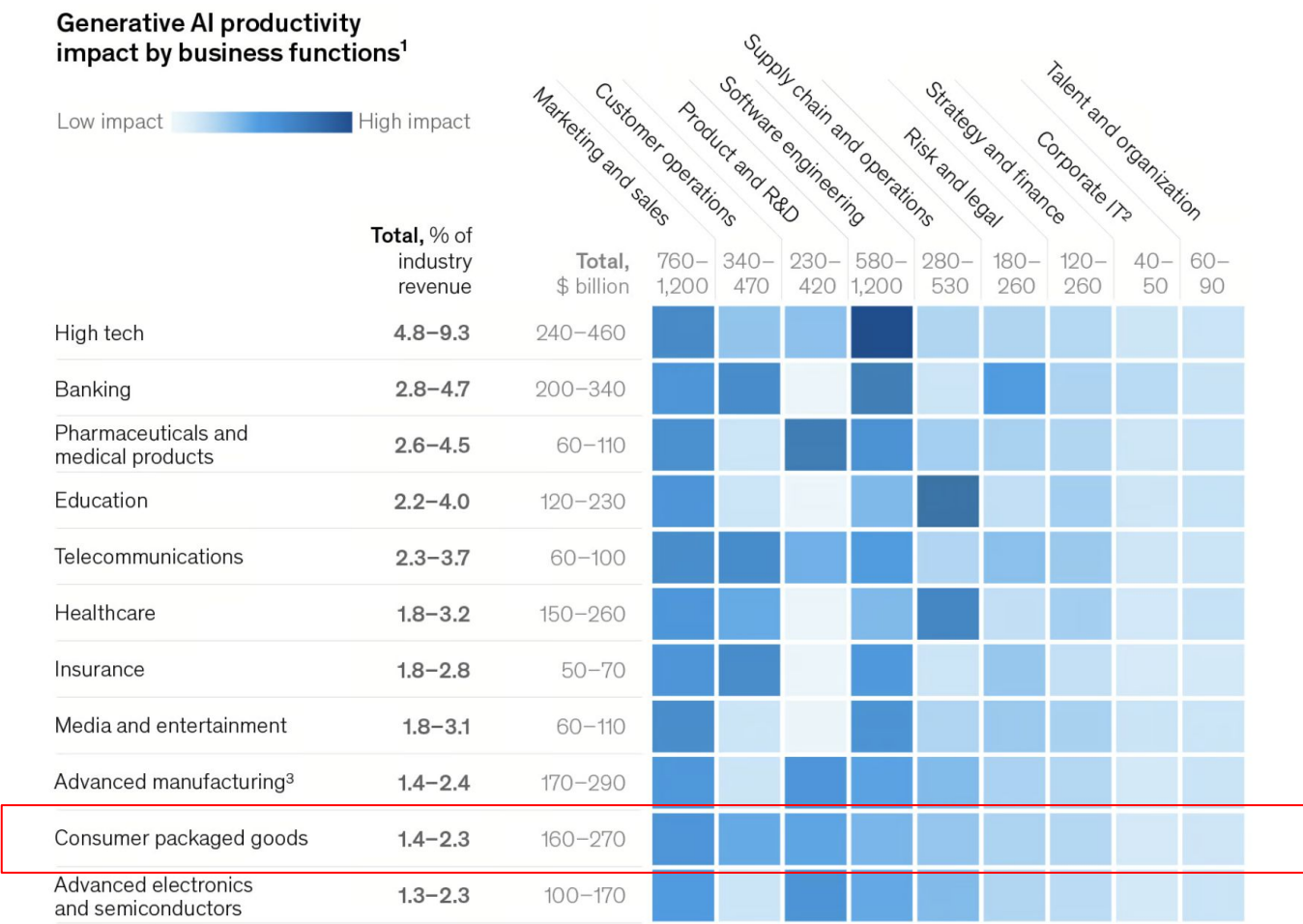
Retail & ECommerce



Education

Primary focus of Generative AI

Generative AI use cases will have different impacts on business functions across industries



Note: Figures may not sum to 100%, because of rounding. ¹Excludes implementation costs (eg, training, licenses). ²Excluding software engineering. ³Includes aerospace, defense, and auto manufacturing. ⁴Including auto retail.
Source: Comparative Industry Service (CIS), IHS Markit; Oxford Economics; McKinsey Corporate and Business Functions database; McKinsey Manufacturing and Supply Chain 360; McKinsey Sales Navigator; Ignite, a McKinsey database; McKinsey analysis

Source:
<https://www.mckinsey.com/capabilities/mckinsey-digital/our-insights/the-economic-potential-of-generative-ai-the-next-productivity-frontier#industry-impacts>

“To or Not To” adopt Generative AI for Retail & CPG

As per IBM,

75%

*of CEOs believe that competitive advantage will
depend on who has the most advanced Generative AI*

AI could make split second decisions about which content to display and how to assemble content modules based on consumer, segment, and content performance data

As per Adobe, there will be

5X Growth

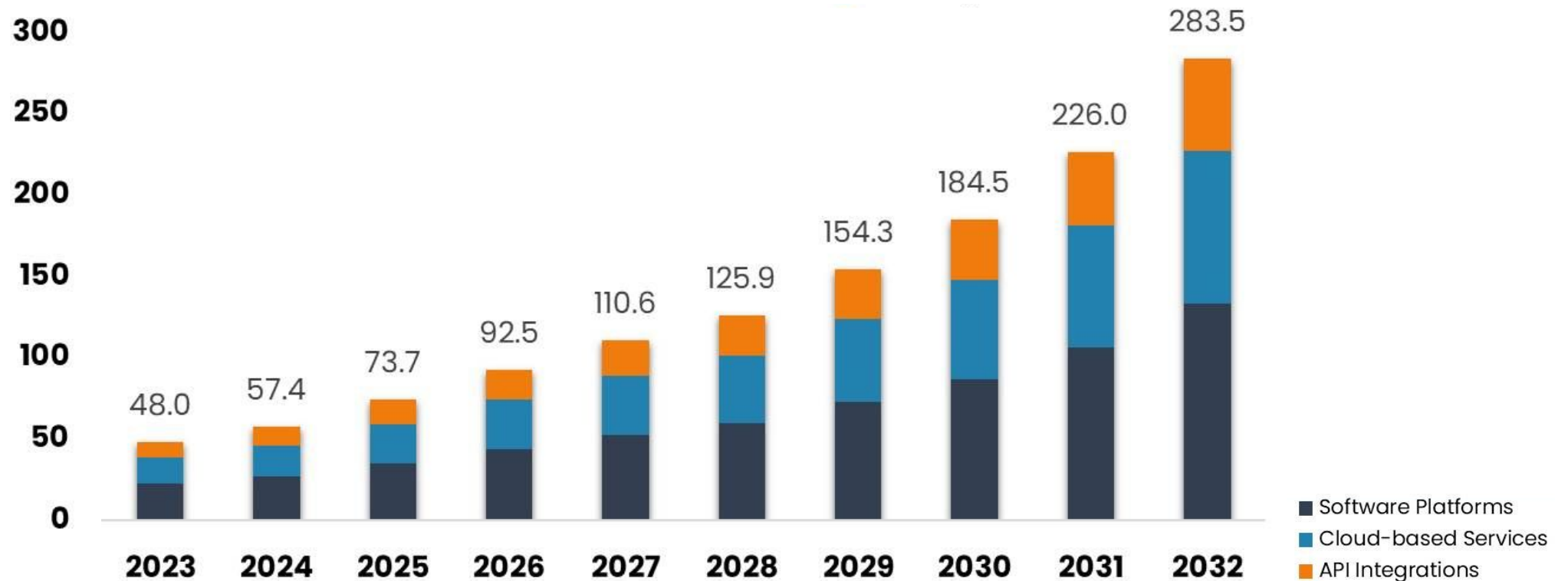
*in content generation demand by the end of 2024 is
anticipated by more than half of CPG marketers*

Bruce Richards
CPG Industry Strategy and Marketing Lead,
Adobe



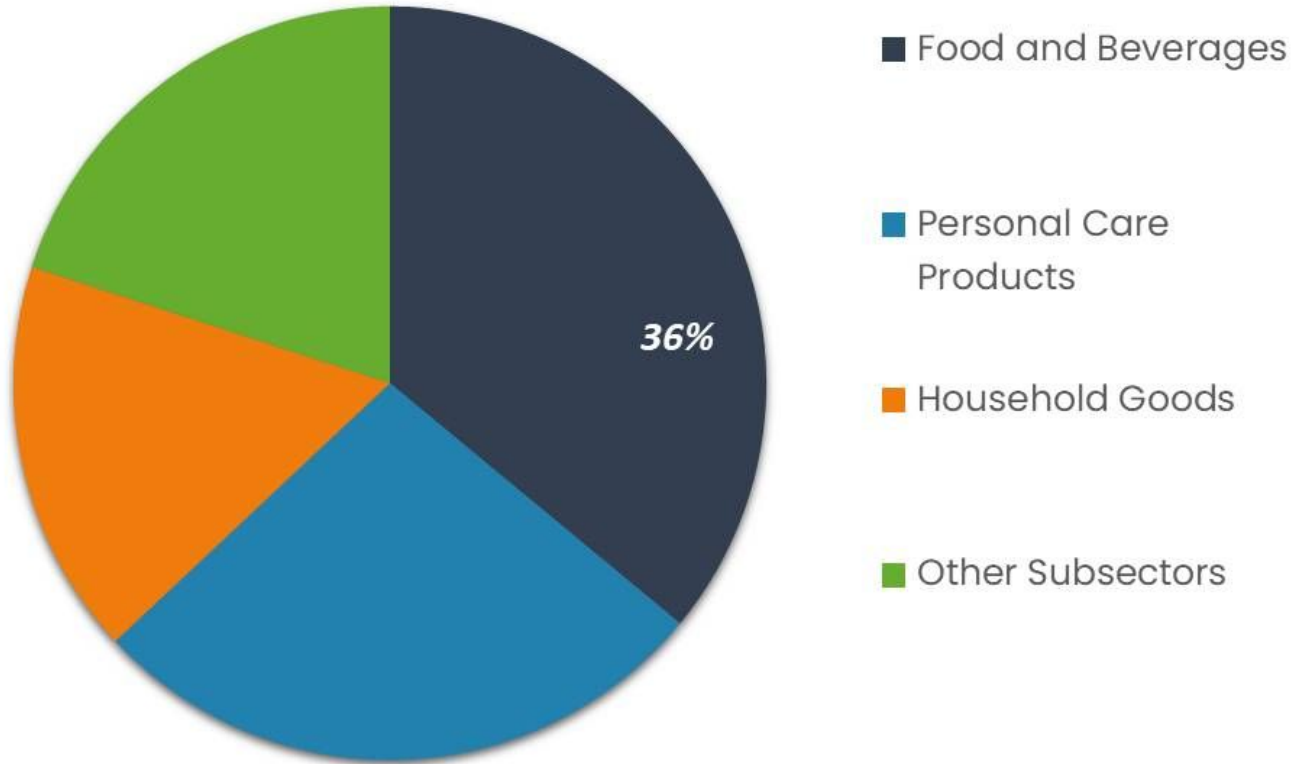
The power of Generative AI for Retail & CPG

Generative AI in the CPG market will grow at a CAGR of 22.5%, increasing from \$48 million in 2023 to \$283.5 million in 2032



The power of Generative AI for Retail & CPG

Market Segmentations on the basis of CPG Sub-Sectors



Based on Solution Type

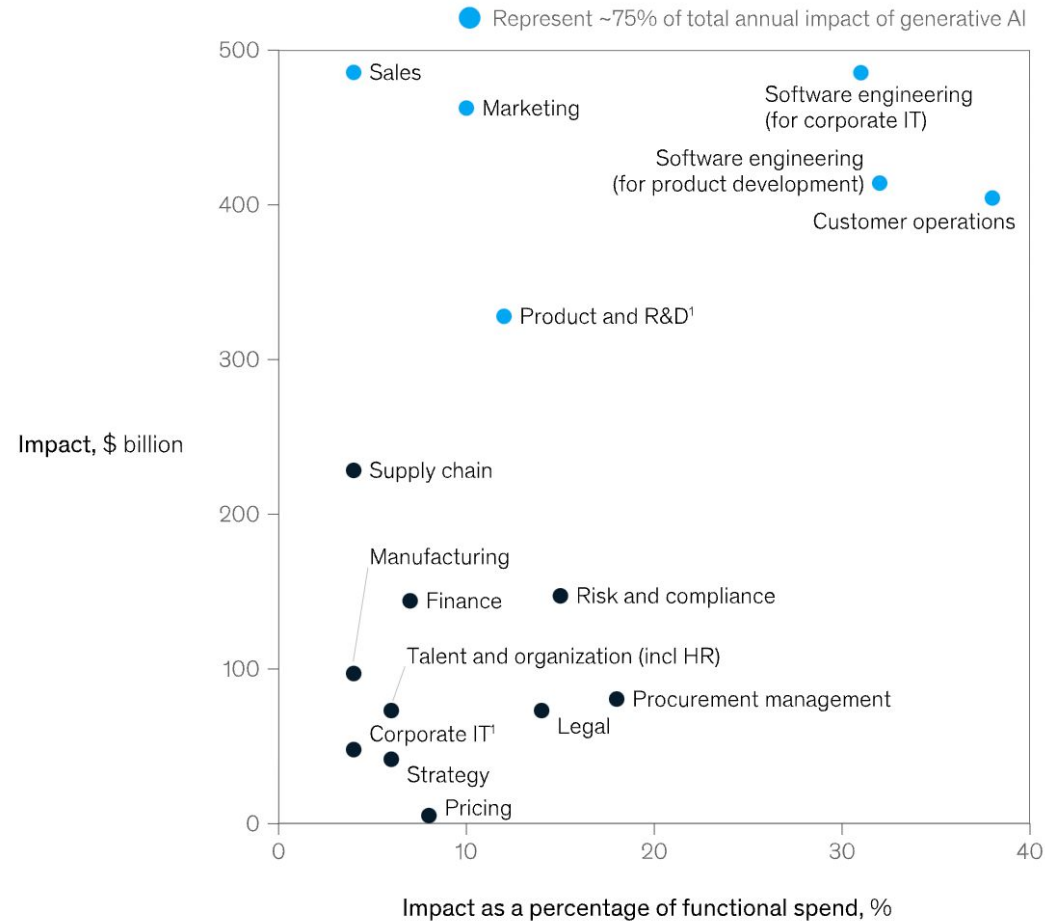
- Software Platforms
- Cloud-based Services
- API Integrations

Based on Application Area

- Product Development
- Marketing and Advertising
- Demand Forecasting
- Supply Chain Optimization
- Customer Insights
- Data Analytics

The power of Generative AI for Retail & CPG

Using generative AI in just a few functions could drive most of the technology's impact across potential corporate use cases



Note: Impact is averaged.


¹Excluding software engineering.













Source: Comparative Industry Service (CIS), IHS Markit; Oxford Economics; McKinsey Corporate and Business Functions database; McKinsey Manufacturing and Supply Chain 360; McKinsey Sales Navigator; Ignite, a McKinsey database; McKinsey analysis

The power of Generative AI for Retail & CPG

Generative AI could deliver significant value when deployed in some use cases across a selection of top industries

Selected examples of key use cases for main functional value drivers (nonexhaustive)

Value potential of function for the industry

 High
 Low

	Total value potential per industry, \$ billion (% of industry revenue)	Value potential, as % of operating profits ¹	Product R&D, software engineering	Customer operations	Marketing and sales	Other functions
Banking	200–340 (3–5%)	9–15	 Legacy code conversion Optimize migration of legacy frameworks with natural-language translation capabilities	 Customer emergency interactive voice response (IVR) Partially automate, accelerate, and enhance resolution rate of customer emergencies through generative AI-enhanced IVR interactions (eg, for credit card losses)	 Custom retail banking offers Push personalized marketing and sales content tailored for each client of the bank based on profile and history (eg, personalized nudges), and generate alternatives for A/B testing	 Risk model documentation Create model documentation, and scan for missing documentation and relevant regulatory updates
Retail and consumer packaged goods ²	400–660 (1–2%)	27–44	 Consumer research Accelerate consumer research by testing scenarios, and enhance customer targeting by creating “synthetic customers” to practice with	 Augmented reality–assisted customer support Rapidly inform the workforce in real time about the status of products and consumer preferences	 Assist copy writing for marketing content creation Accelerate writing of copy for marketing content and advertising scripts	 Procurement suppliers process enhancement Draft playbooks for negotiating with suppliers
Pharma and medical products	60–110 (3–5%)	15–25	 Research and drug discovery Accelerate the selection of proteins and molecules best suited as candidates for new drug formulation	 Customer documentation generation Draft medication instructions and risk notices for drug resale	 Generate content for commercial representatives Prepare scripts for interactions with physicians	 Contract generation Draft legal documents incorporating specific regulatory requirements

Source: <https://www.mckinsey.com/capabilities/mckinsey-digital/our-insights/the-economic-potential-of-generative-ai-the-next-productivity-frontier#industry-impacts>

Generative AI supports key value drivers in Retail & CPG

The technology could generate value for the retail and consumer packaged goods (CPG) industry by increasing productivity by 1.2 to 2.0 percent of annual revenues, or an additional \$400 billion to \$660 billion

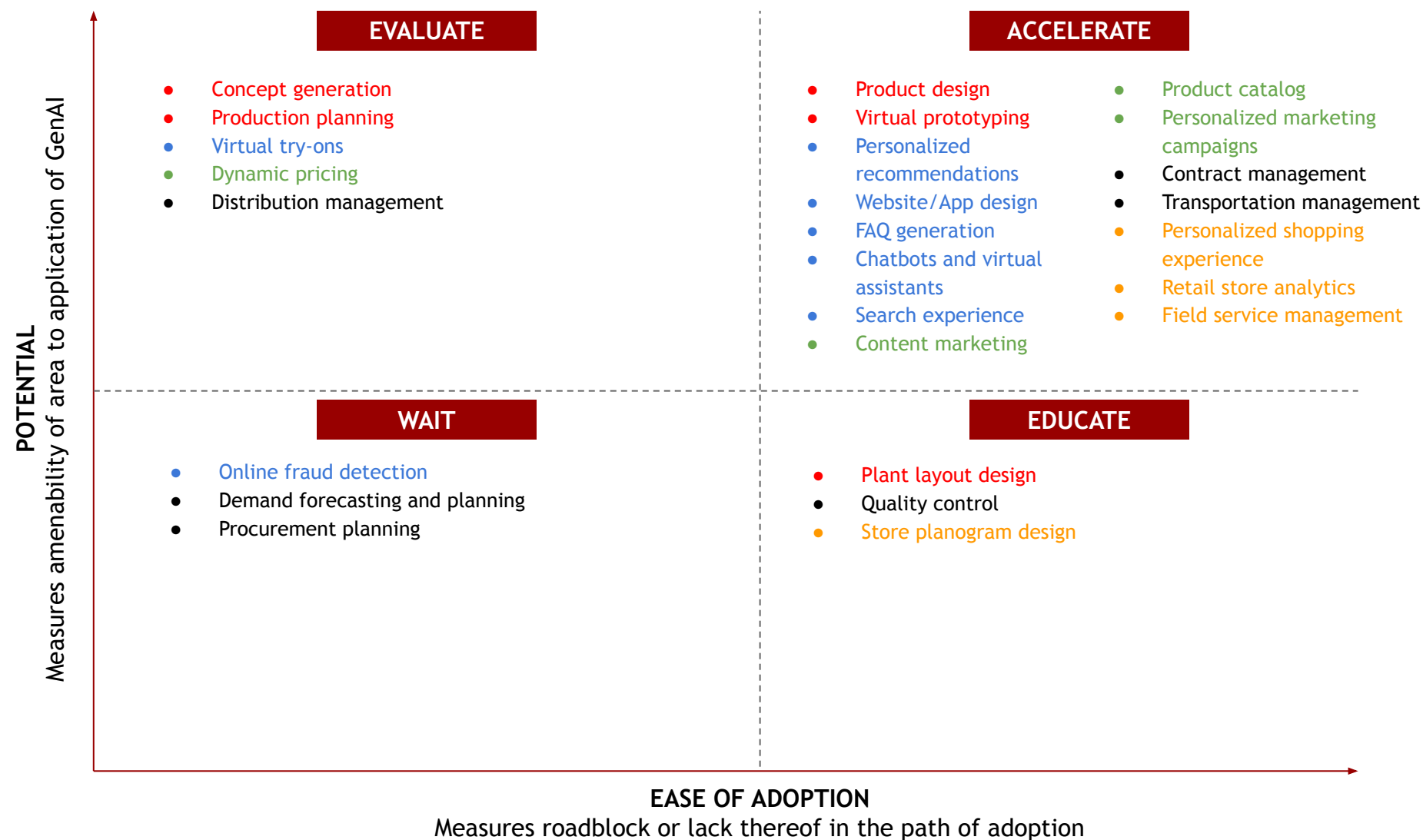
1-2%

of global industry revenue

~\$400B-\$600B

- *To streamline processes, generative AI could automate key functions such as customer service, marketing and sales, and inventory and supply chain management*
- *Technology has played an essential role in the retail and CPG industries for decades*
- *Traditional AI and advanced analytics solutions have helped companies manage vast pools of data across large numbers of SKUs, expansive supply chain and warehousing networks, and complex product categories such as consumables*
- *In addition, the industries are heavily customer facing, which offers opportunities for generative AI to complement previously existing AI solutions*

Generative AI at work in Retail & CPG



LEGEND:

Product development

Digital commerce

Sales and marketing

Supply chain

In-store operations

Leveraging GPT API to deliver business value

- In recent months, Unilever has developed a number of new technology applications to help its lines of business in the markets of tomorrow
- *Alex, powered by GPT API*, filters emails in Unilever's Consumer Engagement Center, sorting spam from real consumer messages
- For the legitimate messages, it then recommends responses to Unilever's human agents
- *Alex has helped Unilever reduce the amount of time agents spend drafting an answer by more than 90%*
- Another Unilever tool, called *Homer, leverages GPT API to generate content*. It's a neural network that takes a few details about a product and generates an Amazon product listing, with a short description and long description that matches the brand tone
- *Another AI-based tool* that Unilever launched on the week of US Thanksgiving supports the Hellmann's mayonnaise brand to reduce food wastage



AB InBev's Beck's makes 'futuristic' beer using artificial intelligence

- Beck's is producing the *world's first beer and entire marketing campaign made with artificial intelligence*
- The AB InBev-owned brand said the beer, called *Beck's Autonomous*, was selected by AI as its favorite among millions of different flavor combinations it generated. The "*futuristic concoction*" contains water, malts, hops, yeast and AI
- F&B companies are aggressively using Gen AI to expedite product development and/or plan for the future

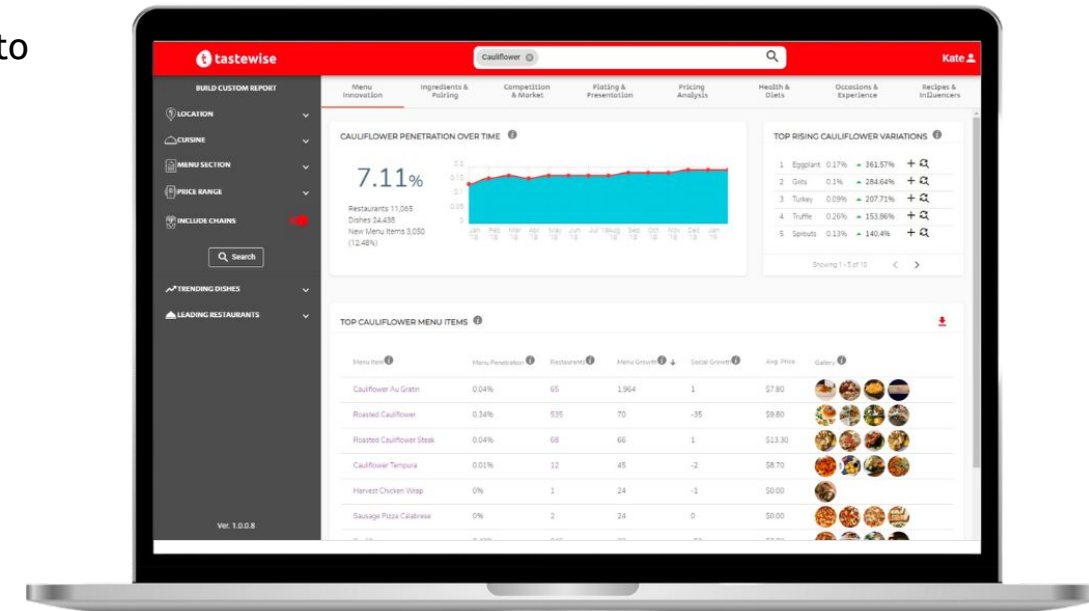


Validating new product ideas & generating marketing research report

- **Nestlé** and other CPGs, including **Campbell's**, **Mars**, **Givaudan**, are reportedly **using a generative AI platform called Tastewise**, which helps CPGs validate new product ideas and generate market research reports
- The platform uses a proprietary AI and a dataset on food consumption to provide insights into best-selling restaurant items, a home cooking panel, and billions of real-life moments of consumption
- Generative AI is helping companies to analyze information on trends, ingredients, flavors, and health benefits from social media, online publications, and other web sources

Campbell's

Givaudan



Driving Disruptive and Creative Innovation



- One of the world's leading consumer packaged goods (CPG) companies, *Coca-Cola has embraced the realm of generative AI*, employing this technology to craft their latest advertisement
- Introducing *Masterpiece, an AI-powered campaign launched by Coca-Cola*, which has swiftly captured global attention

- This extraordinary initiative features a mesmerizing display of esteemed artworks from the annals of history, skillfully brought to life through groundbreaking artificial intelligence
- By leveraging generative AI, Coca-Cola aims to create tailored and engaging content that resonates with individual consumers, fostering deeper connections and driving brand loyalty

Personalized Nutrition

- Generative AI is taking personalization to new heights by creating customized nutrition plans
- AI models generate a personalized meal plan based on input data like age, health condition, dietary restrictions, lifestyle, and food preferences
- It can also adapt, learning from user feedback to improve the recommendations
- Companies like **Nutrino** use AI algorithms to offer personalized dietary advice, assisting people in making informed food choices for a healthier lifestyle



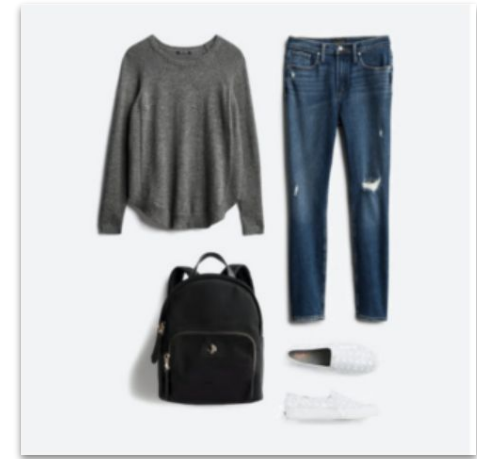
Reimagine Product Marketing using Generative AI

- Using Photoshop's recently-introduced Generative Fill AI Tool, TikTok user @pictelate *transformed the famous 17th century painting, Girl with a Pearl Earring by Johannes Vermeer, into a speculative advertisement (spec ad) for Nike*
- Pictelate used Generative Fill text prompts to extend the painting background and turn it into a gym
- He made the girl 'wear a Nike headband, a Nike sports top, and transformed the image to show that the girl is taking a selfie
- The tagline reads, "*Cancel Gym Selfies, If you're gonna work out, JUST DO IT!*"



Tailoring shopping experience as per Individual Customers

- **Stitch Fix** uses Gen AI to suggest style choices based on customer preferences
- Stitch Fix stylists use **text-to-image generation** to visualize clothing articles tailored to individual customers, facilitating a more personalized shopping experience
- Additionally, Gen AI can be leveraged to create next-generation apps to enhance customer interactions, improve customer value management, and increase cross-selling and upselling opportunities
- **Stitch Fix is leveraging GPT-3** for text generation for writing product descriptions to see unprecedented time savings and scalability without sacrificing the quality of product descriptions

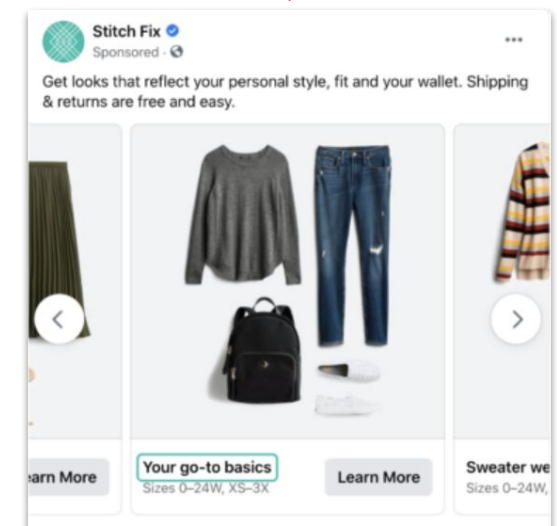


keywords: *Everyday, Casual*

title1: Everyday essentials

title2: Everyday style

title3: Your go-to basics



A low-angle, upward-looking photograph of several modern skyscrapers with glass facades. The image is overlaid with a semi-transparent dark grey horizontal band across the middle. On top of this band, the words "THANK YOU" are written in a large, white, bold, sans-serif font. There are three solid red rectangular blocks: one at the top center, one at the bottom right, and one on the left side partially overlapping the dark band. Below the red block on the left, there is a small black horizontal bar.

THANK YOU