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BUSINESS

IN THE ARTIFICIAL INTELLIGENCE AGE

WORK SMARTER

UNLOCK EFFICIENCY

FROM OLD PROCESSES TO NEW POSSIBILITIES

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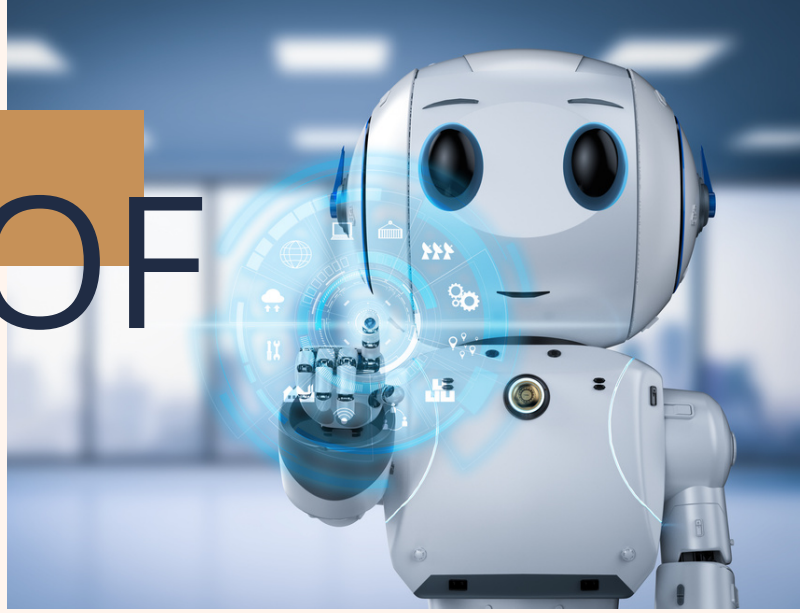

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EDITOR'S LETTER

These are certainly fascinating times when it comes to artificial intelligence (AI). It seems like barely a day goes by without some new headline about the promises or perils of thinking machines. On one hand, AI is powering incredible breakthroughs, from diagnosing diseases to driving cars (almost) safely. But on the other, fears are mounting about AI taking jobs or threatening privacy and security.

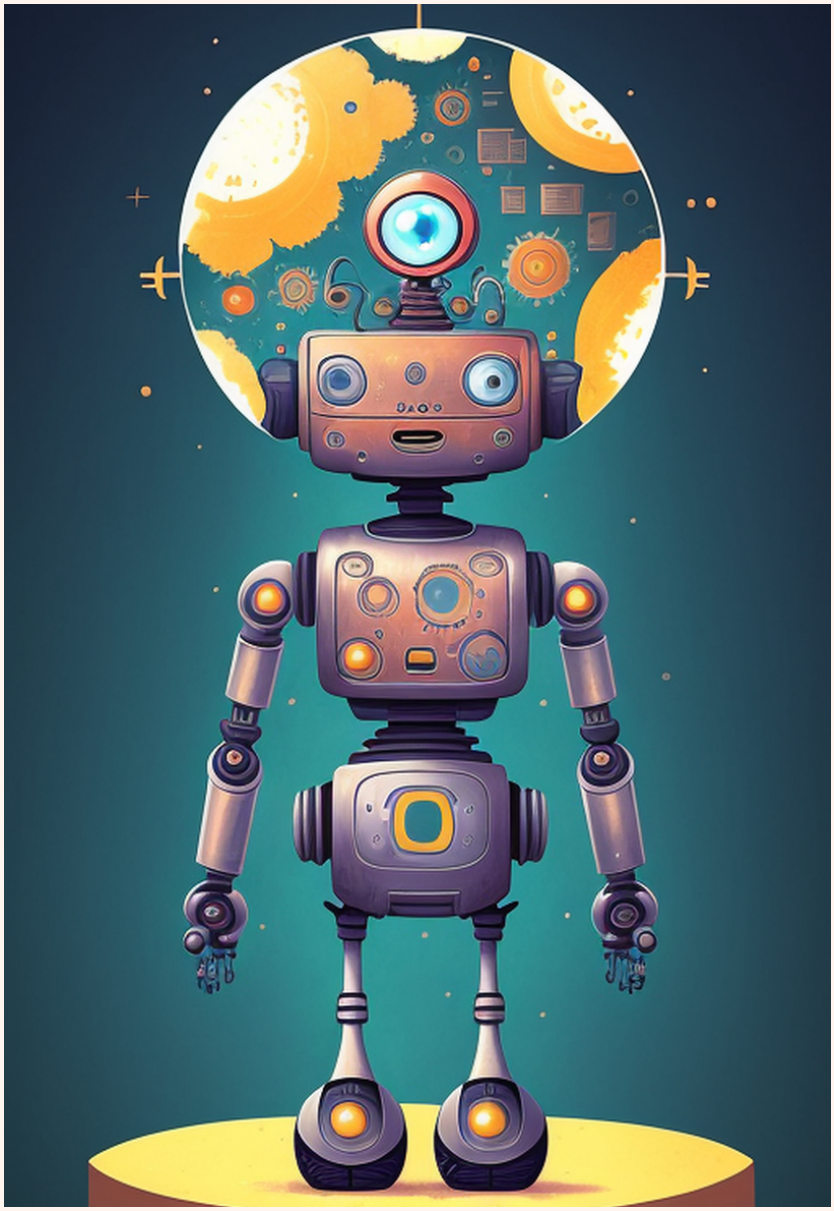
So what in the world is really going on in this brave new world of AI? The key is to take a balanced perspective. There's no denying AI's potential benefits. Applied thoughtfully, AI can help solve some of humanity's biggest challenges, from climate change to disease. At the same time, we must acknowledge the risks that come with any powerful technology. There are valid concerns around data collection, algorithmic bias, and job displacement that deserve scrutiny.

The path forward requires asking tough questions, having open debates, and developing ethical guardrails to steer AI in a direction that helps, not harms. This technology is here to stay, but we get to collectively shape how it evolves. There will surely be more AI headlines in the days ahead, some hopeful, others alarming. But by facing the complexities head-on, we can work toward an intelligent, compassionate future.

Pedro Velez

THE DIFFERENT TYPES OF AI

Artificial intelligence (AI) is powering innovations across a wide range of fields. But all AI is not created equal. There are different approaches, each with unique capabilities and limitations.

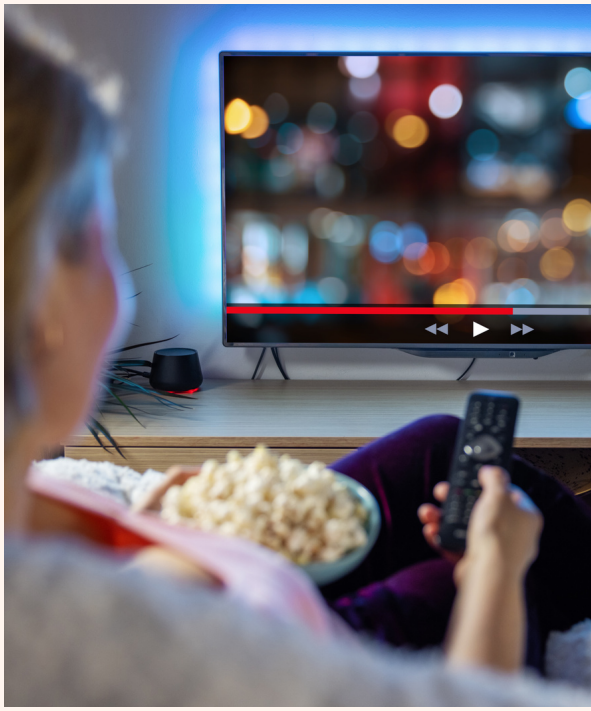


Getting a handle on the key AI categories is crucial for understanding this technology's impacts.

01

GENERATIVE AI

Can create original content like images, video, audio, and text. Applications range from Deepfake videos to AI-generated art, music, and literature. While offering creative possibilities, ethical concerns abound over misuse of generative AI.



02

MACHINE LEARNING

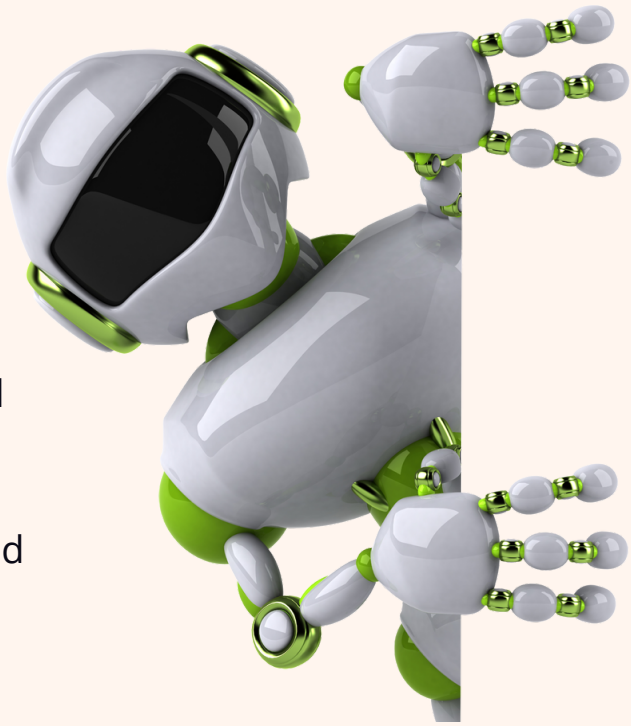
One of the most prevalent forms of AI today. It involves training algorithms on data to make predictions or decisions without explicit programming. Machine learning excels at pattern recognition, such as identifying fraud or faces in images. It enables recommendations on Netflix and social media.

03

NATURAL LANGUAGE PROCESSING (NLP)

Focuses on enabling computers to understand, interpret, and generate human language. NLP underlies chatbots, Google Translate, and Alexa's ability to respond to voice commands. Advancements in NLP are making interactions with computers more conversational.

The AI field keeps evolving. But understanding its core branches provides a foundation to grasp this technology's impacts across industries and on society as a whole. Our future will undoubtedly see AI advancements we can't yet fathom.



04

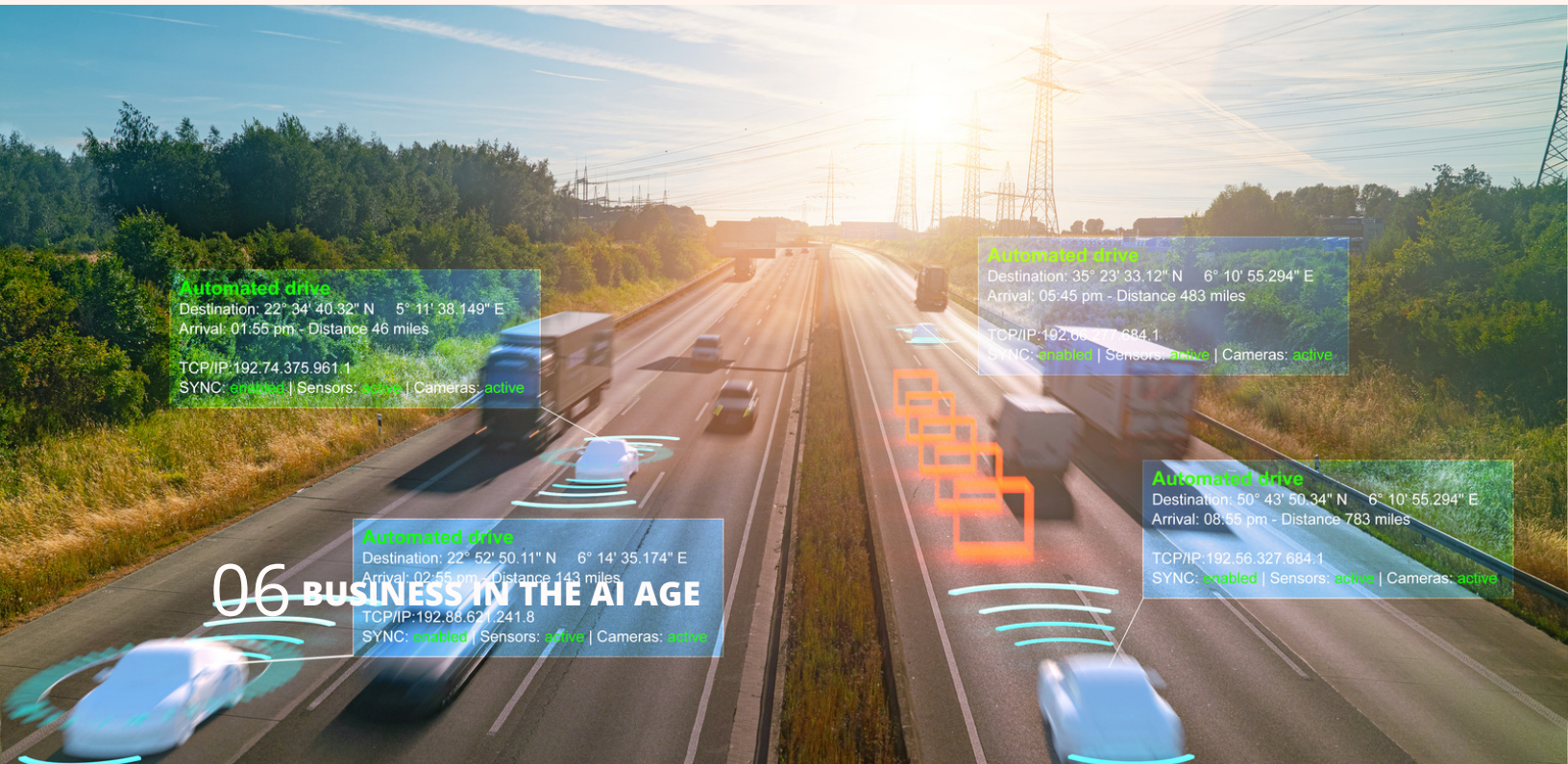
ROBOTICS

Applies AI to enable machines to interact with the physical world. "Smart" industrial robots optimize manufacturing while service robots can deliver packages, clean offices, or assist the elderly. Robotics fused with AI is automating tasks once reserved for humans.

05

COMPUTER VISION

Deals with how computers process and analyze visual data from the real world. It allows self-driving cars to "see" stop signs and lane markers. Medical imaging apps use computer vision to detect tumors and diagnose diseases. The possibilities span from organizing photo collections to inspecting factories.



WHO'S THERE?
GENERATIVE AI

Of all the AI categories, few conjure as much awe and controversy as generative AI. This emerging capability allows machines to produce original content that can pass for something created by humans.The most common form of generative AI today is text generation.

Models like GPT-4 can write astonishingly human-like text on demand, whether it's continuing a story, answering questions, or even crafting jokes. The applications for automating content creation seem endless. But generating text is just the beginning. Generative adversarial networks (GANs) can now synthesize fake but

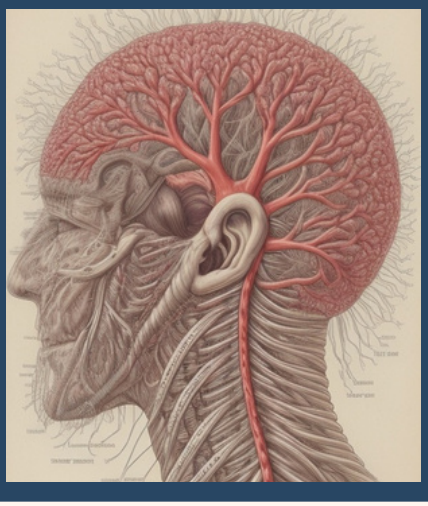
> **Applications like DALL-E 2 can generate images simply based on text prompts.**

ultra-realistic photos, videos, and audio. Want to see your favorite actor star in a movie they never acted in or have a deceased sing you a new song? That may soon be possible as this technology advances.

On the more whimsical end, generative AI can also produce original artworks in different styles and mediums. Of course, generative AI raises pressing ethical questions.

LLM (LARGE LANGUAGE MODEL)

A large language model (LLM) is a type of artificial intelligence system that is trained on massive amounts of text data to generate sophisticated natural language capabilities. LLMs power many of the latest breakthroughs in areas like conversational AI and text generation.



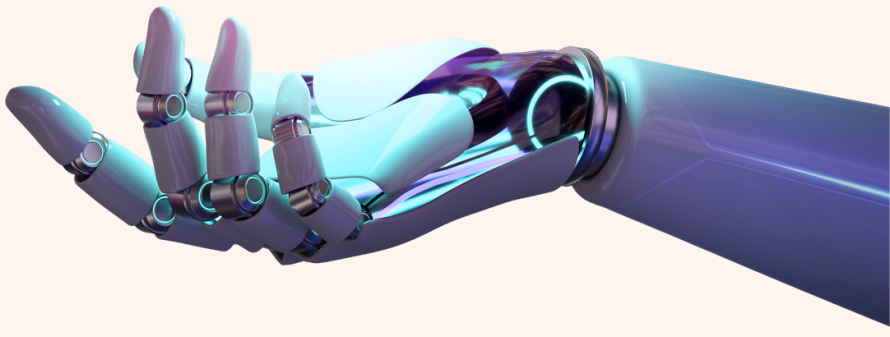
The risk of propagating misinformation through AI-generated fake media is profound. And if creative jobs become automated, what happens to human artists and authors? Like any powerful technology, guidelines and safeguards are needed.
But generative AI also holds tremendous positive potential. Imagine if doctors could generate personalized medical imagery on demand to diagnose patients. Or experts using AI to generate translations, reports, and other content to share knowledge globally. As with all AI, steering generative models wisely remains key to unlocking benefits while minimizing harm.

> **Each of the current LLM ingested hundreds of gigabytes to terabytes of text from sources like Wikipedia, news articles, books, and online forums during training.**

Most current leading generative AI systems are based on large language models (LLMs).

A large language model (LLM) is a type of artificial intelligence system that is trained on massive amounts of text data to generate sophisticated natural language capabilities. LLMs power many of the latest breakthroughs in areas like conversational AI and text generation.

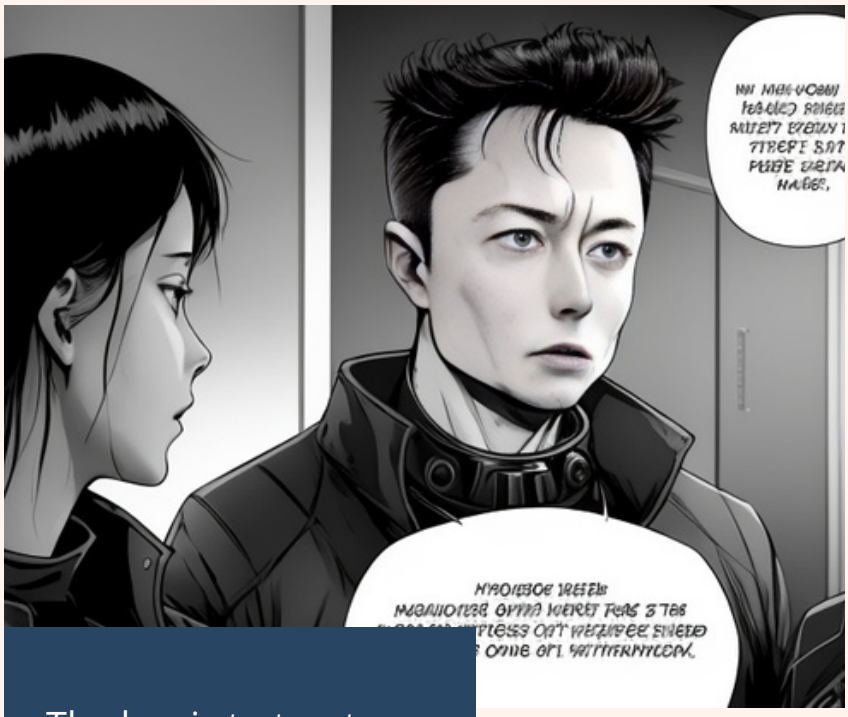
The key distinguishing feature of an LLM is its large size. LLMs contain billions of parameters that enable them to build very complex statistical representations of language based on all the text they've analyzed. The more text data an LLM is trained on, the better it becomes at tasks like translating between languages, summarizing long articles, composing emails, and even creating poetry.



TRUSTING AI
DANGERS & LIMITATIONS

key limitations and dangers of blindly trusting large language models (LLMs)

DO MACHINES DREAM?
LLM KEY LIMITATIONS



Always confirm the information and data provided by LLM AIs like ChatGPT, Bard, or Bing. Remember, they are predicting the answer, not reasoning.

The key is to treat LLMs as a smart assistance tool rather than an authoritative source of truth or creative works. Just like any other AI system, LLMs require human oversight for responsible and ethical deployment.

01

HALLUCINATIONS

Since LLMs are trained on statistical patterns, they can occasionally generate plausible-looking but completely fictitious text that has no basis in facts or reality. This is dangerous if their output is not diligently verified.

02

LACK OF REASONING

LLMs have no actual understanding of the content they generate. They cannot reason about cause and effect relationships or the factual accuracy of statements. Their output should not be presumed true without proper references.

03

DATA BIAS

Any biases and flaws in the training data get reflected in the LLM. This can lead to issues like gender stereotyping, racial prejudice, and spreading misinformation. Ongoing monitoring for biased outputs is essential.

04

NARROW APPLICABILITY

Each LLM is specialized for certain types of text generation. Using it for anything outside its training domain increases the risks of nonsensical, inappropriate or misleading output

WHAT IS A CHATBOT

A chatbot is a type of artificial intelligence system that is capable of having conversations with humans through text or voice interfaces.

01

SIMULATES CONVERSATION

Chatbots are programmed to simulate intelligent conversation by understanding natural language inputs and responding in an articulate manner. They can engage in dialog ranging from simple Q&A to more free-flowing discussions.

> **A chatbot is a type of artificial intelligence system that is capable of having conversations with humans through text or voice interfaces.**

02

NATURAL LANGUAGE

Chatbots rely heavily on natural language processing (NLP) to comprehend human speech and generate relevant and grammatically correct responses. Advances in NLP are a big driver behind chatbot evolution.

03

PRE-DEFINED SCRIPTS

Earlier chatbots were based on predefined scripts with limited abilities. Modern chatbots are powered by machine learning to produce more dynamic conversations.

04

MULTIPLE PLATFORMS

Chatbots can be found on websites, messaging apps, virtual assistants, smart speakers and other platforms. Text or voice interfaces provide the interaction.

AI CHATBOT
INTERNAL APPLICATIONS

01

KNOWLEDGE REPOSITORY

The chatbot can act as a centralized knowledge base, providing employees with instant answers to technical questions, procedures, and other details.

02

EMPLOYEE ONBOARDING

New employees can interact with the chatbot to learn about company procedures, safety protocols, project details, and more. It can serve as a digital mentor, guiding them through the initial phases of their roles.

03

PROJECT MANAGEMENT

Employees can inquire about project statuses, deadlines, and responsibilities. With development, the chatbot can integrate with project management tools to provide real-time updates.

> **Employees can interact with the chatbot to learn about company procedures, safety protocols, project details, and more.**

04

TRAINING & DEVELOPMENT

The chatbot can offer training modules, quizzes, and resources for continuous learning. Whether it's a refresher on safety protocols or new techniques in geotechnical shoring, the chatbot can assist.

05

INTERNAL SUPPORT

For HR queries, IT issues, or administrative questions, the chatbot can provide immediate assistance, reducing the load on support teams.

06

FEEDBACK COLLECTION

Employees can inquire about project statuses, deadlines, and responsibilities. The chatbot can integrate with project management tools to provide real-time updates.

BUT THEY ARE **JUST BOTS AFTER ALL**

When using commercial AI assistants, we need to remember they have access to limited knowledge and memory compared to a human. The bot may struggle to hold long conversations with extensive context and history, especially spanning multiple topics. Its knowledge is also restricted to what's available in its training data. This is not a fundamental limitation of AI, but a practical constraint today to deploy responsive online assistants. Significantly more parameters and compute would be required for a bot to converse fluently on almost any topic like a human expert.

USING CHATGPT

MAKING AI WORK FOR YOU

Chat with AI, Unlock Productivity

HOW TO USE **CHATGPT**

Let's get practical - how can AI fit into your regular work routines to make you more productive, creative, and knowledgeable?
The leading conversational AI tools like ChatGPT, Claude, and others, are advanced enough to be tremendously useful in daily business operations if applied thoughtfully. You can brainstorm ideas, get writing support, automate workflows, and gain insights simply by describing needs to your AI assistant.
For marketers, it may suggest high-performing headlines and social posts for a new campaign.
Business owners and managers can leverage it to analyze financial data, generate strategic plans, and automate workflows. And the list goes on.

To unlock the productivity benefits, users need to master the art of prompting - providing the AI with clear, detailed instructions to get the desired output. Prompting requires understanding the assistant's capabilities and limitations to guide it effectively.

Success requires learning some best practices - framing your prompts clearly, guiding the chatbot step-by-step on complex tasks, and leveraging its strengths while recognizing limitations. With mastery, these AI chatbots will become an indispensable asset in your work toolbox.

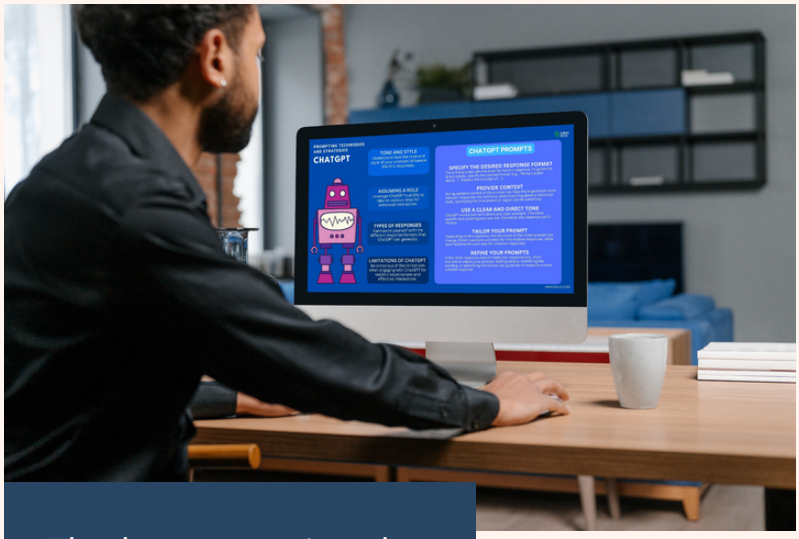
PRACTICAL APPLICATIONS
5 EXAMPLES

There are now thousands of guides, examples, and resources available online for applying chatbots like ChatGPT to various business uses. The possibilities can seem endless for leveraging these tools to enhance your work.

I share regular posts and commentary about applying conversational AI on LinkedIn. Feel free to connect with me there for more ongoing insights about safely using these powerful tools to boost productivity and creativity.

These are some use cases I have written about, each reflecting practical applications with real-world scenarios.

CHATGPT TO THE MAX
PROMPT TECHNIQUES



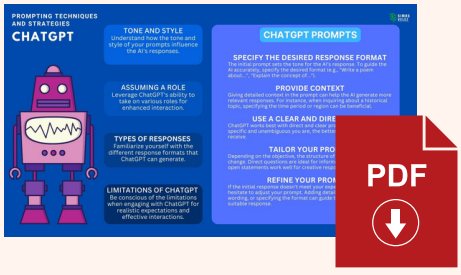
The key to getting the most out of AI chatbots is learning prompting best practices. How you frame your instructions and guidance dramatically impacts the quality and usefulness of the bot's response.

01

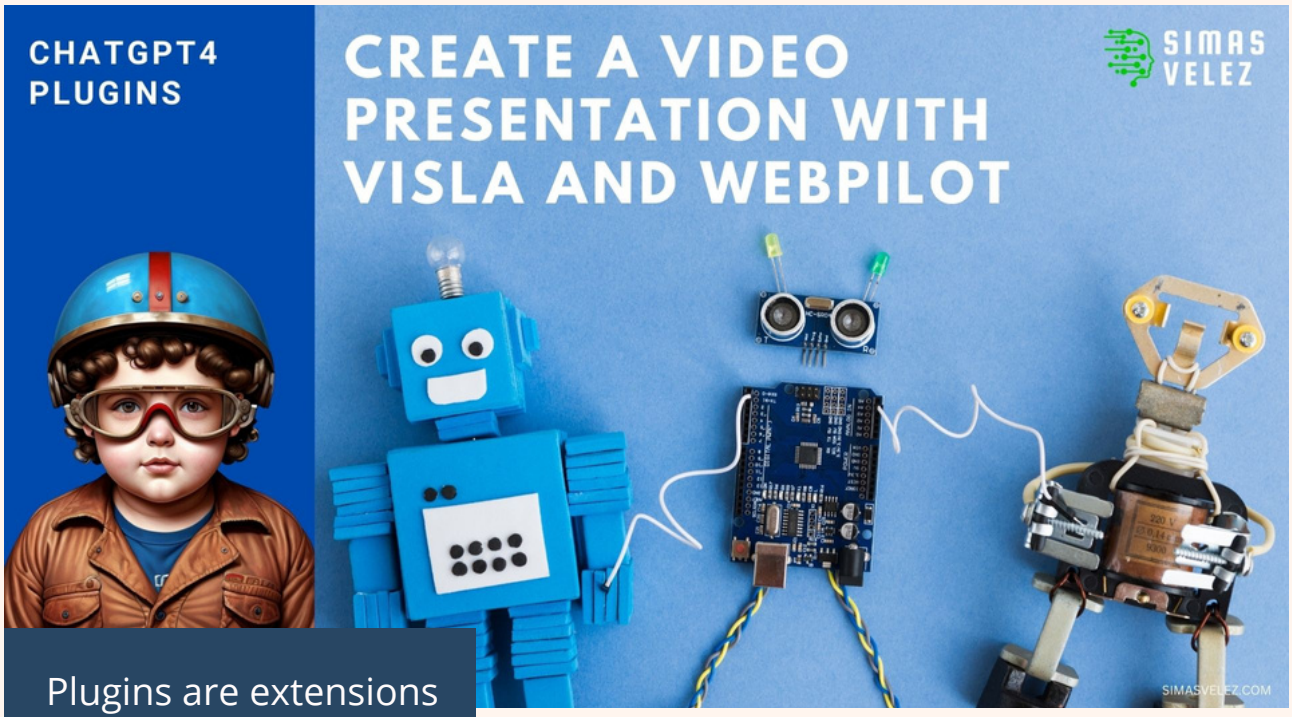
PROMPT ENGINEERING

With thoughtful prompting that provides sufficient context and direction, you can guide AI chatbots to provide optimized results for business objectives

- Setting an appropriate tone and style
- Assuming a persona or role when chatting
- Requesting specific response formats like bullet points or summaries
- Providing examples to guide the chatbot
- Asking follow up questions and giving feedback to refine outputs
- and a lot more



EXPAND THE SCOPE
USING PLUGINS

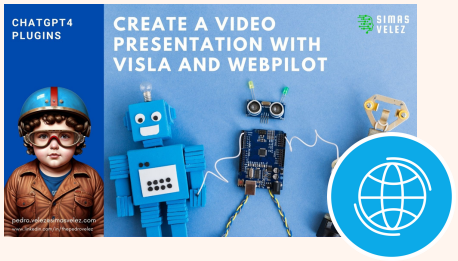


Plugins are extensions that allow to perform specific tasks or access external capabilities. They enhance the functionality of ChatGPT by enabling it to interact with external systems, fetch real-time data, perform specialized computations, and more.

02

FUNCTIONALITY EXPANSION

Explore an example on how two ChatGPT plugins – WebPilot and Visla – can be combined to transform your website content into a video presentation.



DATA VISUALIZATION AND ANALYSIS
CHATGPT FOR EXCEL

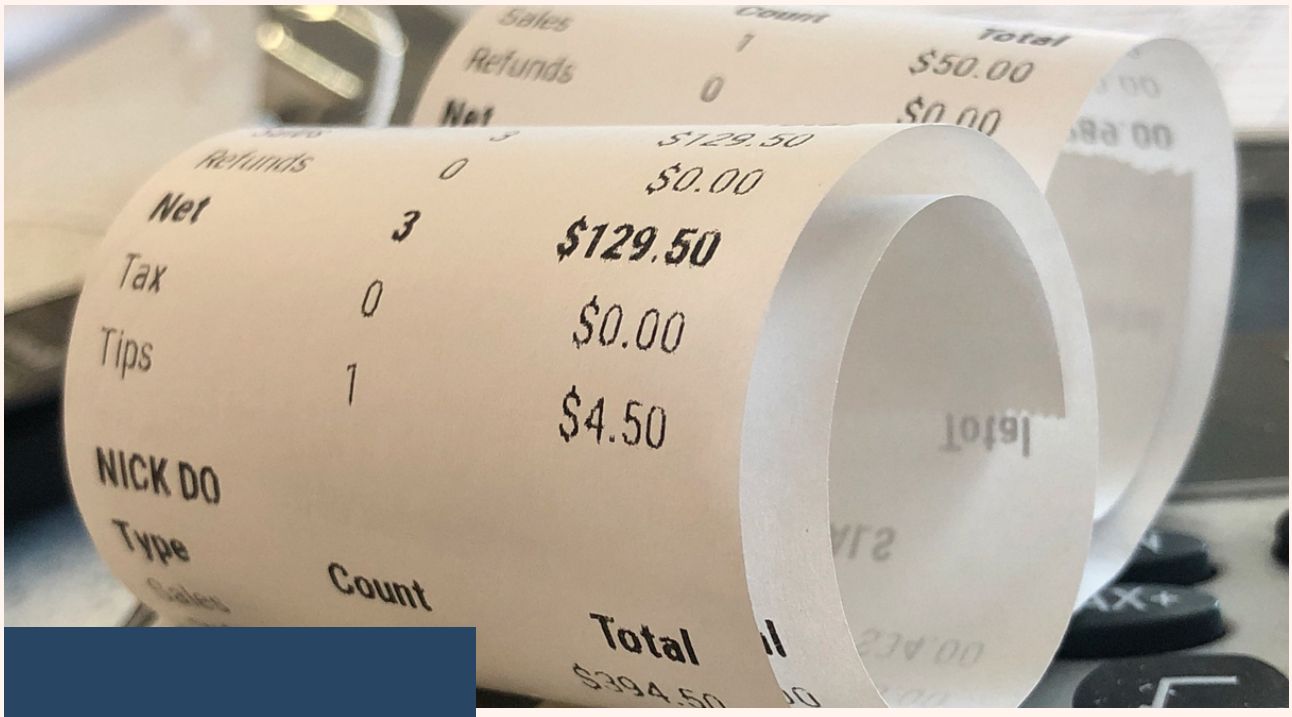
The code interpreter can swiftly analyze your Excel data, offering insights through statistics and visuals, optimizing your decision-making without needing a data analyst.

03

CODE INTERPRETER

The code interpreter is a unique ChatGPT tool that understands and executes programming instructions, enabling automation and data analysis with precision and speed.

OPTICAL CHARACTER RECOGNITION
RECEIPTS TO EXCEL

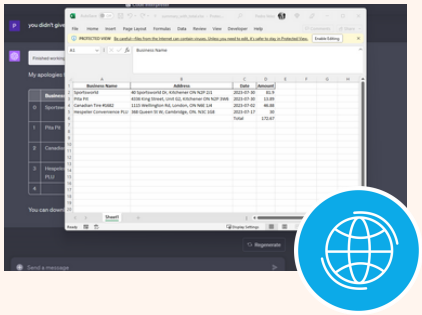


With minor prompt adjustments, the OCR capabilities can be explored in many interesting ways.

04

CODE INTERPRETER

The code interpreter can perform Optical Character Recognition (OCR) on receipts (and printed documents) and generate an Excel spreadsheet from the extracted data.



THE STRATEGIC POWER OF **SENTIMENT ANALYSIS**

Email sentiment analysis: a tool that goes beyond the explicit to decode the implicit.
The question isn't just what is said, but how it's expressed, and more importantly, what it means for the future interactions.

05

COMPLEX ANALYSIS USING MULTIPLE MODELS

Explore sentiment analysis using three different models (ChatGPT, Claude, and Llama2) in an hypothetical yet illustrative email exchange between a supplier and a buyer

PIONEERING AI POSSIBILITIES

In this "magazine", we've charted the landscape of conversational AI and its potential business impacts. As an experienced IT consultant, I'm eager to pioneer applying these technologies to help organizations work smarter.

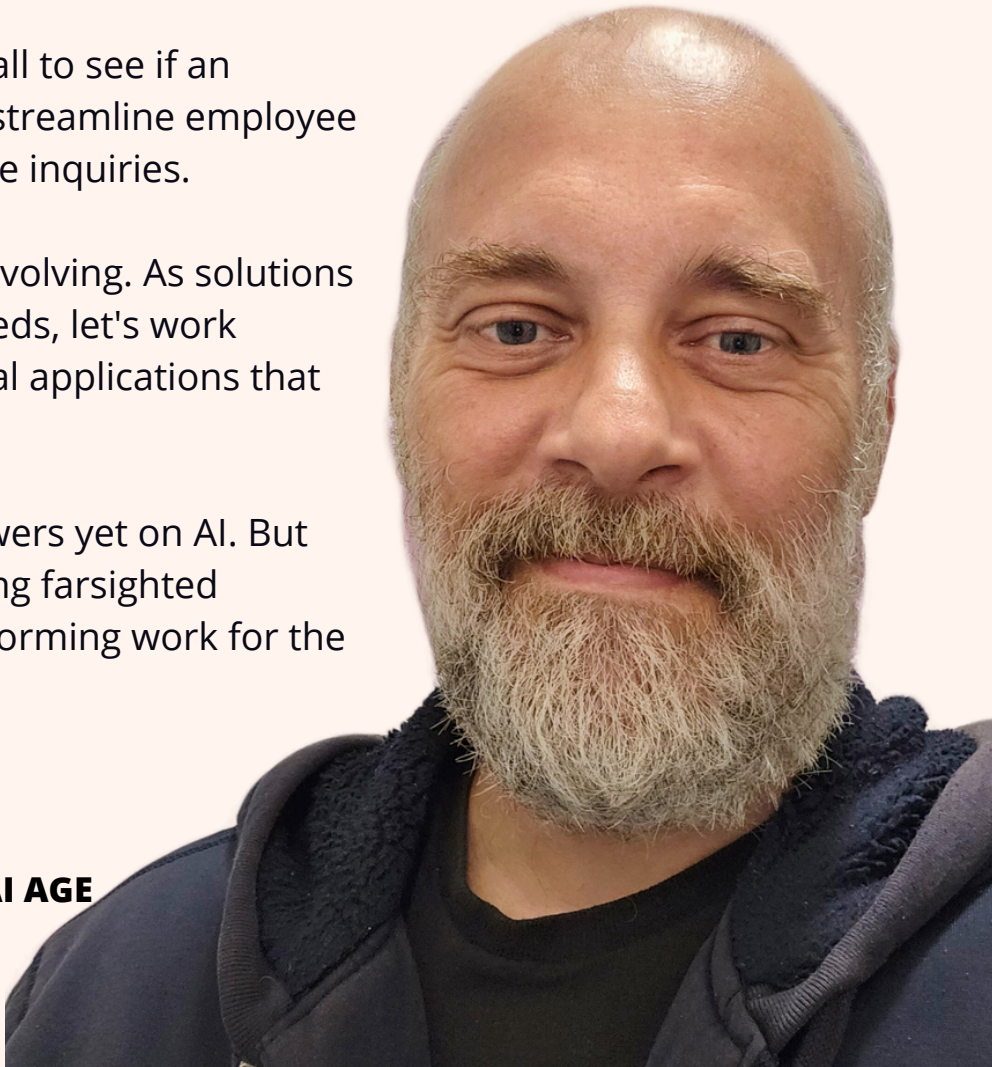
I see immense possibility in tools like ChatGPT. My mission now is guiding customers to integrate conversational AI in thoughtful ways - automating processes, generating insights through natural dialogues, and complementing teams.

I'm also excited to help launch Intranet Chatbots - customizable AI assistants providing quick access to internal company information.

Let's have a discovery call to see if an Intranet Chatbot could streamline employee HR, safety, and repetitive inquiries.

The AI space is rapidly evolving. As solutions mature for business needs, let's work together to shape ethical applications that empower your people.

Nobody has all the answers yet on AI. But the journey now is having farsighted conversations on transforming work for the better. Let's chat!



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