

Transforming Data: The Future of Work

AI Beyond the Buzzword

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Nick Wall is a systems, AI, and data consultant specializing in helping businesses optimize their workflows through technology, automation, and strategic process improvement. With expertise in AI integration, data management, and business operations, Nick works with companies to enhance efficiency, improve decision-making, and streamline complex processes to drive sustainable growth.

KTE Analytics is a systems and process consulting firm specializing in AI adoption, data strategy, and business process optimization. We help companies refine their internal operations by implementing efficient systems, structured workflows, and automation solutions that align with business objectives. Whether you're exploring AI, improving data management, or optimizing operations, KTE Analytics provides expert guidance and hands-on support to help businesses scale effectively.

Services Offered:

- Systems & Process Consulting
- AI Strategy & Readiness Assessments
- AI Training & Workshops
- AI Workflow & Automation Development
- Business Data Optimization & Reporting
- AI Governance & Policy Consulting
- Ongoing AI & Process Support & Strategic Advisory

Today's Agenda

- 01 Brief History of AI (Artificial Intelligence)
- 02 Large Language Models (LLMs)
- 03 Use Cases
- 04 AI Adoption Roadmap
- 05 Demo / Q&A

A

How to Define AI?

Detailed Definition

Artificial Intelligence (AI) is a branch of **computer science** that involves creating machines capable of performing tasks that typically require human intelligence. This broad field encompasses various subfields, including machine learning, **natural language processing**, robotics, and computer vision. AI systems are designed to **simulate human cognitive functions** such as learning, reasoning, problem-solving, perception, and language understanding. At its core, AI involves the development of **algorithms** that enable computers to analyze and interpret complex data, make decisions, and learn from their experiences. **Machine learning**, a key subset of AI, allows systems to automatically improve and adapt their performance over time without being explicitly programmed, using large datasets and statistical techniques. AI applications range from simple tasks like filtering spam in email to more complex ones like autonomous vehicles, medical diagnosis, and financial market analysis. The ultimate goal of AI research is to create technology that allows computers and machines to function in an intelligent, **human-like manner**, augmenting human capabilities and automating tasks to improve efficiency and effectiveness in various domains.

Simple Definition

Artificial intelligence (AI) is the capability of a "machine" to imitate intelligent human behavior.

01

Timeline of AI

"CliffsNotes of CliffsNotes Version"

Dartmouth Conference

Introduction of 'Artificial Intelligence'



ELIZA

One of the first chatterbots ("chatbot")



The AI Winters

Slowdown in AI research and funding



IBM's RISC

Computing power become massively more efficient



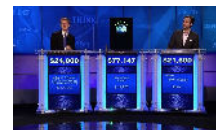
IBM's Deep Blue

Defeats the world chess champion, Garry Kasparov



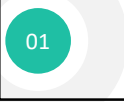
IBM's Watson

Wins Jeopardy!



Google's AlphaGo

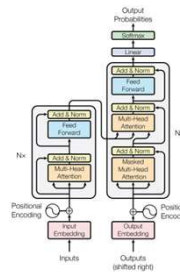
Defeats the world Go champion, Lee Sedol



01

Google's Research
"Attention Is All You Need."

2017



2020

OpenAI's GPT-3
Language Processing with Advanced Neural Networks

OpenAI's ChatGPT
Designed to simulate human-like text-based conversation.

2022



Large Language Models (LLMs)

Definition

A Large Language Model (LLM) is a neural network in artificial intelligence, trained on vast text data to perform complex language tasks. It recognizes patterns in language, enabling sophisticated tasks like translation and content creation, thanks to its billions of learned parameters.

Pattern Recognition

Context Interpretation

Predictive Output

Novel / Original Content

02

LLM Key Terms

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Model	→	The Brain
Prompting	→	How you “talk”
Context	→	Instructions
Tokens	→	Language of LLMs
Knowledge Bases	→	Files / External Data

02

How does an LLM work?

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ANALYTICS

Oversimplified

“Hey, how are.....”

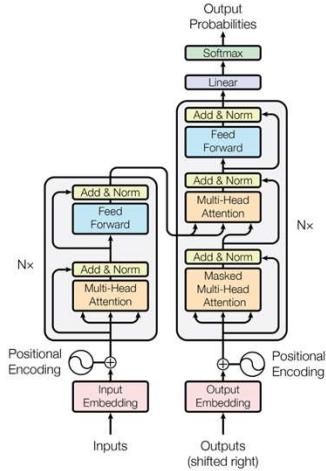
hey how are: **you** 70%
 hey how are: **they** 5%
 hey how are : **fine** 0.1%
 hey how are : **things** 10%

⋮
⋮
⋮

hey how are : **zebras** 0.1%

02

“Attention is all you need”



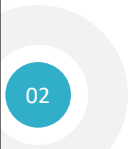
My dog's name is Max. He is a small dog
 with small paws. Max likes to play fetch in the backyard.



How Do You Interact With an LLM?

Prompting

Chatbots are one of the simplest methods.



How Do You Use a Chatbot?

Just start talking to it

The screenshot shows a chatbot interface with the OpenAI logo and the text "How can I help you today?". Below this are several suggested prompts: "Recommend a dish to bring to a potluck", "Show me a code snippet of a website's sticky header", "Brainstorm names for a non-alcoholic cocktail with Coke and po...", and "Compare marketing strategies for sunglasses for Gen Z and Millennials". The selected prompt is "Explain how a water treatment plant works in one paragraph".

You
Explain how a water treatment plant works in one paragraph

ChatGPT
A water treatment plant typically operates through several key stages to ensure that water is safe for consumption and use. Initially, the water undergoes screening to remove large debris like sticks and leaves. Then, it passes through a coagulation process, where chemicals are added to the water to bind with dirt and other particles, forming larger particles called flocs. These flocs then settle to the bottom in a sedimentation tank. Following sedimentation, the water is filtered through layers of sand, gravel, and charcoal to remove smaller particles and microorganisms. Finally, the water is disinfected, often using chlorine or ultraviolet light, to kill any remaining bacteria or viruses. In some cases, additional processes like fluoridation (to prevent tooth decay) or pH adjustment are also applied to ensure the water meets specific safety standards before it is piped into homes and businesses.

02

Prompting - Best Practices



Markdown

Act As
"You are..."

Specific

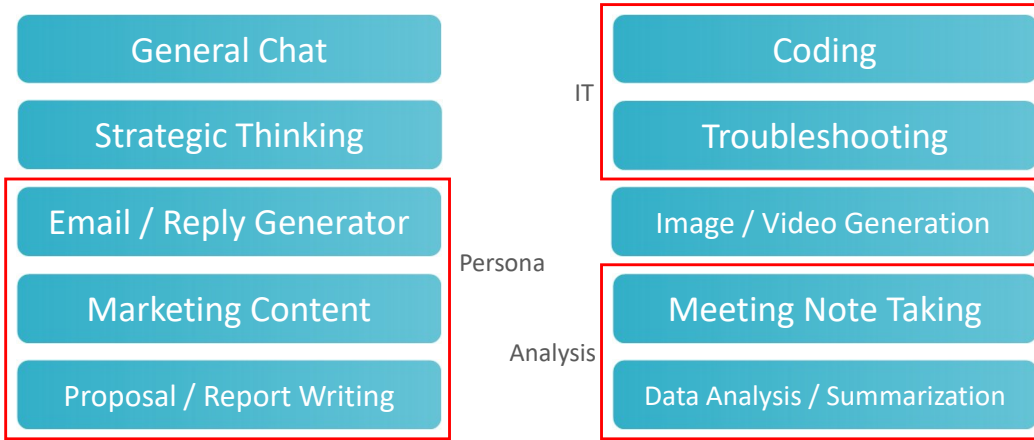
Thread

Examples

Regenerate

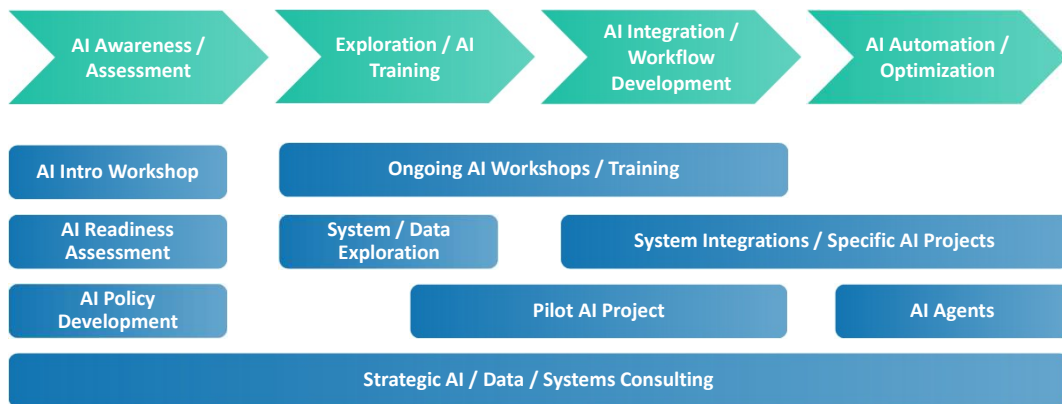
02

What Can AI Actually Do?



03

AI Adoption Roadmap



04

Demo Time..

05

Questions?

05