AI - The Future is Now!

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EMPOWER YOUR PURPOSE®

"There are decades where nothing happens; and there are weeks where decades happen."

- Vladimir Ilyich Lenin

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Presenter

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Topics

1. How did we get here?

2. Change management

3. Empowering
   - Faculty
   - Administration
   - Students

4. What is going on with AI at organizations?

5. Future success with AI

6. Practical use of AI today

7. Wrap up, Q&A

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Story time!

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How did we get here?

We empowered the end user with Artificial intelligence, or AI, which refers to "the development of computer systems that can perform tasks that typically require human intelligence, such as problem-solving, learning from data, and making decisions."

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ChatGPT - Training

Transformer-Based Large Language Models (LLMs)

*Source: AICPA

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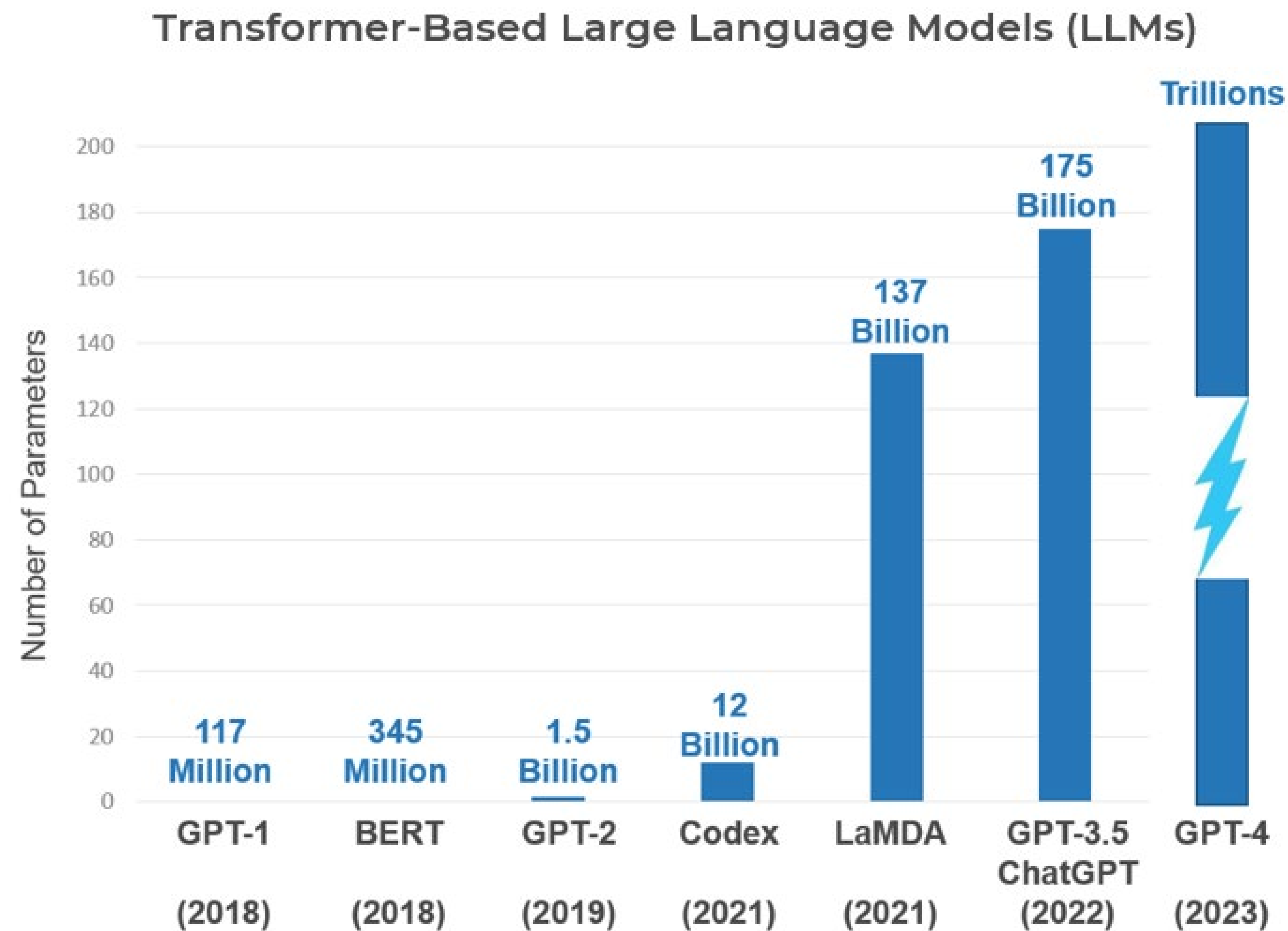
Natural Conversation

From this:

```
Sub CalculateResult()
    Dim ws As Worksheet
    Set ws = ActiveSheet ' Or specify your sheet: Set ws =
Sheets("Sheet1")

    Dim lastRow As Long
    lastRow = ws.Cells(ws.Rows.Count, "A").End(xlUp).Row ' Find
the last row with data in column A

    Dim i As Long
    For i = 2 To lastRow ' Assuming data starts at row 2
        ' Perform the calculation: (A + B) / D * E
        ws.Cells(i, "F").Value = (ws.Cells(i, "A").Value + ws.Cells(i,
"B").Value) / ws.Cells(i, "D").Value * ws.Cells(i, "E").Value
    Next i
End Sub
```
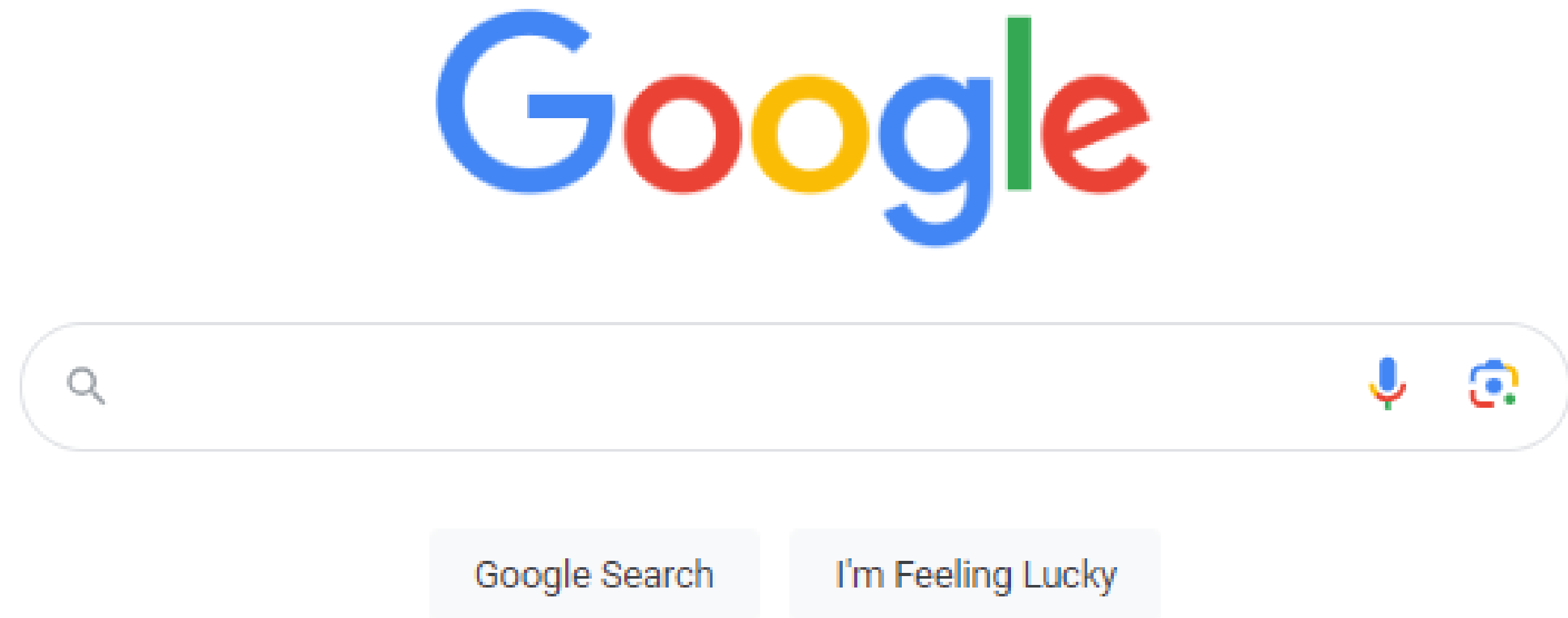
To this:

In Excel, I would like to add column A to column B, divide it by column D, and then multiply it by column E to get a final number. Can you write that it as an Excel macro?

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Transitioning from a Google search paradigm to an AI answer paradigm.
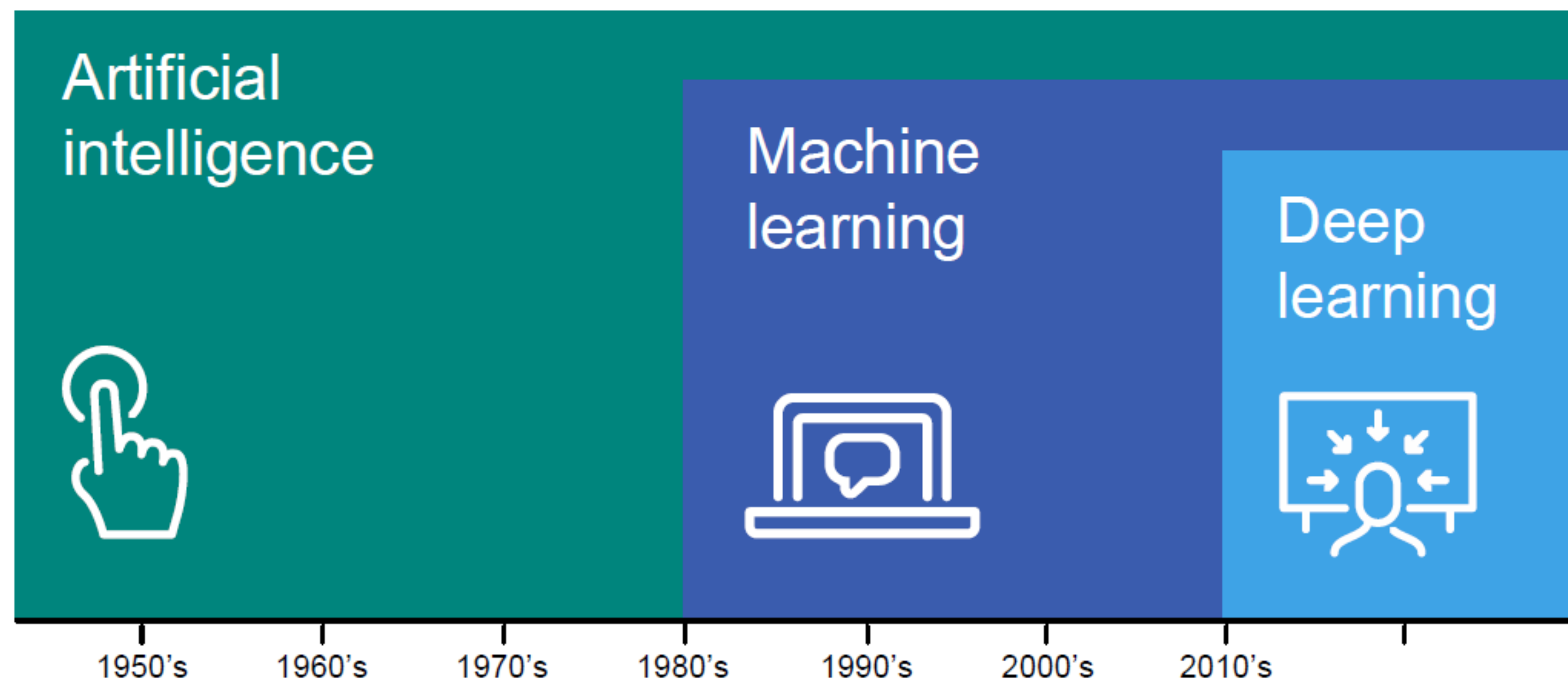
Why does GenAI feel different?

Something we can touch, feel, and use with very little training!

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Timeline

Artificial intelligence		
	Machine learning	
		Deep learning

1950's 1960's 1970's 1980's 1990's 2000's 2010's

Narrow AI came first.
ML uses algorithms to learn.
DL is the most

- recent,
- advanced,
- sophisticated,
- complex, and
- expensive.

*Source: AICPA

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AI Terminology – Cheat Sheet

Artificial Intelligence

is the broad goal of autonomous machine intelligence.

Machine Learning

is the approach or the mechanism we use to achieve that vision. It's where the machine learns from data.

Deep Learning

is a technique for implementing and executing machine learning, particularly good at utilizing large volumes of data.

Natural Language processing (NLP)

is a field of artificial intelligence that focuses on the interaction between computers and humans through natural language.

Large Language Models (LLM)

are an advanced artificial intelligence system trained on vast amounts of text data to understand, generate, and manipulate human language.

Generative AI

refers to artificial intelligence that can generate new content, from text to images, by learning from vast datasets.

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General AI aims to replicate human cognitive abilities, including reasoning, planning, problem-solving, and learning. Unlike existing AI systems that excel at specific tasks, AGI would have the ability to understand, learn, and apply knowledge across a broad range of tasks.

Example: Self-driving Cars - AGI would enable a car to not only drive autonomously by:

- Understanding and adapting to various complex situations
- Make decisions like a human driver
- Engage in conversation with passengers.

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Rules based AI capable of doing some tasks requiring human intelligence with a narrow scope or domain.

Example: Virtual Personal Assistants (e.g., Siri, Alexa) - Narrow AI systems excel in specific tasks, such as answering questions or controlling smart home devices.

They are specialized in their functions but lack the broader intelligence of humans.

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Machine Learning

Machine Learning encompasses the development of algorithms that enable computers to learn from data, make predictions, and improve their performance without explicit programming, often involving statistical techniques and iterative learning processes

Example: Email Spam Filters

- Machine learning algorithms can be trained to identify and filter out spam emails by analyzing patterns and content, improving accuracy over time as they learn from user interactions.

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Deep learning is a subset of machine learning that uses multiple layers of artificial neural networks to learn from large amounts of data.

Example - Deep learning algorithms can perform complex tasks such as:
- image recognition
- natural language processing
- speech synthesis without human intervention.

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Neural Network is a series of interconnected nodes, or artificial neurons, that are designed to mimic the way the human brain operates.

These networks use algorithms to recognize underlying relationships in a set of data, with each node processing information and passing it on to the next, much like how neurons transmit signals in the brain.

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Natural Language Processing (NLP)

Natural language processing (NLP) is a field of artificial intelligence that focuses on enabling computers to understand, interpret, and generate human language. It involves developing algorithms and models to extract meaning, sentiment, and context from textual or spoken data, enabling applications like machine translation, sentiment analysis, and chatbots.

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Large Language Models

Large Language Models are advanced AI models with millions or billions (and now trillions) of parameters that leverage extensive data and computational power to understand, generate, and manipulate human language, offering versatile capabilities in natural language processing tasks, including text generation, translation, and information retrieval.

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Generative AI (ChatGPT, CoPilot, and Gemini)

- **ChatGPT** is an AI language model developed by OpenAI, designed to understand and generate human-like text in a conversational manner.

- **Generative AI** is a type of artificial intelligence that can create novel content, such as text, images, or music, by learning from existing data without being explicitly programmed to perform specific tasks.

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AI Maturity Model
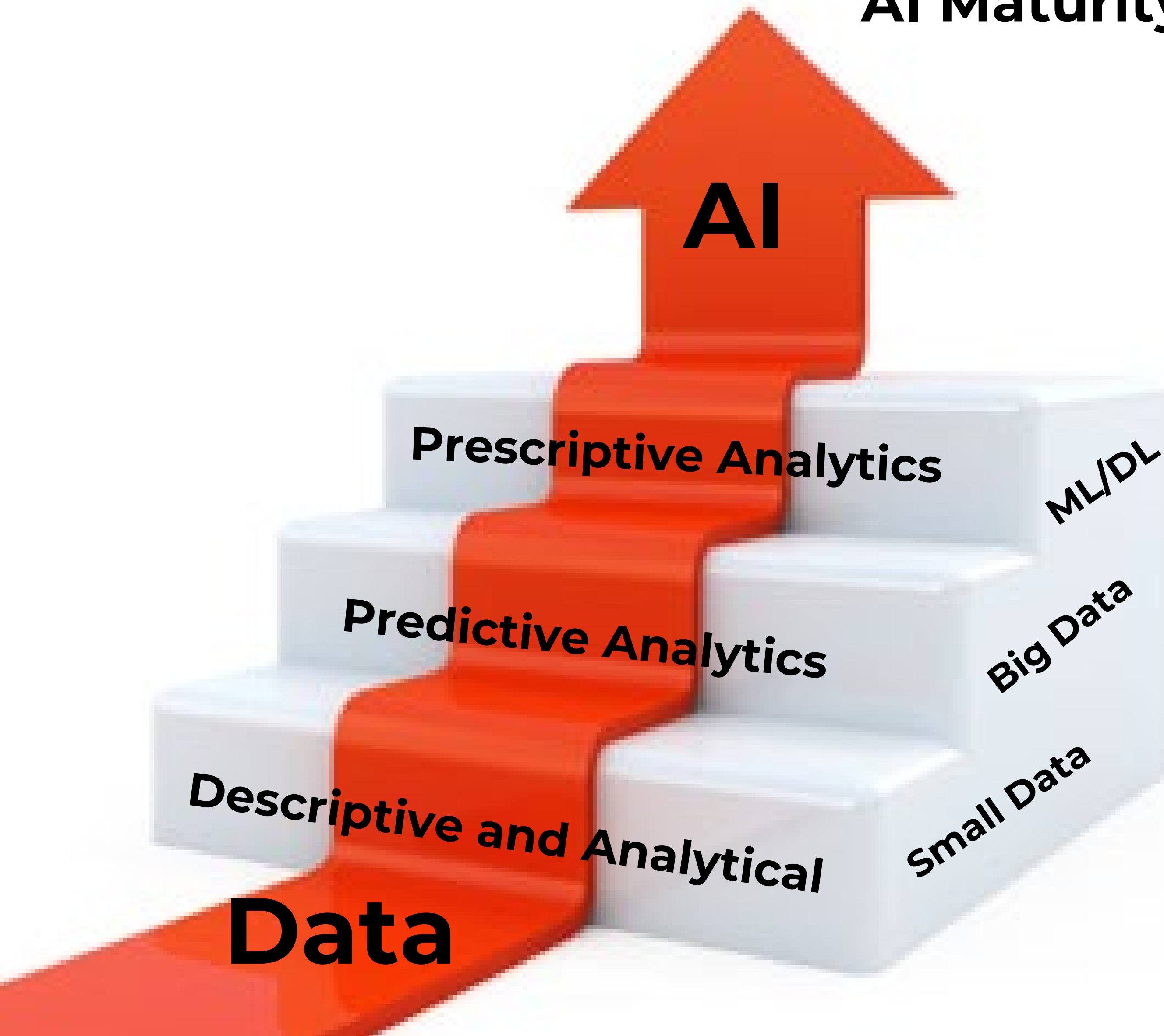
1. **Data**
   - Needs to be in order to get started
2. **Descriptive and Analytical**
   - Answer the What and Why
3. **Predictive**
   - Answers where a things are headed
4. **Prescriptive**
   - Answers what is next
5. **Value Chain**
   - Start with the Data

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CHANGE MANAGEMENT

Why Is Change Management Important?

With Change Management
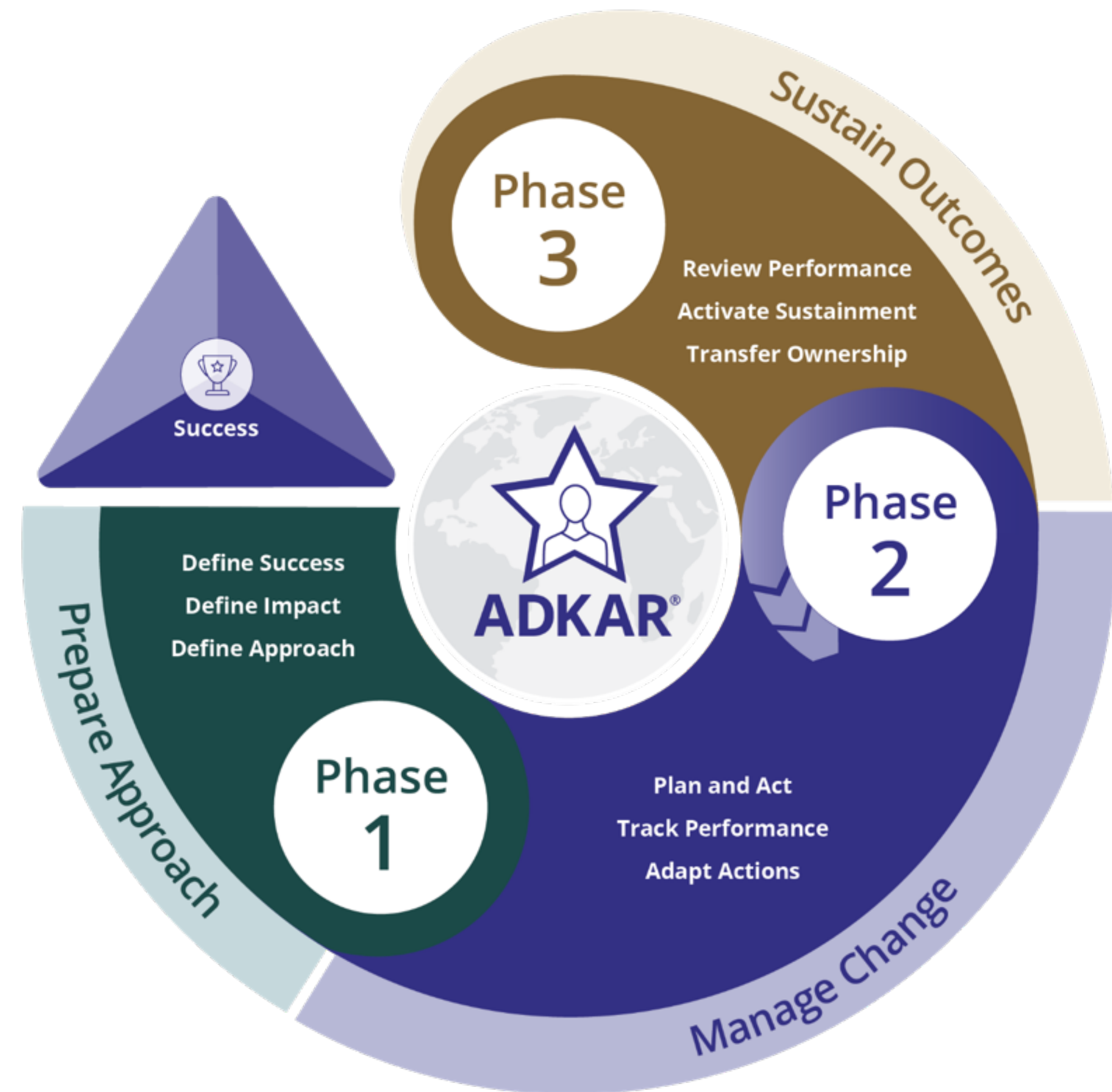
| Current State | Transition State | Future State | = | Success |

Without Change Management

| Current State | Transition State | Future State | < | Success |

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The Prosci Change Methodology
Managing the People Side of Change

Core Roles in Change Management

Employee-Facing Roles

Sponsor

- Authorize the change
- Fulfill three key roles: (ABCs)
  - Actively and visibly participate
  - Build a coalition of sponsorship with peers and managers
  - Communicate directly with employees

People Manager

- Support direct reports in their change journeys
- Fulfill five key roles: (CLARC)
  - Communicator
  - Liaison
  - Advocate
  - Resistance Manager
  - Coach

Source: Prosci

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Move the needle

Coach

Manage Resistance

Advocate

REACH *GOAL!*

STICK TO *IT*

GET TO WORK

MAKE PLAN

SET GOAL

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What comes next?

- **Project and change management**

- **Continue to challenge yourself and vendors**

- **Use professional skepticism**

- **Keep safety, bias, copyright, and confidentiality top of mind**

- **Be willing to change**

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Faculty

Prepare

Educate yourself

Ask your peers, students, other faculty

Be collaborative

Willing to change

Manage

Critical thinking and problem-solving mindset

Implement AI in the classroom

Find ways to make it engaging

Sustain

Assess

Solicit feedback

Improve content

Manage resistance

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Administration

Prepare

Research and educate yourself

Focus on faculty and the student needs

Exercise caution

Understand the risks with AI

Monitor vendors and enhancements to apps

Manage

Hold vendors accountable

Be in the room where it happens

Make your voice heard

Sustain

Create policies

Review data

Evaluate processes

Document, Document, Document

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Student Impact

Faculty - understand the needs of students and organizations

Administration – equip students and faculty with those tools

Provide feedback

Learn GenAI

Understand change and project management

Willing to challenge and change

Challenge with respect

Be proficient with these concepts

Willing to relearn

Be critical thinkers

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WHAT ARE WE SEEING IN ORGANIZATIONS?

AI Motivations

- **Pressure to accomplish tasks faster and more effectively.**

- **Consumers demand fast, accurate responses or products at a reasonable price point.**

- **Employee satisfaction**

- **Balance of human nature and technology.**

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Current State

Small Organizations

Mid Sized Organizations

Large Organizations

- AI maturity – low
- Using basic tools
  - Usually based on vendor offerings
  - Thinking about AI, but not sure where to start
- Legacy or basic cloud apps
- Lack of resources and internal controls

- AI maturity – moderately-low
- Embracing GenAI
- Resistance due to privacy and regulations

- Great integrations
- Automations
- No way to control it
- Lack of change mgt
- Need help documenting and establishing policies/governance with AI

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AI Current State

Marketing

Benefits

- Speed of content creation
- Social media management

Challenges

- Understanding how GenAI uses SEO
- Reputation risks

Learning and development

Benefits

- Curriculum design
- Speed of OnDemand training

Challenges

- Picking the right tools
- Process changes and governance

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AI Current State

Finance

Benefits
- Automation
- Integrations with current apps
- Not a reliant on IT

Challenges
- Sensitivity of data
- User acceptance

Information Technology

Focus Areas
- Security
- Data integrity
- Internal controls
- Documentation
- Automation
- Business intelligence

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FUTURE SUCCESS WITH AI

PROMPT ENGINEERING

Prompt Engineering

- Prompt engineering pertains to the strategic construction of instructions or queries that are clear, well-structured, and precise.

- Facilitating improved comprehension by AI systems and the delivery of accurate and valuable responses, thereby optimizing the overall performance of AI-driven applications.
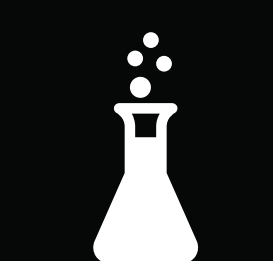
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Prompt Engineering – Best Practices

Clear and specific

Use context and examples

Experiment and iterate

Avoid biases and ethical issues

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Clear and Specific

"Please outline the steps to create a pivot table in Microsoft Excel 2019, including how to select the data range, choose the appropriate pivot table fields, and apply a relevant summary function."

Use Context and Examples

"Imagine you are a marketing manager for a tech startup. Develop a marketing campaign strategy that targets young professionals interested in your product. Include specific examples of digital marketing channels, messaging, and key performance indicators (KPIs)."

Avoid Biases and Ethical Issues

"As a data scientist, you are tasked with developing a predictive model to identify potential loan applicants. Describe the steps you will take to ensure that the model is free from biases related to gender, race, or any other protected attributes, and that it adheres to ethical guidelines."

PRACTICAL APPLICATIONS

Summarization

Prompt:

Please review the PowerPoint presentation and provide a summary the top 4 points being made by the presenters.

Result

Here is a summary of the top 4 points from the PowerPoint presentation:

• **AI Background**: The presentation provides a background on artificial intelligence, its terminology...

• **AI at Rehmann**: The presentation showcases how Rehmann is using AI technologies, such as machine learning, cognitive intelligence...

• **AI Policy and Risks**: The presentation outlines the responsible AI guiding principles, the acceptable use policy, and the limitations and risks of generative AI...

• **AI Training and Next Steps**: The presentation provides links to training resources on responsible AI and generative AI...

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Take it a step further

Prompt:

Thank you! Now provide 3 questions the presenters can use based off the presentation to confirm they were paying attention during the show.

Result

You're welcome! Here are some possible questions based on the presentation:

• What is the name of the AI language model developed by OpenAI that can generate human-like text in a conversational manner?

• What are the three key points of the Acceptable Use Policy for Artificial Intelligence Tools at Rehmann?

• What is the difference between machine learning and deep learning?

One final step

Prompt:

What are the answers to those three questions you generated for me?

Result

The answers to the questions are:

• The name of the AI language model developed by OpenAI that can generate human-like text in a conversational manner is **GPT-4**.

• The three key points of the Acceptable Use Policy for Artificial Intelligence Tools at Rehmann are:
  • Use AI tools only for authorized and legitimate purposes
  • Respect the privacy and confidentiality...
  • Ensure the quality and accuracy of AI outputs...

• The difference between machine learning and deep learning is that machine learning is a broader term that refers to any algorithm that can learn from data, while deep learning is a specific type of machine learning that uses multiple layers of artificial neural networks to learn complex patterns from data.

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Email Generation

Prompt:

I lead a team of 5 members working on a project for client. I need to write an email to my team to boost morale. They have had a negative attitude lately and need them to cheer up. Can you please write an email to them with a positive tone so we can get through these next two weeks and meet our client's deadline? 🎉

Result

Dear Team,

I hope this email finds you well. I know that the past few weeks have been challenging, and it's completely normal to feel the weight of our upcoming deadline. But guess what? We're a team of rockstars, and together, we've got this!

Here's the deal: We're in the final stretch, and the finish line is within sight.

1. Positivity Power-Up: Remember that our attitude shapes our reality. Let's choose positivity over pessimism. When you catch yourself spiraling into negativity, take a deep breath...

2. Celebrate Small Wins: Every milestone counts. Whether it's fixing a pesky bug, completing a section of code..., let's celebrate it! 🎉

3. Team Spirit Boost: Reach out to your teammates and share a laugh. A funny meme or a silly GIF can work...

4. Breaks and Breathers: Burnout is real. Take breaks, stretch, grab a cup of coffee, or dance to your favorite tune. Recharge those batteries...

Remember, we're not just meeting a deadline; we're creating something remarkable! 💪

Thank you for being an incredible team. Let's make these next two weeks legendary!

With unwavering optimism,

[Your Name]

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Better Prompts

Result

Prompt:

- From now on, whenever I ask a question, suggest a better version of the question and ask me if I would like to use it instead

Sample – Should I go to college?

Certainly! For the sample question "Should I go to college?" a more refined version could be: "What factors should I consider when deciding whether to pursue higher education?" Would you like to use this refined question, or do you have another query in mind?

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How to

Prompt:

In Microsoft Outlook on the main ribbon, I would like to add the dictate and read aloud functionality. Can you show me how to add that to Outlook?

Result

Certainly! Sure, here's how you can add the Dictate and Read Aloud features to your Outlook ribbon:

To add the Dictate feature:

1. Open Microsoft Outlook.
2. Create a new email.
3. You should see the Dictate button in the Message tab.

To add the Read Aloud feature:

1. Open Outlook on your desktop.
2. Click on File.
3. Scroll down and click on Options.
4. Click on Accessibility or Ease of Access depending on your version of Outlook.
5. Check the Show Read Aloud box under the Application display options section.
6. Click OK when done.

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Explanation

Prompt:

Can you describe deep learning in simple terms that somebody with limited exposure to artificial intelligence can understand and then provide several examples of how deep learning works or where it can be deployed to assist small to medium-sized businesses to be more productive?

Result

Of course! Let's explain deep learning in simple terms:

Deep Learning in Simple Terms: Deep learning is a type of machine learning that mimics how our brain works. Imagine it like a set of digital brain cells called "neurons" stacked in layers. Each layer helps the computer recognize different aspects of a problem, like shapes or patterns. Deep learning is excellent at finding complex patterns in data, like identifying objects in pictures, understanding spoken words, or making predictions from large amounts of information.

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Analogy

Prompt:
Can you give me an analogy for Deep Learning so that I can make it simple for people to understand?

Result

Analogy: The Bakery Detective

Imagine you own a bakery and want to teach a magical helper (Deep Learning) to recognize different types of pastries. Here's how it works:

1. Layers of Expertise: Think of the helper as having layers, like a detective with special skills. The first layer looks at the pastry's shape, the second one checks its color, and the third one examines the frosting.

2. Detective Training: You show the detective thousands of pastry pictures with labels (e.g., "croissants," "cupcakes," "donuts"). The detective learns to spot patterns: croissants are crescent-shaped, cupcakes are small and colorful, and donuts have a hole in the middle.

3. Case Solved: Now when you show the detective a new pastry, it uses its layers of expertise to decide what it is. If it's crescent-shaped, colorful, and has frosting, it confidently says, "It's a frosted croissant!"

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Excel – Code Development

Prompt:

In Excel, I'd like to write a macro for column G, which is the total amount, and I'd like to delete every row with a $0.00 figure.

Result

```
Sub DeleteZeroRows()
  Dim rng As Range
    Dim cell As Range

    ' Set the range to column G
    Set rng =
ThisWorkbook.Sheets("Sheet1").Range("G1:G" &
ThisWorkbook.Sheets("Sheet1").Cells(ThisWorkbook.Sh
eets("Sheet1").Rows.Count, "G").End(xlUp).Row)

    ' Loop backwards through the range
    For i = rng.Count To 1 Step -1
        Set cell = rng.Item(i)

        ' If the cell value is $0.00, delete the entire row
        If cell.Value = 0 Then
            cell.EntireRow.Delete
        End If
    Next i
End Sub
```

Macro Execution

Result

Prompt:
How do I insert a new macro into Excel?

To insert a new module in Excel VBA, please follow these steps:
1. Press ALT + F11 to open the VBA editor.
2. In the VBA editor, go to the Insert menu at the top.
3. Click on Module from the dropdown menu.

This will insert a new module in the Project Explorer on the left side. You can then double-click on the module to open it and paste your VBA code into the module.

How do I execute the VBA module macro I created in my spreadsheet?

To execute the VBA macro you just created in your spreadsheet, please follow these steps:
1. Save your workbook as an Excel Macro-Enabled Workbook (.xlsm) if you haven't done so already.
2. Press ALT + F8 to open the Macro dialog box.
3. In the Macro dialog box, you will see a list of available macros. Select the macro you want to run.
4. Click Run.

The macro will then execute and perform its task on your spreadsheet. Please remember that running a macro can make irreversible changes to your spreadsheet, so it's always a good idea to save your work before running a macro.

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Macro Decoding

Result

Prompt:

In simple terms can you explain to me what this macro is doing?

```
Sub DeleteZeroRows()
    Dim rng As Range
    Dim cell As Range

    ' Set the range to column G
    Set rng = ThisWorkbook.Sheets("Sheet1").Range("G1:G" &
ThisWorkbook.Sheets("Sheet1").Cells(ThisWorkbook.Sheets("Sheet1").
Rows.Count, "G").End(xlUp).Row)

    ' Loop backwards through the range
    For i = rng.Count To 1 Step -1
        Set cell = rng.Item(i)

        ' If the cell value is $0.00, delete the entire row
        If cell.Value = 0 Then
            cell.EntireRow.Delete
        End If
    Next i
End Sub
```

Purpose: The macro aims to delete rows from a specific column if the cell value in that column is $0.00.

Explanation:
The macro starts by defining two variables:
- rng: A range object that will represent the cells in column G.
- cell: A range object that will be used to iterate through each cell in the specified range.

Next, it sets the rng variable to cover the entire column G in the active workbook's Sheet1.
The macro then loops backwards through the range (from the last cell to the first cell) using the variable i.
For each cell in the range:
- It checks if the cell value is equal to $0.00.
- If the condition is met, it deletes the entire row containing that cell.

The loop continues until all cells in the range have been checked.

Summary:
This macro is useful for cleaning up data by removing rows where the value in column G is zero. It ensures that only non-zero values remain in the dataset.

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Compare and Contrast

Prompt:

You

📄 AI Template Draft 02-01-24.docx
Document

📄 Items to consider before using Gen AI.d...
Document

You are an expert on developing artificial intelligence policies to protect organizations as they deploy artificial intelligence within their organization. Attached is a template called "AI template draft 02-01-24.docx" and another document named "items to consider before using Gen ai.docx". Can you compare the template against the items to consider and determine if there's things that are in the items to consider that are not found in the template and make suggestions as to how to add them?

Result

To integrate these considerations into the template, you might consider adding sections or points on:

Data Privacy and Confidentiality: Guidelines for handling personal and confidential business information, along with compliance with data protection regulations.

Intellectual Property Rights: Instructions on managing copyrighted material and trademarks to avoid infringement.

Quality and Reliability: Ensuring the accuracy of AI-generated information and understanding the limitations of AI in grasping industry-specific nuances.

Security Concerns: Addressing data leakage risks and the security of AI models, including recommendations for anonymizing data and understanding the terms of service of AI platforms.

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The playing field is leveling out!

1 Don't be the first, but don't be the last.

2 Make sure your organization have policies in place. Educate on the acceptable use to all levels of org.

3 Start experimenting and incorporating GenAI into curriculum, processes, and administration.

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"The illiterate of the 21st century will not be those who cannot read and write, but those who cannot learn, unlearn, and relearn."

- Alvin Toffler

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Thank you!

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