AI, the new technology in healthcare food and nutrition

Association for Healthcare Foodservice

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Amanda Maucere, MS, RD, LDN,
Dietetic Internship Director,
Florida Department of Health

Introduction

Amanda Maucere, MS, RD, LDN

Dietitian in Florida since 2008

Worked in a variety of practice settings

Currently the director of a dietetic internship

AI enthusiast!

No conflicts of interest to disclose

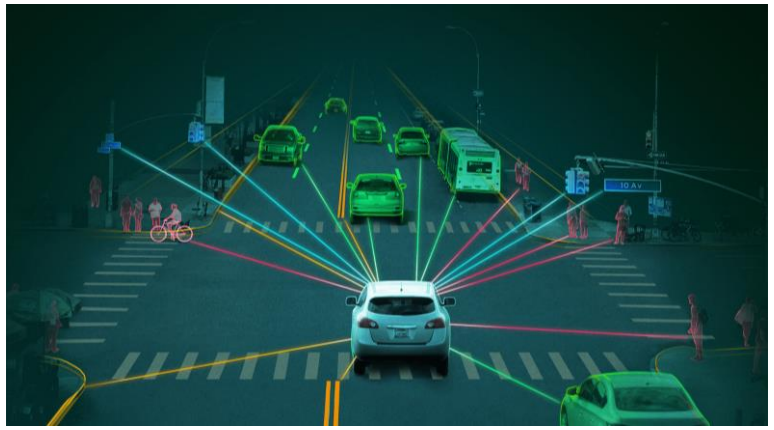
Learning Objectives

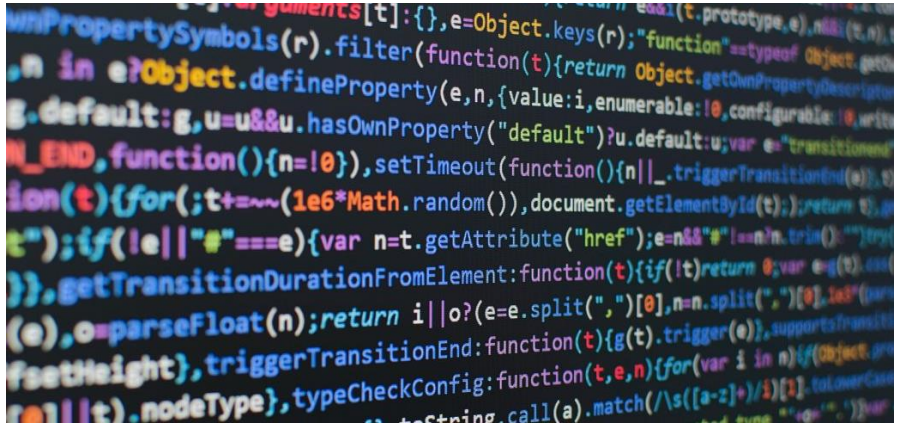
- Understand the Basics of AI
- Recognize the benefits of AI and its implications in dietetics
- Practical steps to implement AI in the workplace
- AI tools and resources for more information

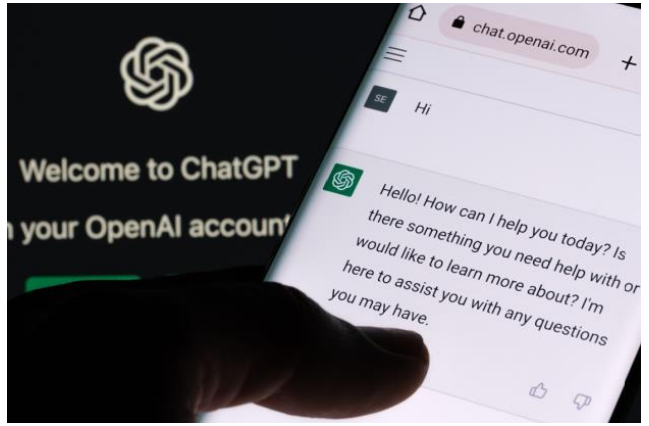
Understanding the basics of AI

What is AI?

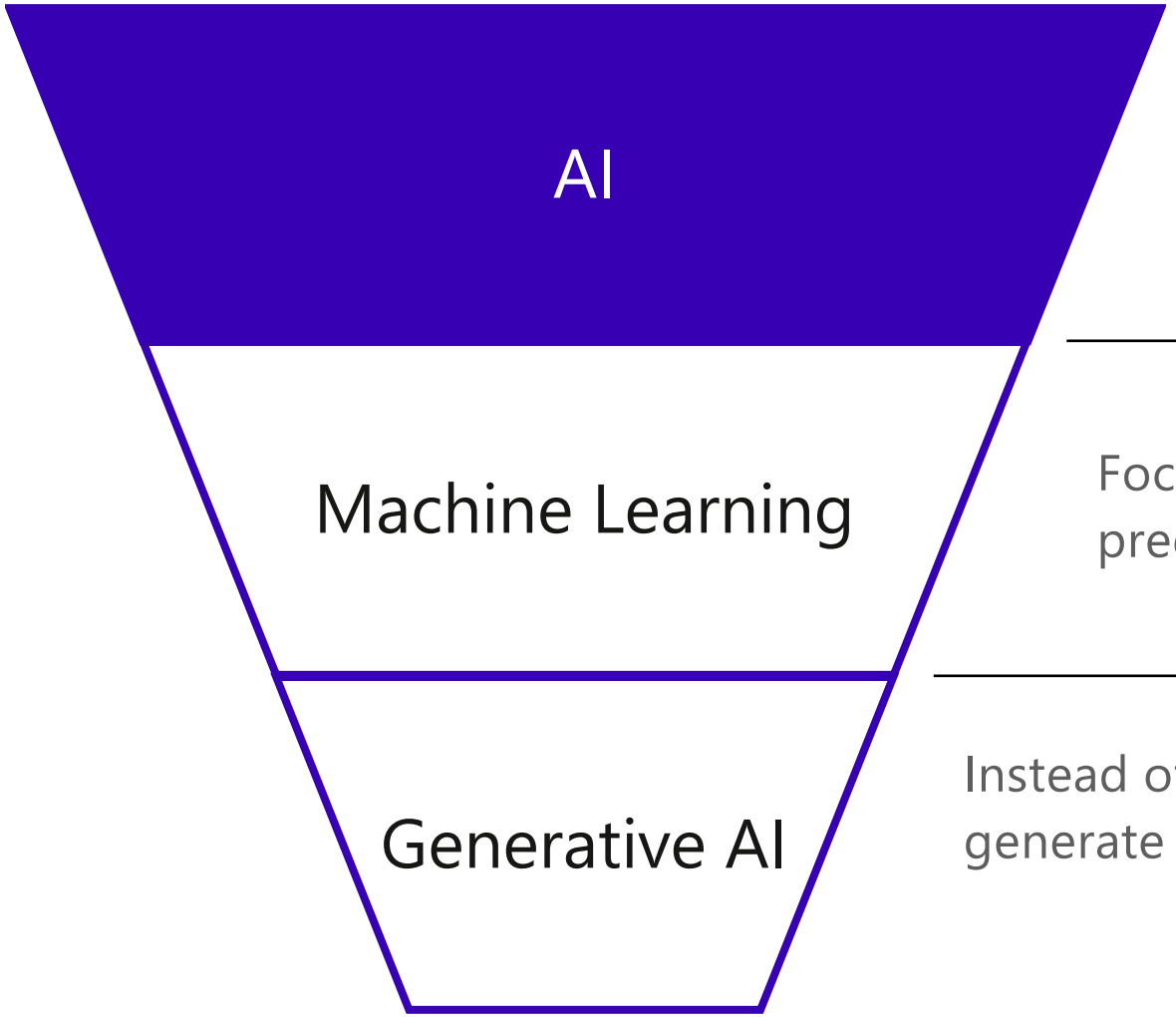
Technology that enables computers and machines to simulate human intelligence and problem solving capabilities ~IBM







Our Focus Is On Generative AI



The science of making machines that can think like humans but process large amounts of data in ways humans cannot.

Focuses on learning from data to make predictions or decisions.

Instead of making predictions, Generative AI can generate original content based on large training sets.

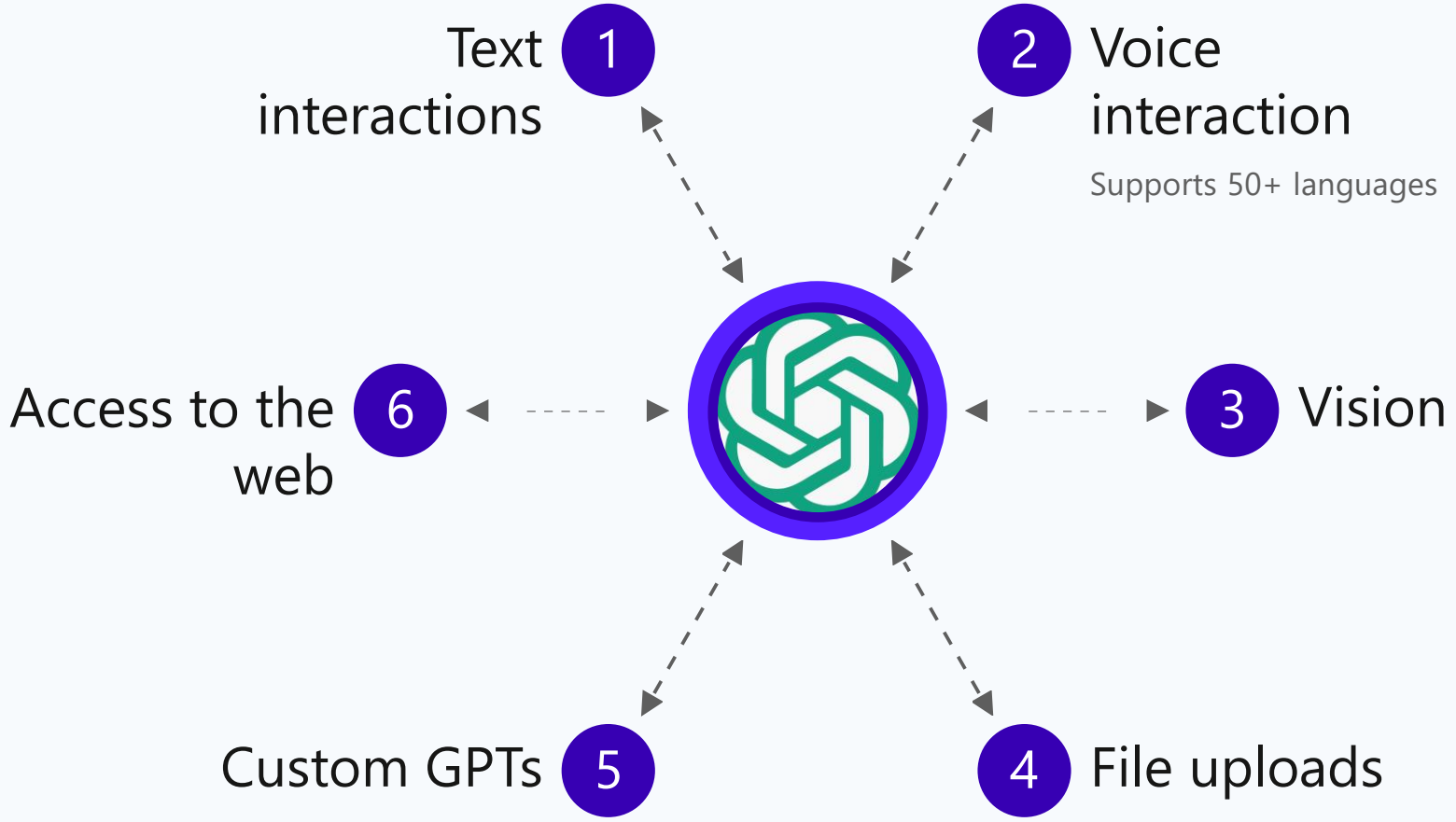
Large Language Models

Many of the AI tools we are familiar with are built from very large data sets of language

- Google has Gemini
- Meta has Llama 3
- Anthropic has Claude (Haiku, Sonnet, and Opus)
- OpenAI has GPT 4o (ChatGPT)

Chat GPT

Chat GPT-4o Features



Generative AI Principles

- Always invite AI to the table.
- Be the human in the loop.
- Treat AI like a person.
  But tell it what type of person it is.
- Assume this is the worst AI you will ever use.

-Ethan Mollick

- **Role**

  You are a: clinical dietitian, food and nutrition services director, certified dietary manager.....

- **Action**

  You want to: create an educational handout, write a new policy, summarize a meeting transcript...

- **Context**

  The policy will address our adoption of AI. It should be informative, presented in simple language, and include examples.

- **Examples**

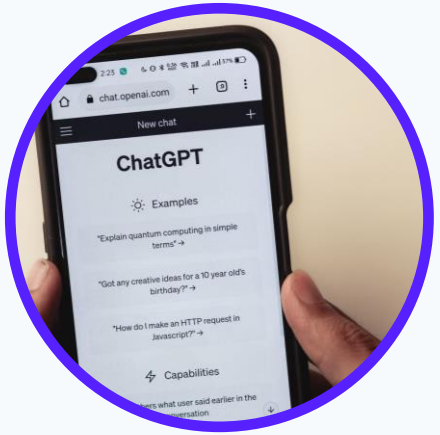
  The attached is an example of our most recent policy. Use this for formatting and tone.

- **Format**

  After an introductory paragraph, use bullet points to get key points accross clearly.

The Neuron

Prompting



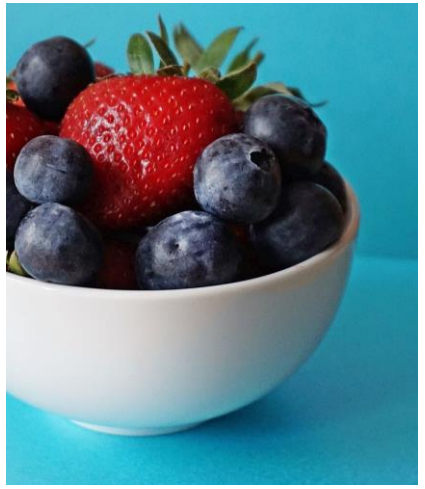
Personas

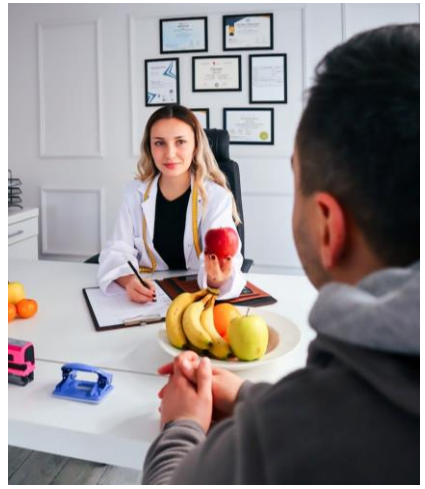
Recognize the benefits of AI and its implications in dietetics

Patient education

Truly personalized recommendations

- Start with the basics of disease state or diet order
- Adjust for allergies or intolerances
- Adjust for dietary choices, preferences, and aversions.
- Enhance with cultural foods.
- Adjust for budget and ability.
- Translate into any language.





Recipes

Prompt: I am an RD and have been asked to create a patient education handout on diet recommendations for CHF. I need it to be no more than 350 words. I need it to contain a five-ingredient breakfast recipe.

CHF - Basic

1. 1 cup fresh spinach
2. 1/2 cup sliced mushrooms
3. 4 large egg whites
4. 1/4 cup low fat shredded cheese
5. 1 small tomato, diced

CHF - Vegan

1. 1 ripe avocado
2. 1 small tomato, diced
3. 2 slices of whole-grain bread
4. 1 tablespoon lemon juice
5. Fresh basil leaves

CHF - Haitian in a food dessert

1. 1 avocado (canned)
2. 1 small tomato (canned, no salt added)
3. Whole grain crackers
4. 1 plantain (frozen)
5. 1 tablespoon lime juice (bottled).

CHF - Translated to Haitian

1. **1 avoka (nan bwat)**
2. 1 ti tomat (nan bwat, san sel ajoute)
3. Biskwit an ble antye kom
4. 1 plantain mi (fre oswa)
5. 1 gwo kiye ji sitwon (nan boutey)

Meetings

Preparation

Agenda

Summary

Minutes

Action items

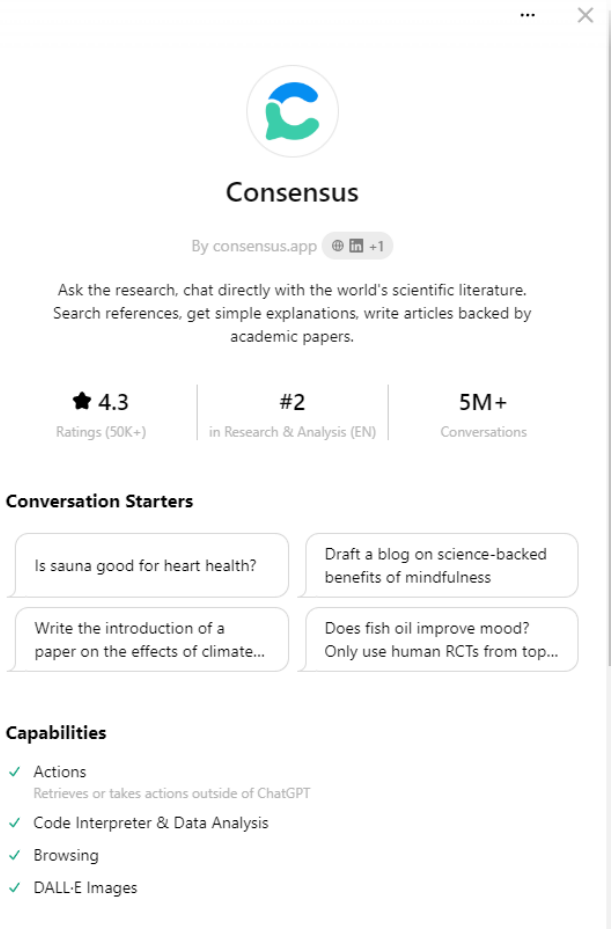
Advisory Council Meeting

Prompt: Using the attached transcript of my advisory meeting, please provide me with minutes of the meeting including a summary of what was discussed. Please highlight where program changes were discussed and include a list of action items at the end.

1. Condensed 52 pages of transcript into three pages of minutes
2. Eight topics of discussion and nine action items
3. Details related to outcome measures
4. What was missing?
5. What was the tone of the meeting?

Research with custom GPTs

Consensus



1 Select your custom GPT

Consensus

2 Ask it your research question

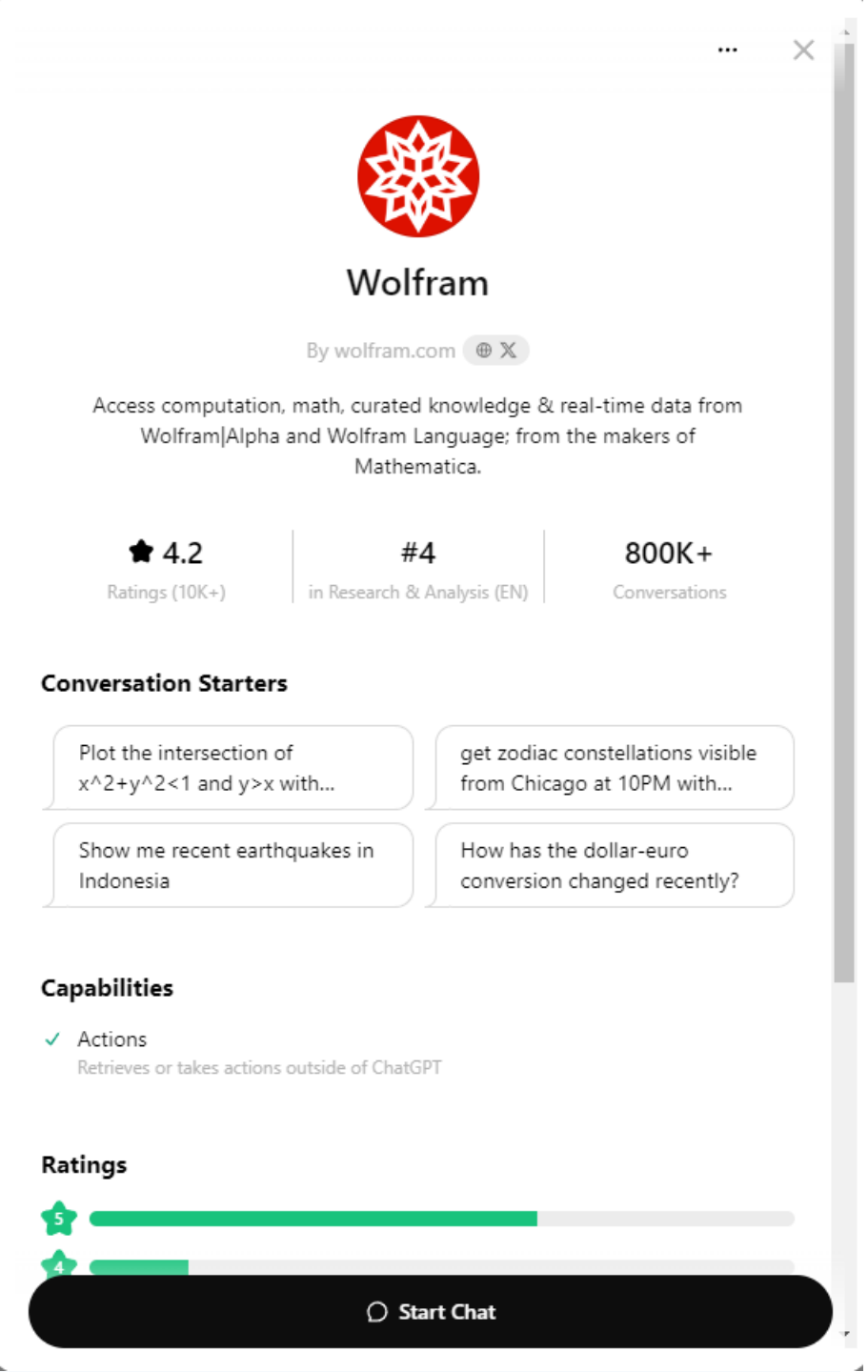
GLP-1 and weight loss

3 Review the consensus

Effective in inducing and maintaining weight loss

4 Access the cited articles directly from the GPT

Systematic review (Aldawsari et al, 2023)



Wolfram

Mechanism of Action

GLP-1 receptor agonists mimic the incretin hormone GLP-1, which is naturally produced in the gut. They work by:

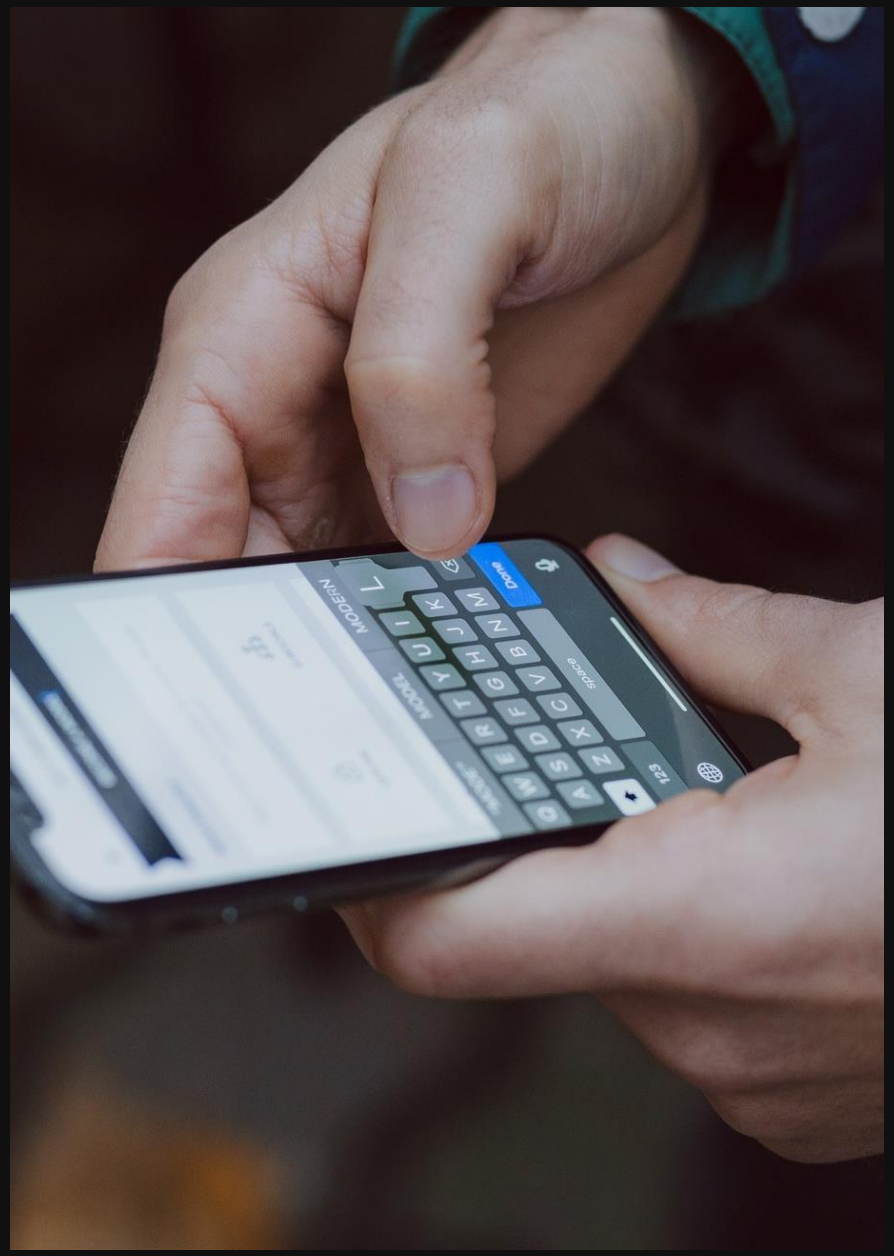
Enhancing Insulin Secretion: They increase insulin secretion in response to meals.

Suppressing Glucagon Release: They inhibit glucagon secretion, which helps lower blood glucose levels.

Delaying Gastric Emptying: This results in a prolonged feeling of fullness and reduced appetite.

Acting on the Brain: They act on appetite centers in the brain to reduce hunger.

LEAD Trials and SCALE Trials referenced

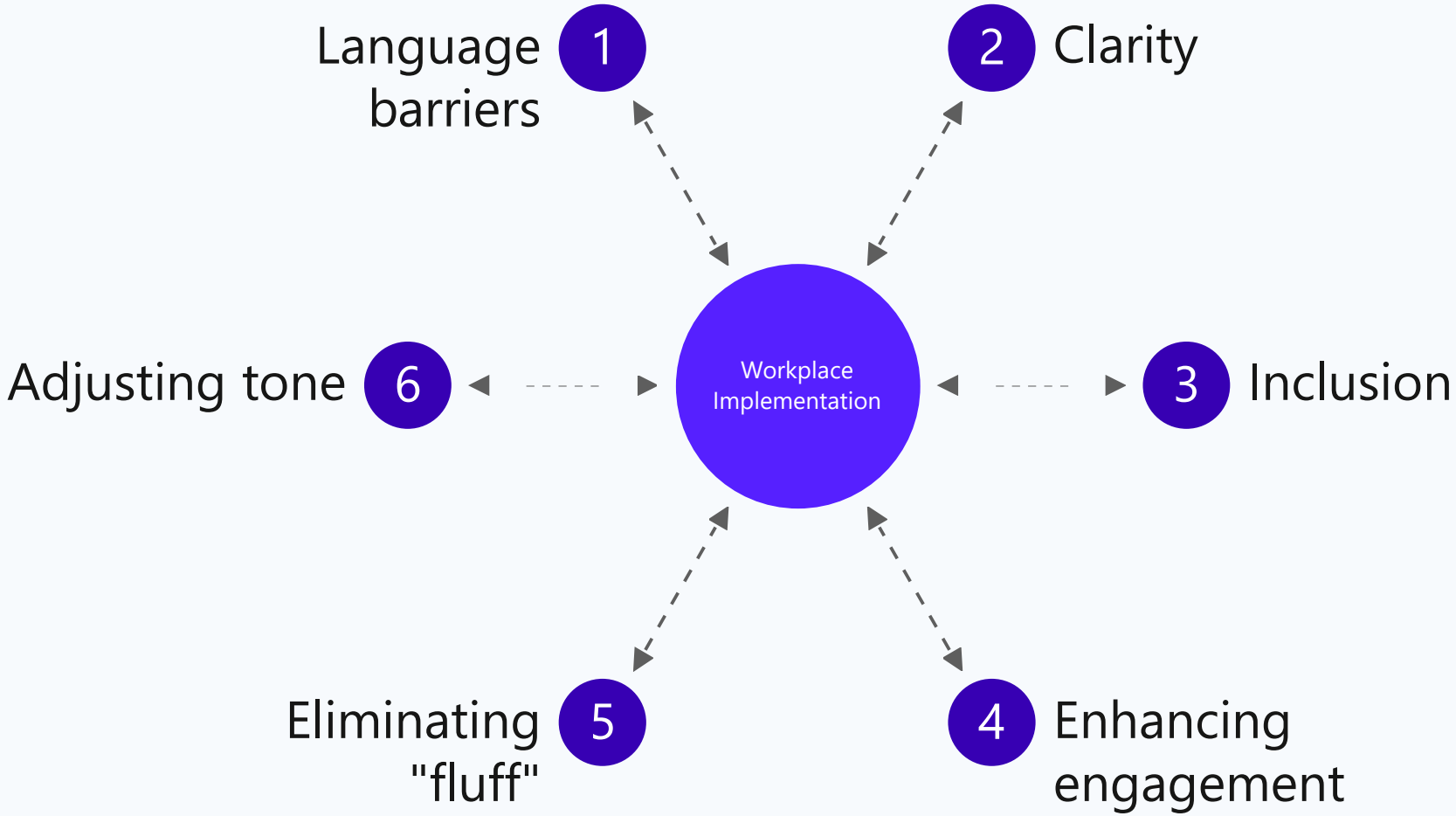


> “The single biggest problem in communication is the illusion that it has taken place.”
>
> George Bernard Shaw

> “The most valuable of all talents is that of never using two words when one will do.”
>
> Thomas Jefferson

> “If you don't have something nice to say, don't say anything at all.”
>
> Thumper

AI can increase your ability to communicate effectively



Patient care

Prompt: I just received four consults and only have time to see one before the end of the day. Review the information provided on each patient and prioritize who should be seen first based on their risk for malnutrition.

Harry

68 yom with malnutrition, potential dehydration, and weight loss.

Immediate intervention needed.

Mona

49 yof with CKD with acute rejection of kidney transplant requiring peritoneal dialysis; fluid overload.

Less urgent with dialysis able to mange symptoms.

Mike

35 yom with Crohn's disease with acute exacerbation on bowel rest and parenteral nutrition.

Not showing signs of severe malnutrition or life-threatening dehydration.

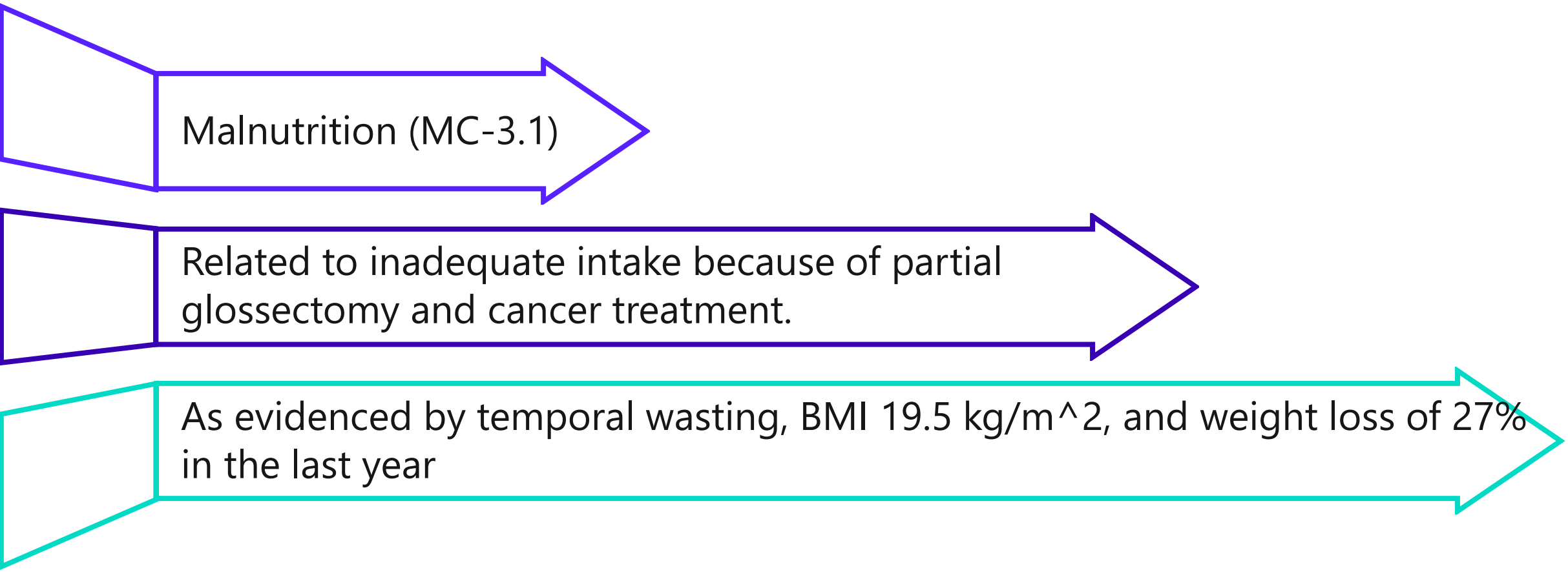
Jon

29 yom with acute pancreatitis likely due to alcohol intake. NPO for bowel rest on IVF.

Bowel rest is typical treatment for condition, but worth monitoring if bowel rest is extended.

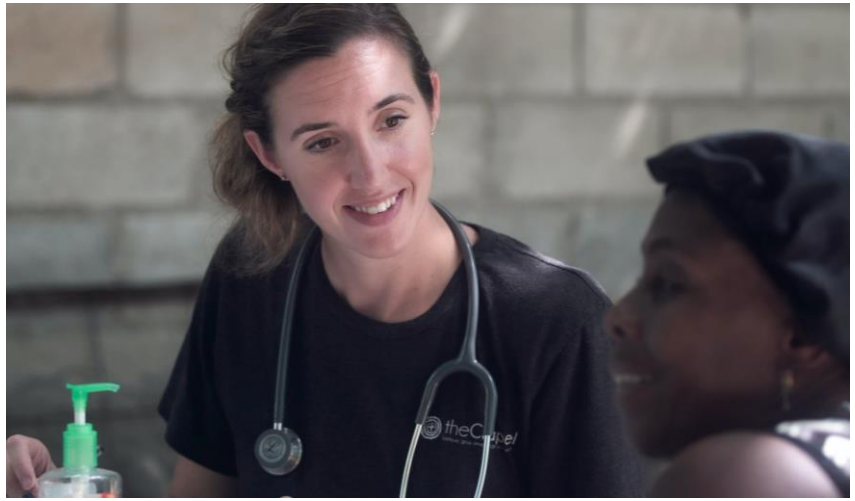
Documentation - ADIME

If we don't document it, it didn't happen!



Human Resource Management

- Recruitment
- Job descriptions
- Training
- Performance evaluations
- Recognition
- Discipline



Practical steps to implement AI in the workplace

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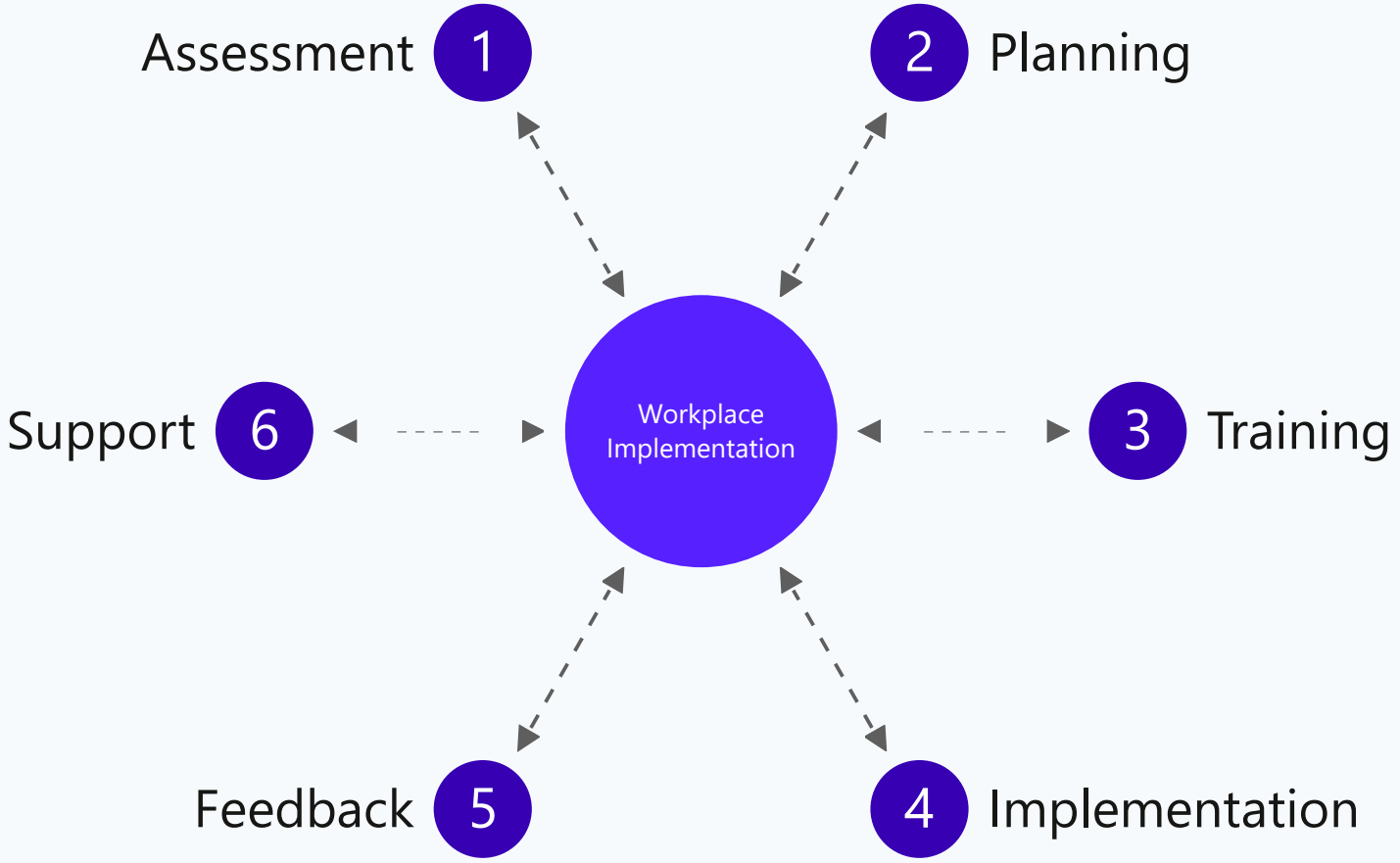
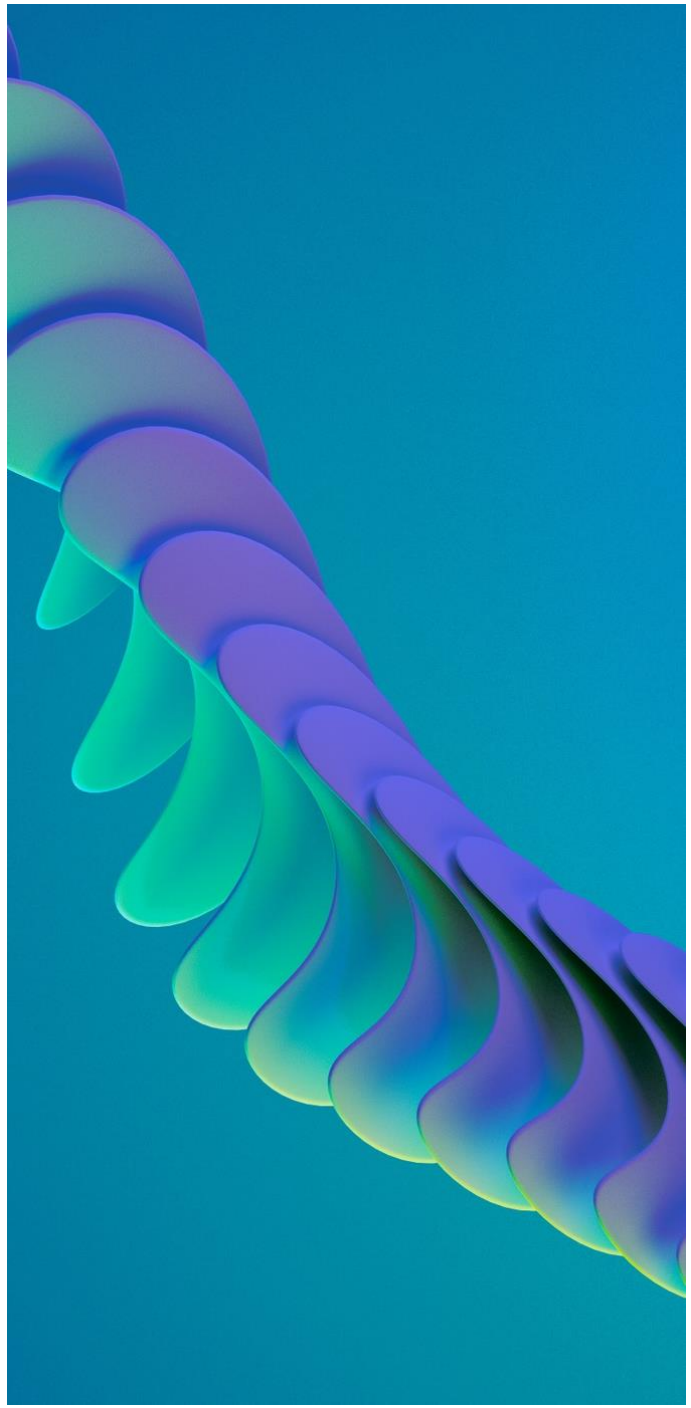




Workplace Assessment

Tasks

- Just me tasks

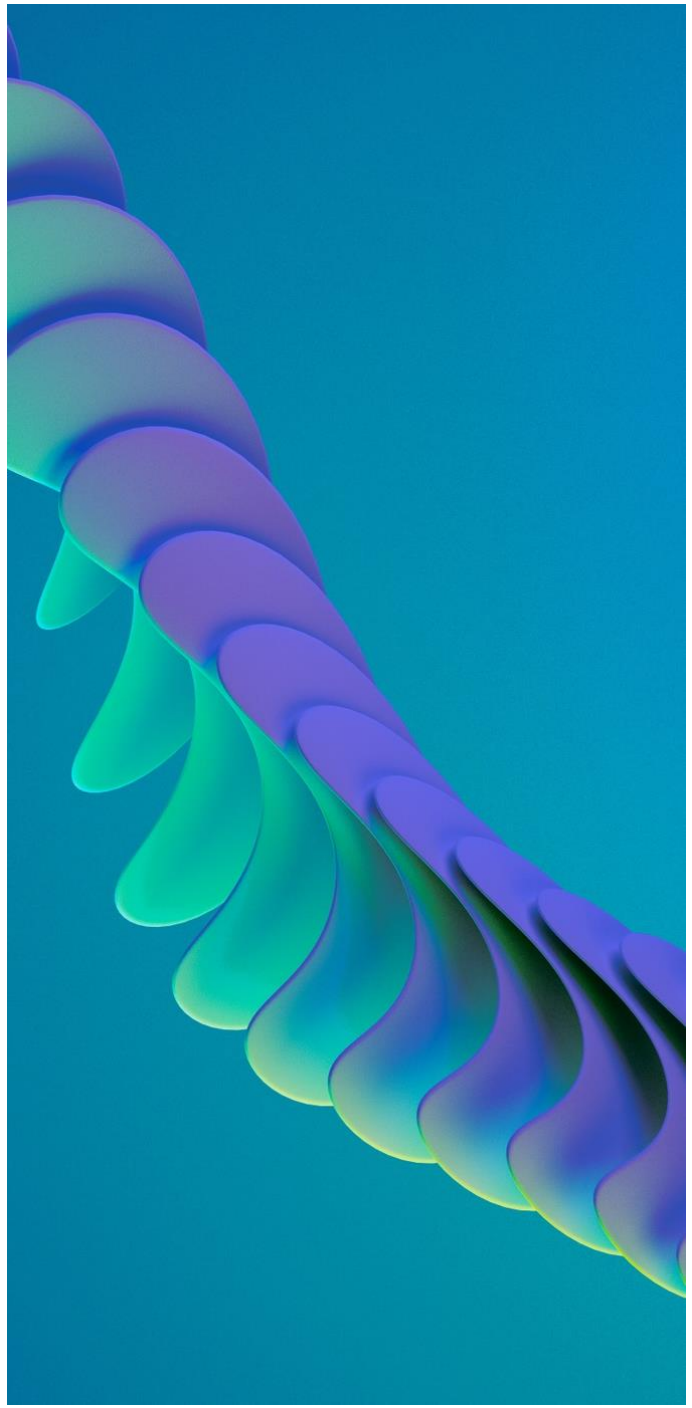
  AI gets in the way; Human only tasks

- Delegated tasks

  Time consuming tasks; Require a human check

- Automated tasks

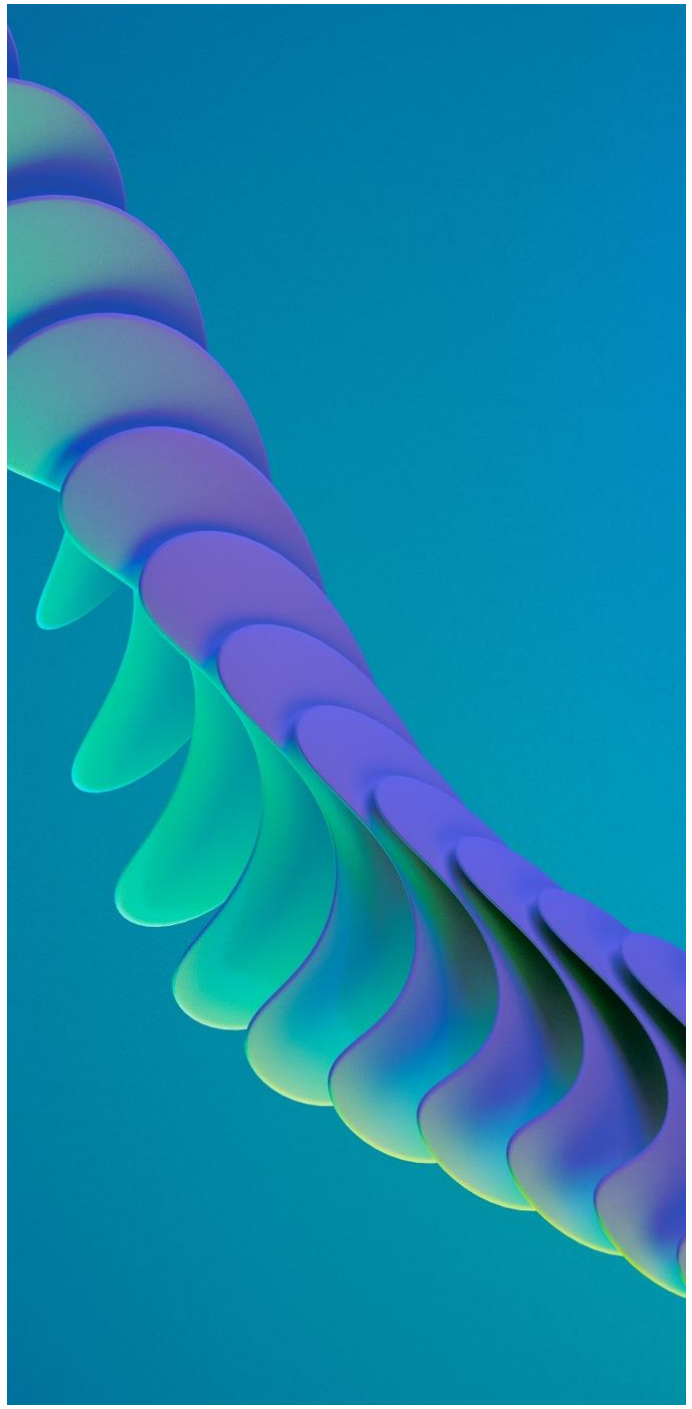
  Can be done entirely by AI with no checks.



Workplace Assessment

Tools

- Functionality
- Compatibility
- Accuracy
- Reliability
- Usability

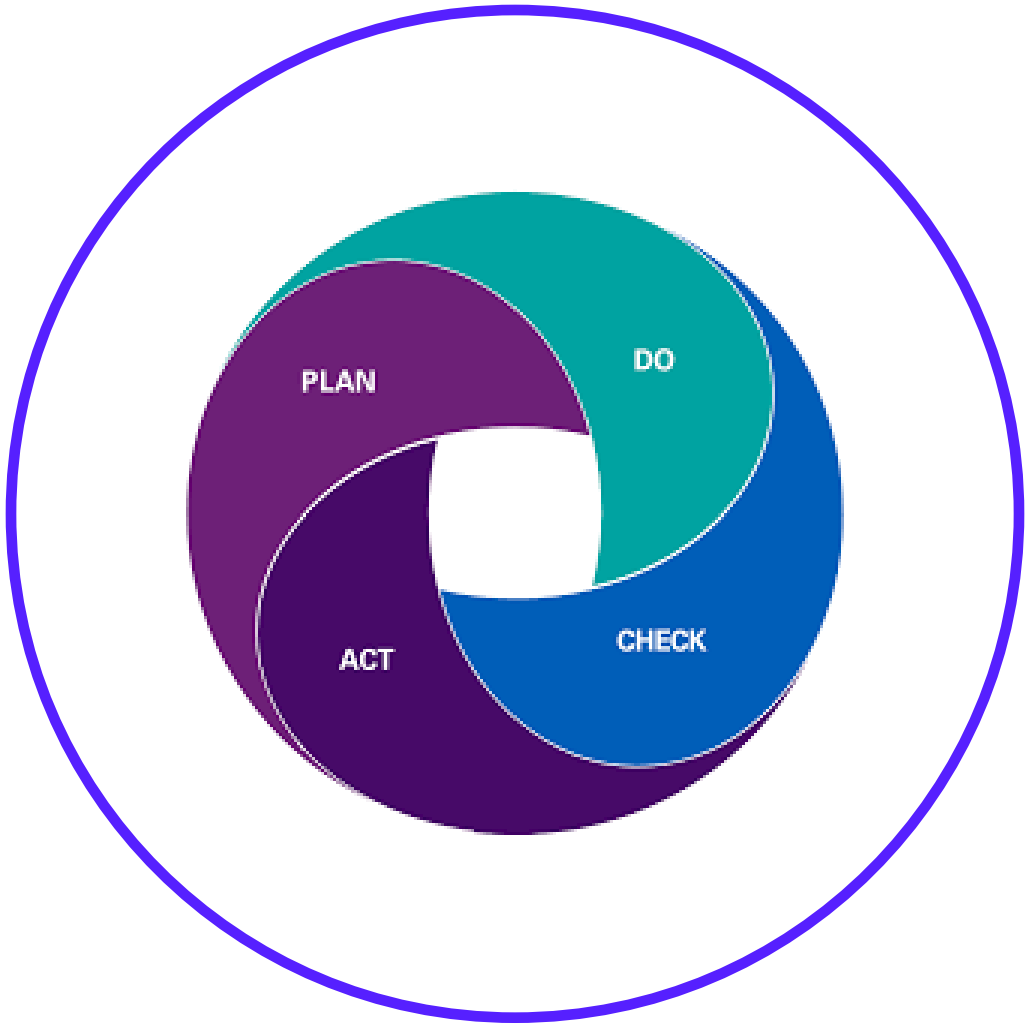


Workplace Assessment

Thoughts

- Data privacy
  Don't provide AI protected information just yet
- Bias mitigation
  It exists in the materials LLMs were trained on
- Transparency
  Essential for building ethical AI systems and practices

Workplace Planning



- Develop a clear implementation strategy with defined goals
- Involve your stakeholders
- Collaborate with IT
- Plan for challenges

Overcoming Challenges

Adoption, long term

Technical difficulties

AI Literacy

Resources and support

Implementing AI in the Workplace

Training

Most effective when training is ongoing in support of continuous learning.

Implementation

Gradual to build comfort and proficiency within the team.

Feedback

Should be regularly reviewed to optimize integration and maximize benefits.

Support

Provide access to training materials and resources and establish a support system early.

AI tools and resources for more information

Free and Powerful

AI Tools You Can Use

1. ChatGPT

by OpenAI

Its free account is powerful, but limited in how much you can use it. The paid plan provides more bandwidth and advanced features.

2. Gemini

by Google

Gemini is a broad term that spans AI abilities inside Google Workplace, chat, and even enhanced vision capabilities

3. Claude

by Anthropic

Claude's free version is highly capable of creative writing but does not have direct access to the internet.

1. Meta.ai

by Meta/Facebook

A highly capable free chat tool that can also create images for you and

2. Canva AI

by Canva

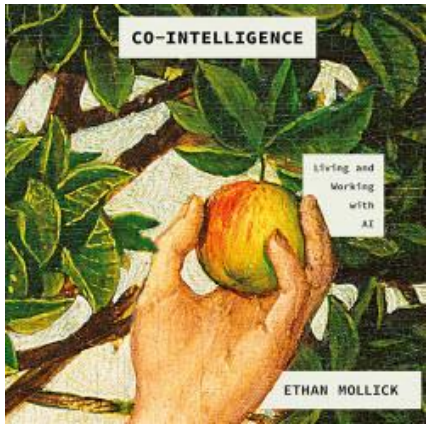
Canva has a host of AI tools embedded in its platform that can quickly help you create slides and help you with content.

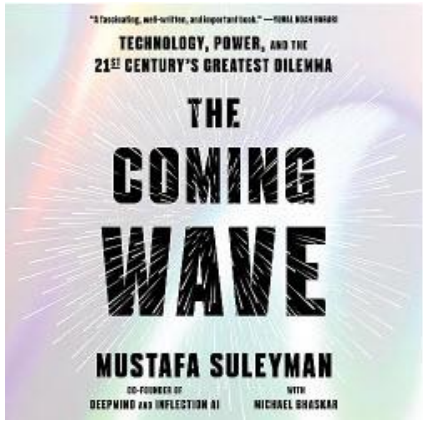
3. Perplexity

by Perplexity.ai

A free AI search tool that can help do cited research quickly and provide a fast way to get up to speed on a topic

Resources For Continued Learning

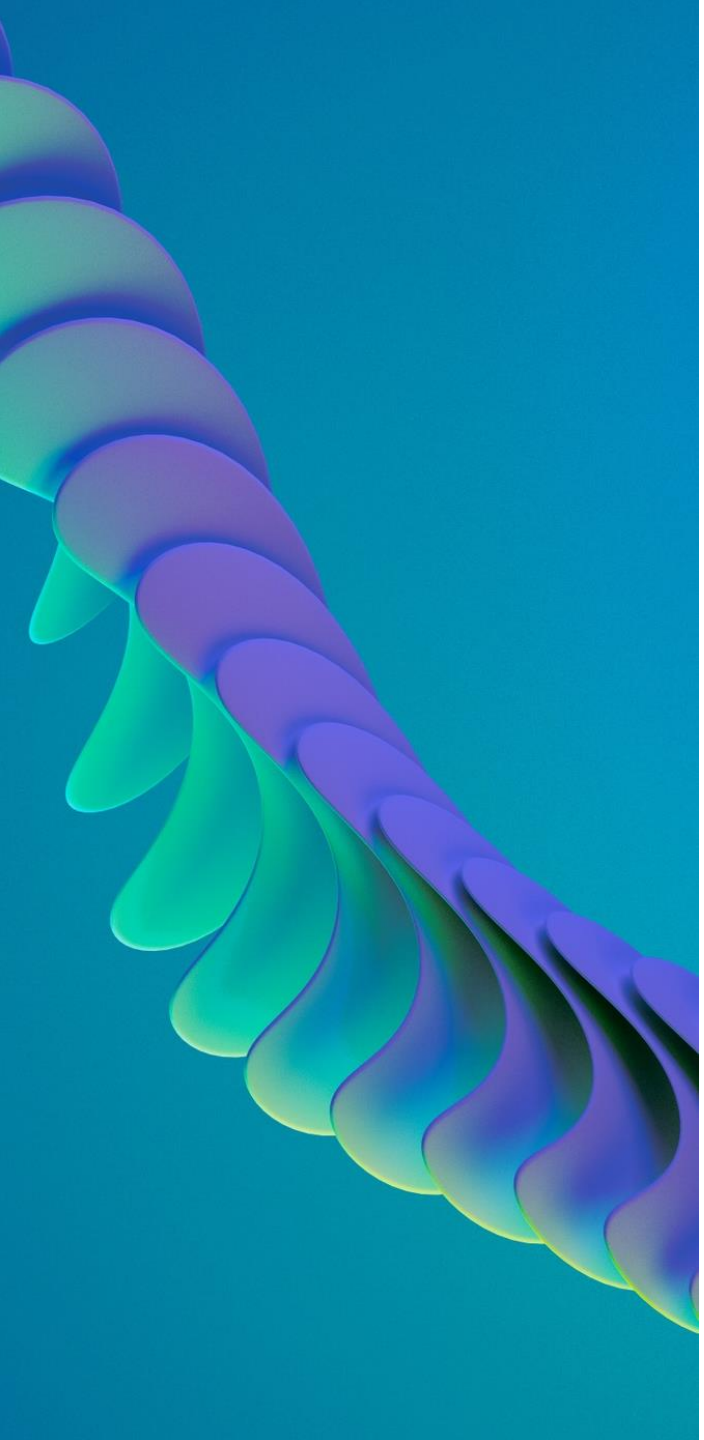




The Neuron

THE DAILY AI SHOW LIVE

"Continuous learning is the minimum requirement for success in any field" -Brian Tracy



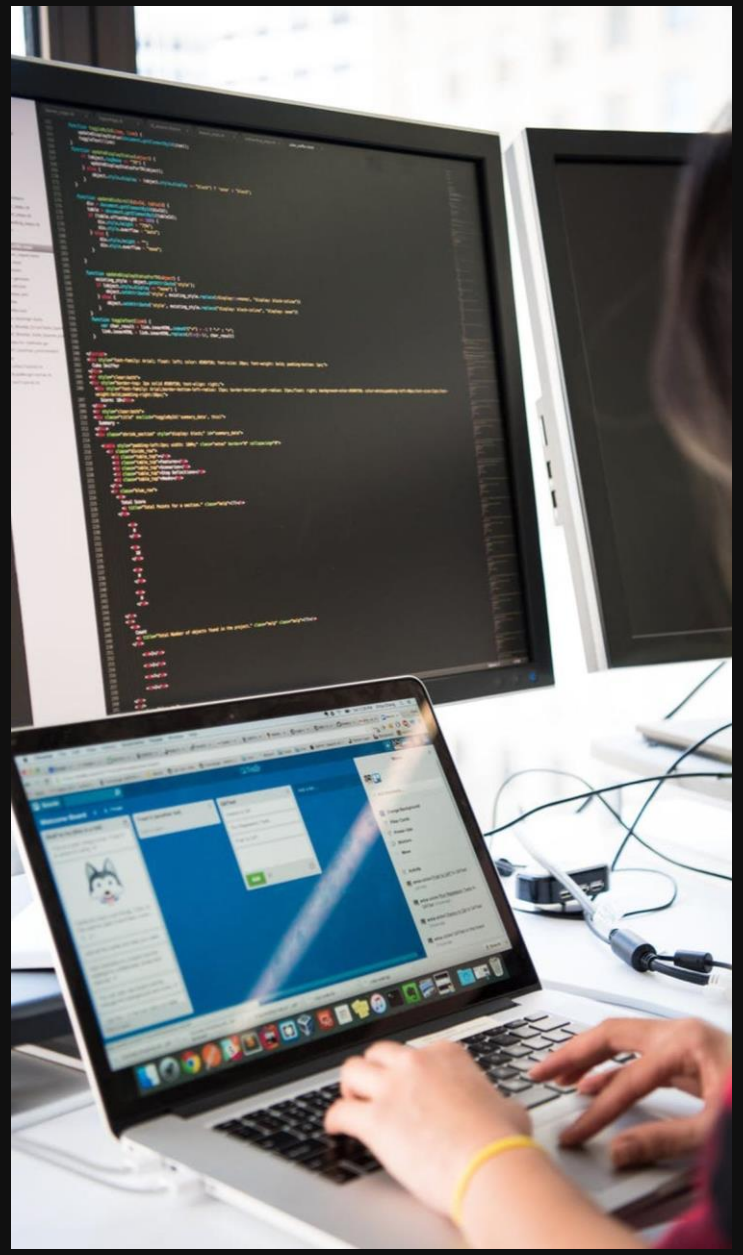
Key Takeaways

1. AI is a tool that can save you considerable time
2. Today's AI is the worst it will ever be
3. AI should be at the table, but not without you

Call to Action

“The fact is that we live in a world with AIs and that means we need to understand how to work with them.”

Ethan Mollick



Questions

Contact Me

Amanda Maucere, MS, RD, LDN

https://www.linkedin.com/in/amanda-maucere-dietitian/

amanda.maucere@gmail.com

727-534-9742