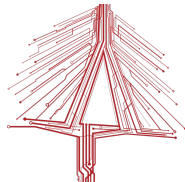
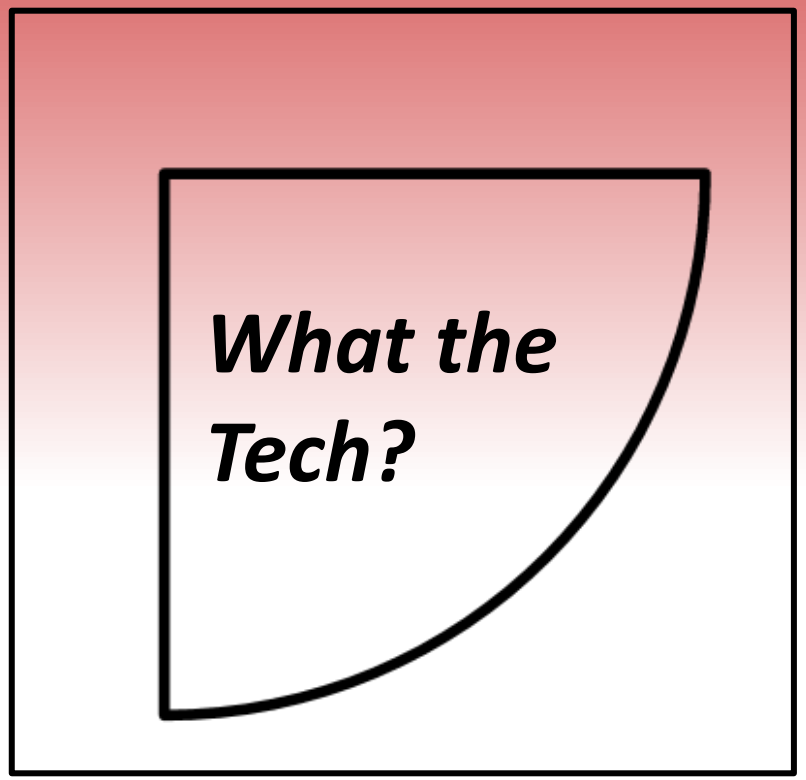
# What the Tech?

PART 5: GENERATIVE AI



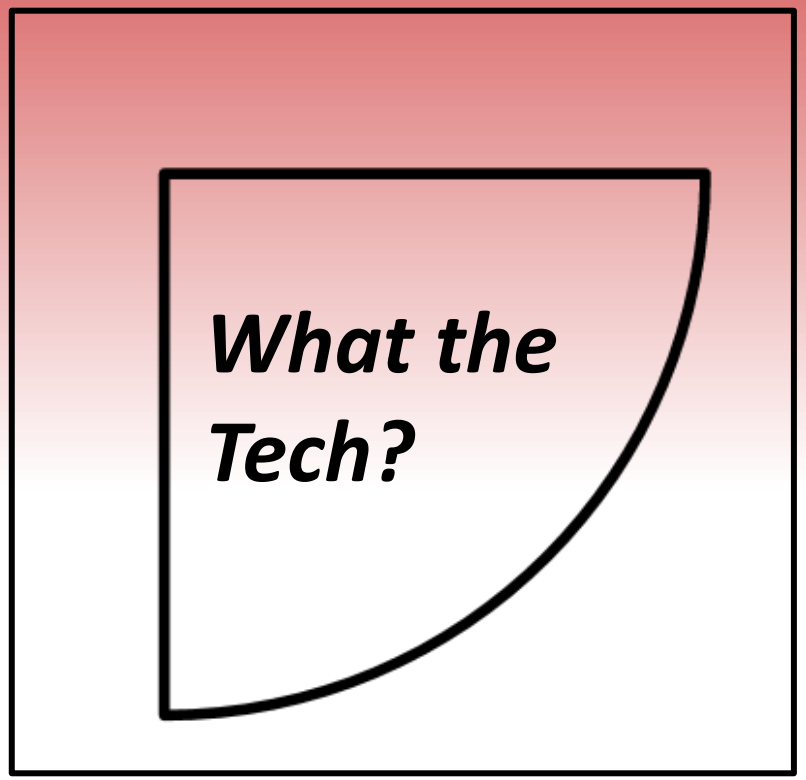
**GENERATIVE AI**




## Last Time:

- Shared the third round of reflective assignments
- Predictive Analytics & AI
  - Definition
  - The data it uses
  - Where we see it today
- Demonstration: KNIME

## GENERATIVE AI

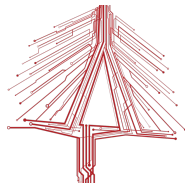



## Today will be about:

- Fourth round of reflective assignments
- “Generative AI”
  - Definition
  - The data it uses
  - Activity: Prompt Engineering with Dall-E

# Questions so far?

**Next: Reflective Assignments**



# Weekly Reflections

**How it works**

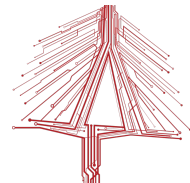
- Goal: everyone goes once!
- Three volunteers per week
- Three new volunteers each week

**Every Monday**

- Week 2:
- Week 3:
- Week 4:
- Week 5: **Today**
- Week 7:

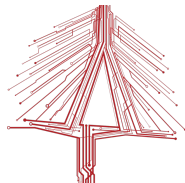
# REVIEW: WHAT PREDICTIVE AI DOES

| Parameters | Predictive Analytics and AI (AKA “Predictive AI”) |
|---|---|
| Objective | Predict future outcomes and events across settings |
| Training Data | Needs historical data on outcomes to ensure accuracy. |
| Applications | Business analytics, risk assessments, decision support systems |



# Questions so far?

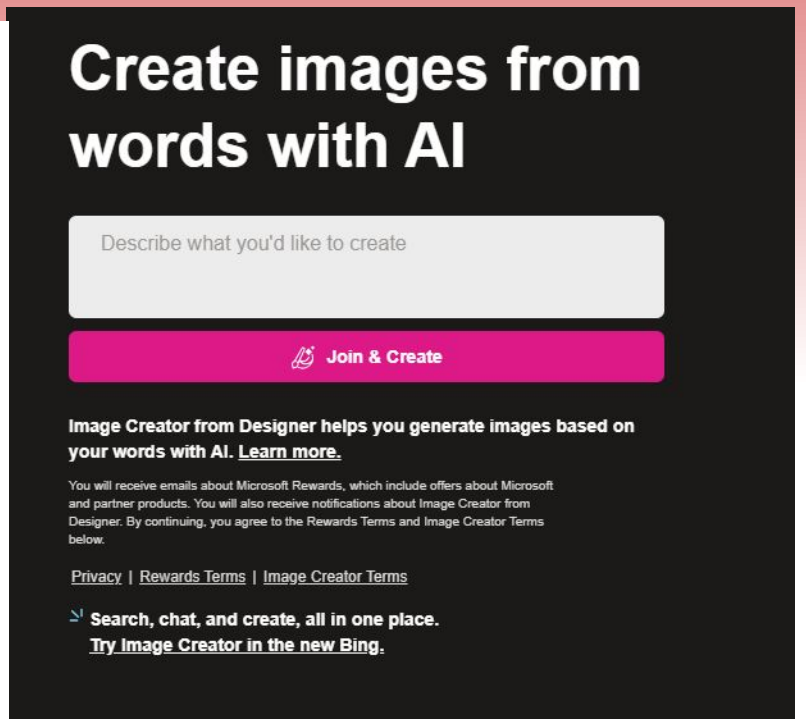
**Next: Generative AI Overview**



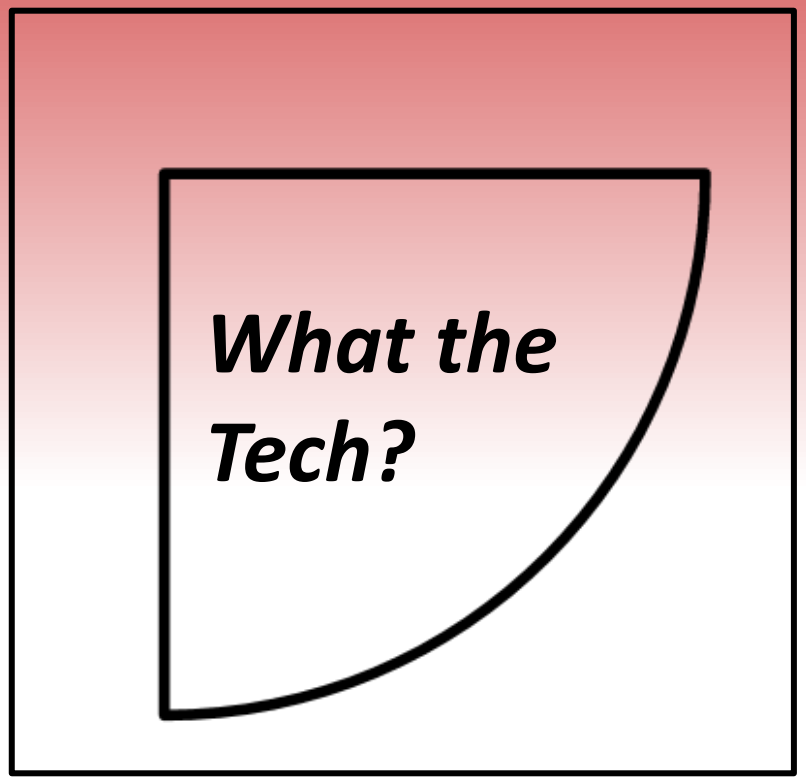
# GENERATIVE AI

***What the Tech?***

- Before the activity, please register at: https://www.bing.com/images/create so you can join in!



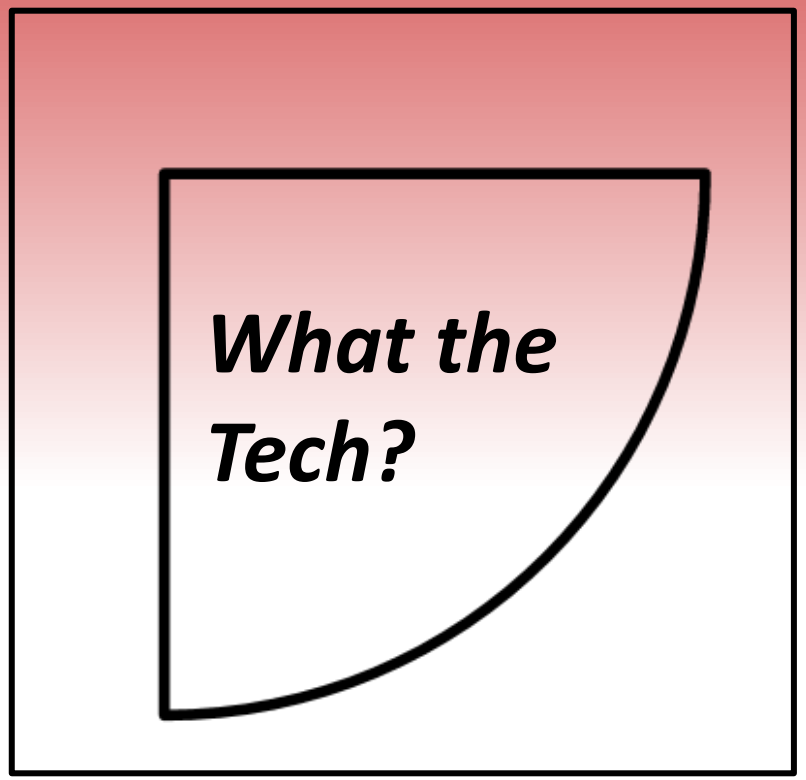
# GENERATIVE AI




## WHAT IS IT?

- A type of artificial intelligence that can produce various types of content in response to prompts
  - Potential outputs include text, audio, and visual media.
- The most prominent type of publicly-available AI

## GENERATIVE AI




## HOW DOES IT WORK?

- Generative AI uses large language models (LLM).
- LLMs use probability to predict, for example, the next word in a sentence based on context.
  - Example: the text messaging on smartphones.
- Like all AI, the larger the data available for input, the stronger the output.

# HOW GENERATIVE AI WORKS

**Prompt**
Ask the AI to create something

**Algorithms**
Predicting what someone "wants" based on known patterns

DALL·E

Gemini

**Output**
Generates a product

Learns from every interaction

**Input**
Massive collections of media

# HOW CHAT GPT WORKS

**Prompt**
Ask the AI to generate text

**Algorithms**
Large language models (LLMs) that predict the next word

**Output**
Generates text

Learns from every interaction

**Input**
Massive collections of text

# PROMPT ENGINEERING WITH DALL-E

**Prompt**
Ask the AI to generate an image

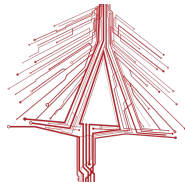
**Algorithms**
Models that map text onto graphic elements

DALL·E

**Output**
Generates an image

Learns from every interaction

**Input**
Massive collections of pictures with captions



# Limitations of Generative AI

- Algorithms are very literal.
- Knowledge is limited by the information the tool has been “taught” (i.e., training data).

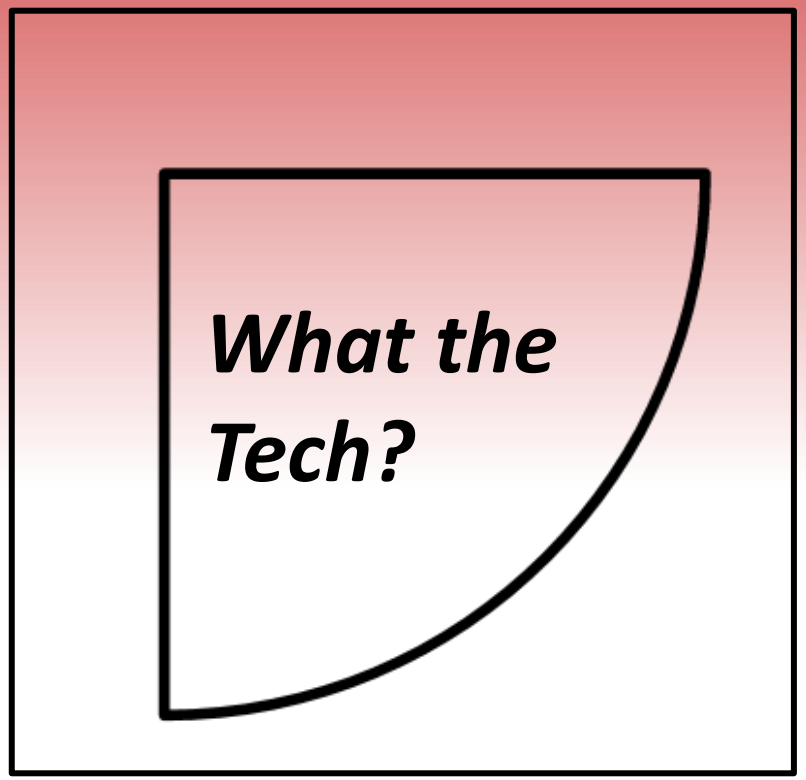
# Strengths of Generative AI

- It can learn.
- It is tireless and flexible.
- It is capable of imitating many styles.

# Prompt Engineering (or How to Get What You Want from Gen AI)

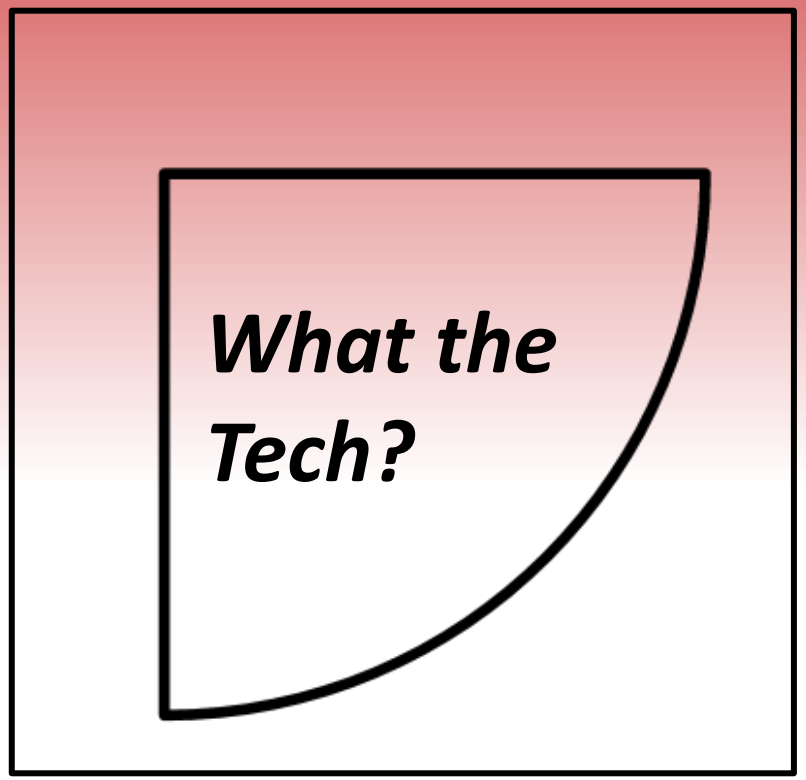
- Be specific about what you want.
- Fact check and be mindful of biases!
- Refine through multiple steps.
- Ask for multiple versions.
- Determine the most useful format.

# GENERATIVE AI and PROMPT ENGINEERING



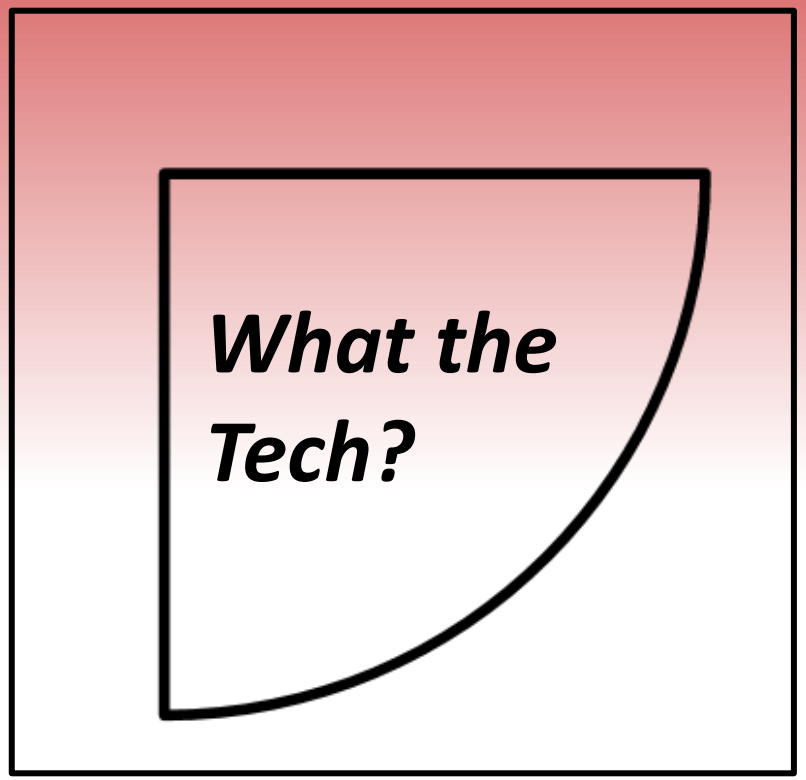

- Play with ideas to reveal:
  - What it knows (i.e., training data).
  - How it uses it (i.e., the algorithm).
- Design final prompts that:
  - Capitalize on strengths of the tool.
  - Supplement its weaknesses.

**GENERATIVE AI**




Now for the activity!

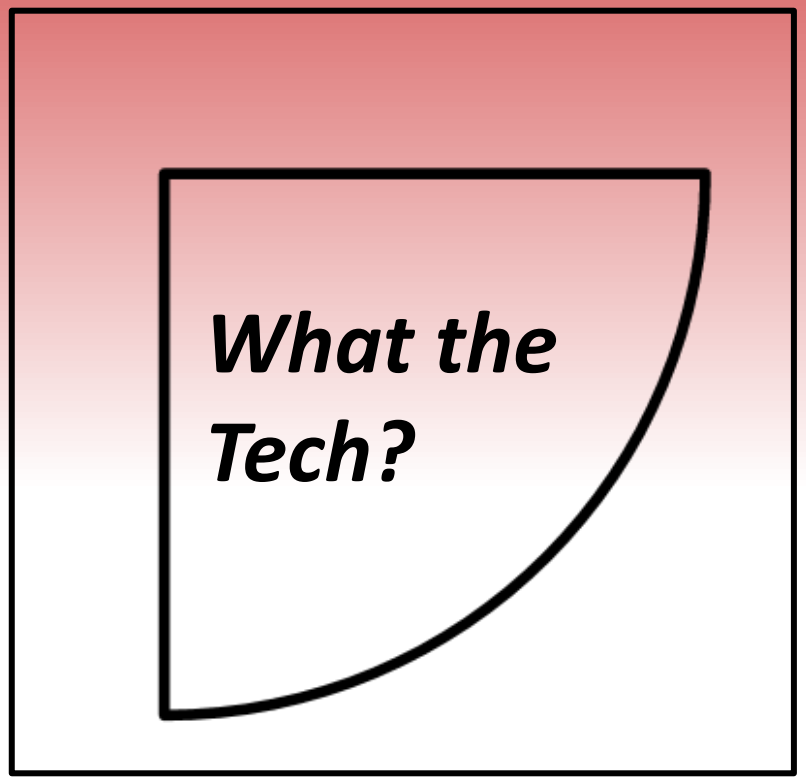
**GENERATIVE AI**




## Debrief!

- A chance for you to tell us how it’s going. For instance:
  - What went well this week?
  - What didn’t?
  - What are you excited for?
  - What are you unsure about?

**GENERATIVE AI**




- Next time: AI in our communities!

# END OF CONTENT