



***Who am I?***

# Disclosure !

- I am not a computer engineer, developer, or programmer.
- I'm not a technical expert, I can always get back to you with an answer.
- Our technology is proprietary, so I can't provide that exact information but I can point you in the direction



- I am a husband & father of 2 young daughters(12 & 1)
- I am the first of my family to graduate from college
  - My younger sister is now the 2nd
- I am concerned that people no longer can express themselves properly and because of that, lots of disagreements form



# ***What is Artificial Intelligence?***

# Let's ask AI, "What is Artificial Intelligence"?



✦ GPT-4



What is artificial intelligence?



Artificial Intelligence (AI) refers to the simulation of human intelligence in machines that are programmed to think and perform tasks like humans. It encompasses a broad range of technologies and sub-fields, from simple rule-based games to complex systems that can process vast amounts of data, recognize patterns, learn from experience, and make decisions. The main goals of AI include reasoning, learning, problem solving, perception, language understanding, and the potential to replicate human cognitive functions.

# So what is AI?

At its simplest form, artificial intelligence is a field, which combines computer science and robust datasets, to enable problem-solving. It also encompasses sub-fields of machine learning and deep learning, which are frequently mentioned in conjunction with artificial intelligence. - IBM

## Types of AI

Narrow AI: AI systems that are designed to *perform specific tasks* of functions *within a limited domain* (Packback, Siri, Alexa, ChatGPT). These systems do not possess general intelligence.

General AI: AI Systems that exhibit the ability to *understand, learn, and apply* knowledge across a wide range of tasks, similar to human intelligence. (No current public examples of General AI)

Superintelligence: Superintelligence refers to an AI system that *surpasses human intelligence across all domains and capabilities*. This **hypothetical** form of AI possesses intellectual abilities that far exceed human capabilities in virtually every aspect.



# ***Here's what's been happening with AI***



**Artificial intelligence (AI)**

## Programs to detect AI discriminate against non-native English speakers, shows study

**Over half of essays written by people were wrongly flagged as AI-made, with implications for students and job applicants**

**Ian Sample** *Science editor*

 @iansample

Mon 10 Jul 2023 11.00 EDT





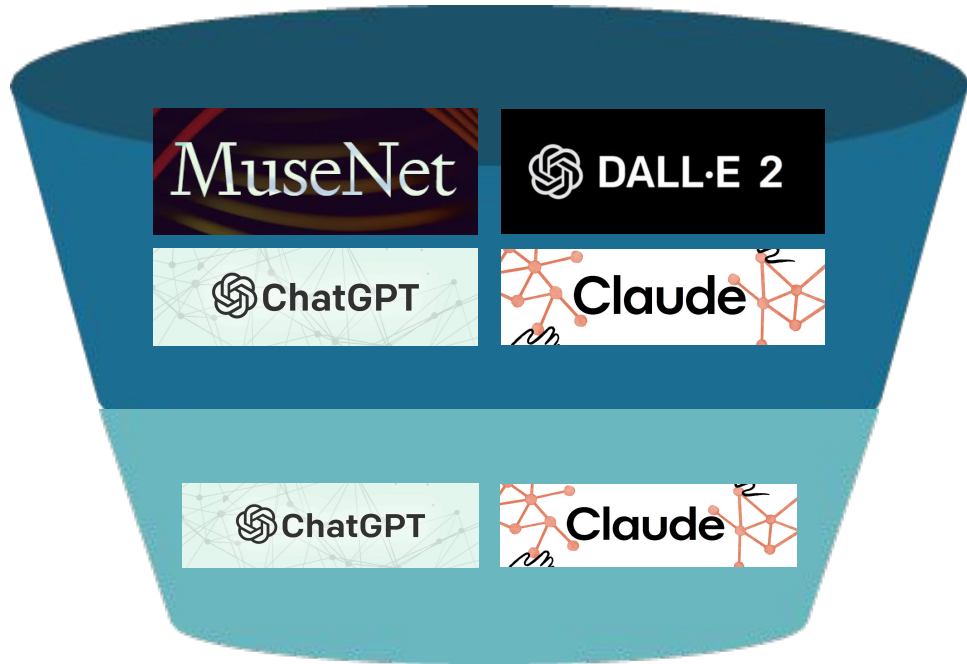
# ***What is Generative AI?***



# Generative AI & Large Language Models

**Generative AI** is a broad category for a type of AI, referring to any artificial intelligence that can create original content. Not all GenAIs are built upon LLMs

**Large Language Models** are AI systems that work with language. In the simplest possible terms, they are *next-word prediction engines*.



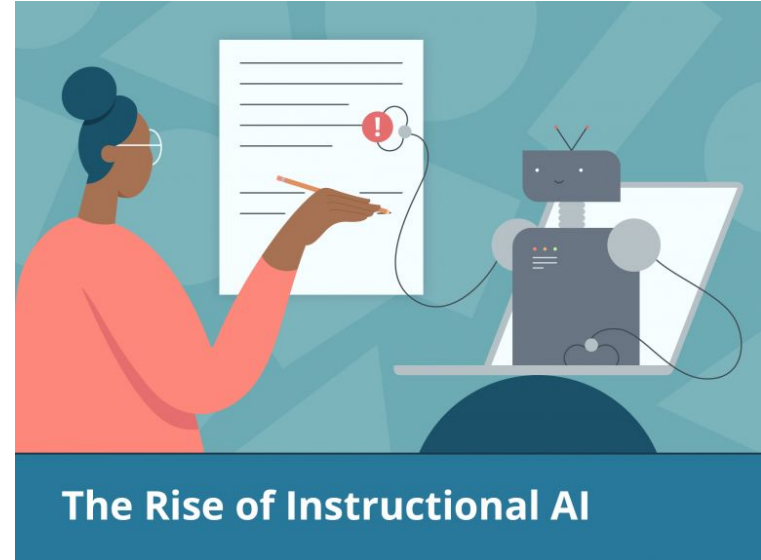


# ***What is Instructional AI?***



# What is Instructional AI?

1. **Instructional AI** is the application of Artificial Intelligence that teaches students how to write and critically think, but *does not do the writing or thinking for them, unlike generative AI*
2. Instructional AI should also give educators more sophisticated methods to both engage, assess, and provide feedback to students to ultimately *be better teachers*.
3. **Instructional AI** should be rooted in educational methodology, and lead to improved student success & educator satisfaction.



# Instructional AI

This is a term coined by Packback. It's not an "industry term" or widely used term... yet

We've used it to help *conceptualize what our AI does, and how it is DIFFERENT than generative AI*

*"Packback's AI is instructional AI. It is not generative AI like ChatGPT. Let me dig in and explain what Instructional AI is and does.."*



TEACHING TO FISH  
vs.  
GIVING A FISH



# Generative AI vs. Instructional AI

ChatGPT		
☀ Examples	⚡ Capabilities	⚠ Limitations
"Explain quantum computing in simple terms" →	Remembers what user said earlier in the conversation	May occasionally generate incorrect information
"Got any creative ideas for a 10 year old's birthday?" →	Allows user to provide follow-up corrections	May occasionally produce harmful instructions or biased content
"How do I make an HTTP request in Javascript?" →	Trained to decline inappropriate requests	Limited knowledge of world and events after 2021

A language model is a statistical tool which determines the probability of a given sequence of words occurring in a sentence.



- Provide line-by-line instruction on how to improve, reducing the **benefits** of cheating.
- Still provide AI-detection software (and plagiarism), but place greater emphasis on the *process* of the assignment versus the *product* of the assignment
- Empower teachers with information.

## ***What if you could use AI to...***

- Provide more consistent writing opportunities for students **without more grading**
- Encourage **more critical thinking** and discourse in your classroom, without more work
- Get support grading the writing mechanics of student work, freeing **more capacity for evaluating ideas**



packback  
Fearlessly curious.






# What is Packback?

Packback's mission is to empower every student to be ***fearlessly curious*** and ***find their unique voice***

*We leverage A.I. to do this!*  
*Let me show you how...*





# Self-Determination Theory



For ***Intrinsically Motivated*** learning to occur:

- **Purpose**
- **Autonomy**
- **Mastery**

**Must be in alignment which leads to:** Self-driven, engaged and effective learning

A **digital writing tutor** for every student.

A **digital grading assistant** for every teacher.

Packback Questions

**Inquiry-based  
Discussion**

Packback Deep Dives

**Essays & writing  
assignments**

Both products are integrated with Canvas.

[Back to Community](#)

## Edit Question

 What is your question? \*

What is Packback's Instant Feedback feature?

44 / 255

✓ Great! Now, add a description to make your question interesting.

## Add a Description

**B** U *I*         $f_x$

Packback's Instant Feedback feature provides real-time feedback through tips that pop up as a user types, responding to the content question or answer as it's being written.

These tips will help you to be sure to:

Phrase your question properly and include a question mark

Add a description to your question

Keep your question title concise for easy reading and clarity

## Instant Feedback



**Curiosity Score**

Predicted Score Range: 31-70 Curiosity Score

▲ This post may be flagged

[Review >](#)

### FEEDBACK BREAKDOWN



**Curiosity**

▲ Your question appears closed-ended.

Try rewriting it to allow for discussion and debate, instead of a direct answer.

● Add a more detailed description.

Add a more detailed description to spark more engaging discussion.



**Credibility**

✓ Great job citing a source!

Citations help readers gain context and assess a post's credibility.



**Communication**



Guide Post from [Dr. Michael Barton](#)  
Instructor at The University of Alabama

#### Instruction

This guide post was  
help guide the class  
in response to this p

**What is the most interesting thing you have  
learned so far? What might we have discussed  
more?**

We have our first exam this week, so I anticipate you all are reviewing (or reviewed) your notes about the material we have discussed so far. For this week's Packback I would like to hear from what you what you is the most interesting thing you have learned so far **OR** what is something you wish we have discussed more?

 Packback



# Outcomes of Instructional AI

## **32% More A's and 32% Fewer F's**

When compared to students using traditional discussion boards, students using Instructional AI were shown to receive significantly better grades

## **30% Less Time Spent Grading**

Instructors using Instructional AI in their classrooms spend up to 30% less time grading assignments, and note they're able to grade more thoroughly

## **89% of Instructors Saw Improvement**

According to a research study, 89% of instructors agree that they saw improvement in the quality of their students' writing after using Instructional AI

## **88% of Students Found Instructional AI Helpful**

According to that same research study, 88% of students reported the the Instructional AI writing assistant helped improve their writing

# Some Additional Context...

## AI has potential for good

### AI Can Make Education More Personal (Yes, Really)

Frequent, trustworthy feedback to teachers helps them interact more with students

NEXT GEN INVESTING

**Bill Gates says A.I. could transform education: It 'will be like a great high school teacher' who always gives useful feedback**

### National ChatGPT Survey: Teachers Accepting AI Into Classrooms & Workflow — Even More Than Students

42% of students use ChatGPT, up from 33% in a prior survey. Their teachers are way ahead of them, with now 63% saying they've used the tool on the job

**Experts say AI could radically change 'broken' US education system for the better: 'Ready to be disrupted'**

One expert said the current education system was born out of the industrial and no longer works for America



U.S. Education System - Fact Sheet

## Not all AI is helping educators

TECH IN YOUR LIFE

### We tested a new ChatGPT-detector for teachers. It flagged an innocent student.

Five high school students helped our tech columnist test a ChatGPT detector coming from Turnitin to 2.1 million teachers. It missed enough to get someone in trouble.

Inside Higher Ed

### Turnitin's solution to AI cheating raises faculty concerns

When Turnitin was launched in 1998, the early ed-tech start-up promised a solution to one of the most pressing threats to academic integrity...

Apr 3, 2023

### Professors are using ChatGPT detector tools to accuse students of cheating. But what if the software is wrong?

### ChatGPT Has a Spectacular Failure

The artificial intelligence chatbot, developed by OpenAI, may not have all the answers you need.

KIRK O'NEIL • MAY 22, 2023 8:46 PM EDT

### Professor Flunks All His Students After ChatGPT Falsely Claims It Wrote Their Papers

Texas A&M University—Commerce seniors who have already graduated were denied their diplomas because of an instructor who incorrectly used AI software to detect cheating

## This ain't our first rodeo

FORBES > INNOVATION > CONSUMER TECH

### Packback Is Building A.I. To Enhance University Learning

Amit Chowdhry Former Contributor @

Tech enthusiast, born in Ann Arbor and educated at Michigan State

Nov 20, 2017, 08:00am EST



Packback has been developing a state-of-the-art AI engine for **6+ years**, becoming the go-to instructional AI platform in education



Packback has heavily-tested AI use cases in education with IRB-sponsored studies that prove the benefits of Instructional AI



Packback's platform **enhances student outcomes and reduces educator burnout**

# *To Schedule a Meeting with Me*

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