

Dayapuram Arts & Science College for Women
FACULTY EMPOWERMENT PROGRAMMES 2023



Generative AI and Digital Humanities: Pedagogical Implications



08 June 2023
Thursday



8.30 PM
IST



Zoom <https://mit.zoom.us/j/95956421675>

Prof. Alexa Alice Joubin



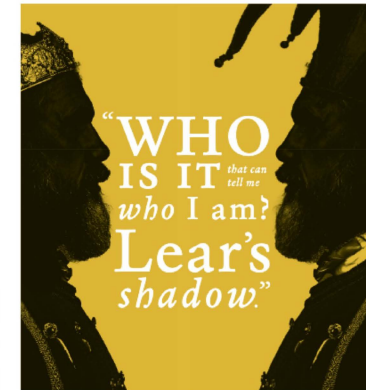
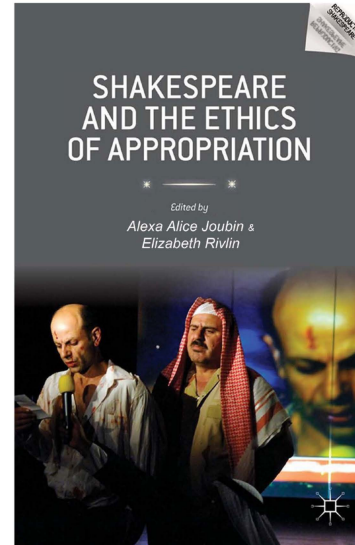
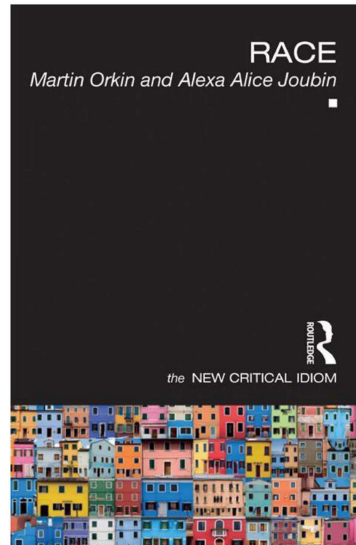
Professor of English, Women's, Gender and Sexuality Studies, Theatre, International Affairs, and East Asian Languages and Literatures and co-director of the Digital Humanities Institute at George Washington University in Washington, D.C.; co-founder, Global Shakespeares Digital Archive, Massachusetts Institute of Technology (MIT); Inaugural recipient, bell hooks Legacy Award; holder of the Martin Luther King, Jr. Award

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Generative AI and Digital Humanities: Pedagogical Implications



King Lear

WILLIAM SHAKESPEARE

edited by Michael R. Best and Alexa Alice Joubin

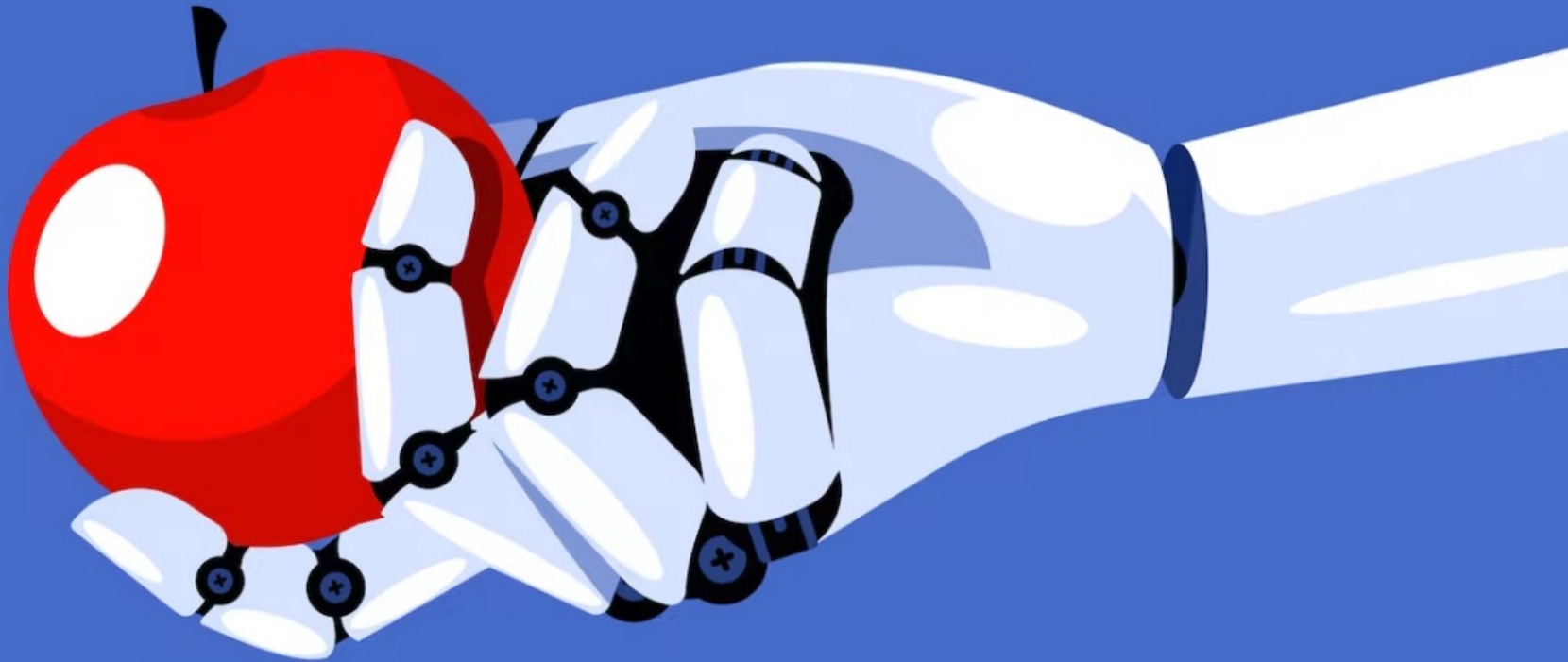
BROADVIEW SHAKESPEARE

Prof. Alexa Alice Joubin



DAYAPURAM
ARTS AND SCIENCE
COLLEGE FOR WOMEN

AI and Digital Humanities: Pedagogical Implications

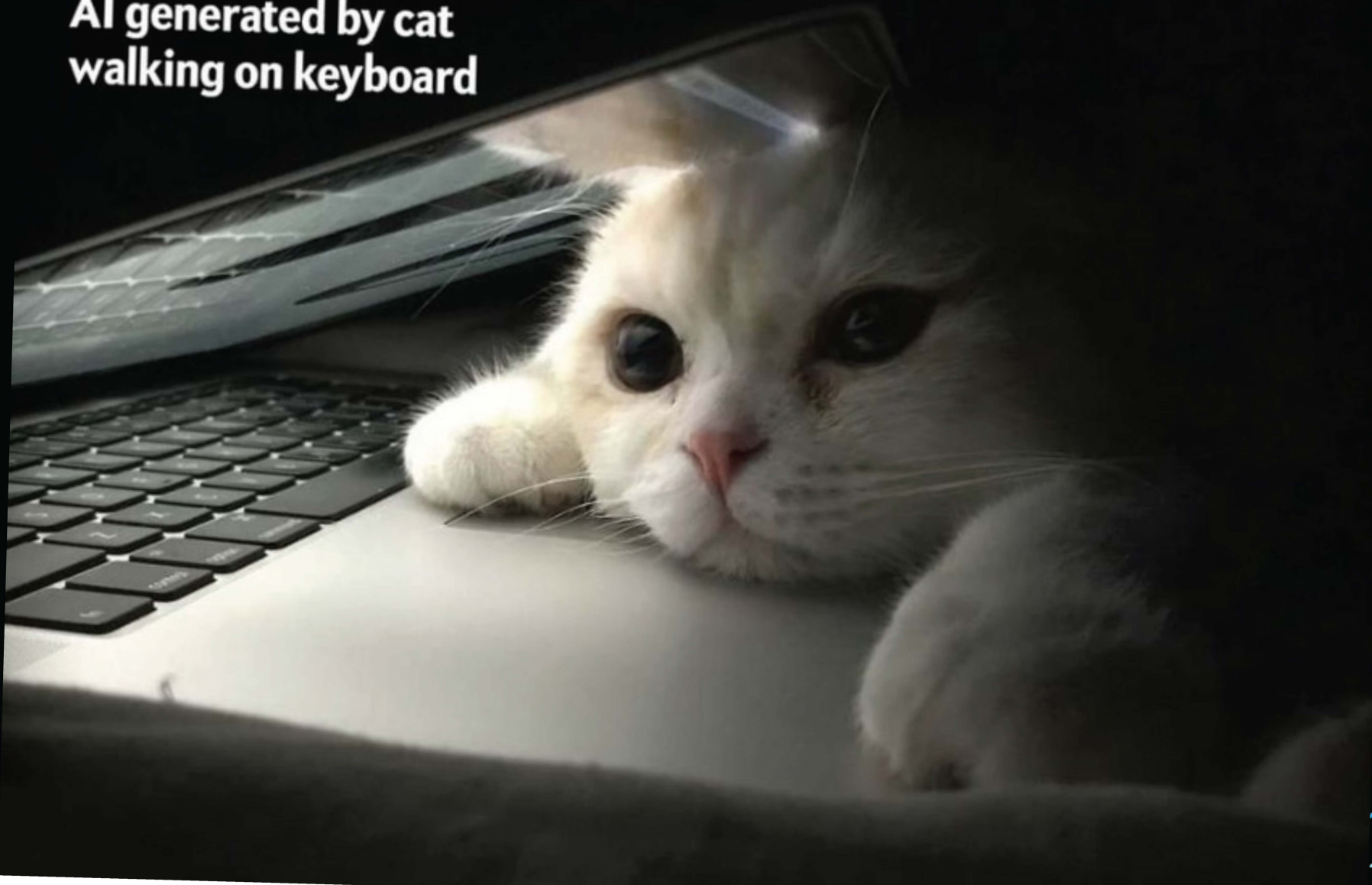


Alexa Alice Joubin

ajoubin@gwu.edu

CatGPT

AI generated by cat
walking on keyboard



Your Experience

- A poll will show up on your Zoom screen; it's a multiple-choice poll

Poll

Your experience with ChatGPT

Have you used ChatGPT to ... Multiple Choice

proofread texts (in languages you are proficient in)

learn foreign languages (translation, grammar, etc)

detect social biases (through the chatbot's responses)

generate teaching or research ideas

to save time on routine and formulaic tasks

Your Anxieties

- A poll will show up on your Zoom screen; it's a multiple-choice poll

Poll

Educators' anxieties

What challenges does ChatGPT bring to education? |

Multiple Choi... ▾

Students using the tool to cheat

The misinformation and disinformation it creates

Lack of critical AI literacy

Students emulating mediocre machine-generated texts

AI generating biased and discriminatory responses

Difficulties with attribution of AI generated texts within students' work

GW English Professor Uses AI to Teach Shakespeare and Critical Theory

Alexa Alice Joubin said the new technology has much to offer students, including helping them develop critical skills.

 **April 12, 2023**

Authored by:
[Greg Varner](#)



My Curriculum Design Principles

- **Teaching with (rather than against) technologies** (books and pens are technologies too)
- Inclusiveness
- Access
- Equity
- Multimodal channels for knowledge creation and dissemination

Critical AI Literacy

Understanding the Tool

aka

Don't ask Michael Jordan to play baseball!

Google vs ChatGPT



🔍 differ|



🔍 **difference**

🔍 **different**

🔍 **different synonym**

🔍 **differentiate**

🔍 **differin gel**

🔍 **difference between affect and effect**

🔍 **different world cast**



Different Strokes
American sitcom

🔍 **differential equations**

🔍 **differential**

ChatGPT



Examples

"Explain quantum computing in simple terms" →

"Got any creative ideas for a 10 year old's birthday?" →

"How do I make an HTTP request in Javascript?" →



Capabilities

Remembers what user said earlier in the conversation

Allows user to provide follow-up corrections

Trained to decline inappropriate requests



Limitations

May occasionally generate incorrect information

May occasionally produce harmful instructions or biased content

Limited knowledge of world and events after 2021

What



Differing Design Goals:

Google = an indexing portal, sending users in (the right?) direction, not a content provider; algorithmic bias in ranking search results

Generative AI: a content aggregator with limitations, enticing users to linger and chat more, a self-contained re-mixing machine

Large Language Model

- A **statistical** tool
- **Based on the probability** of a given sequence of words occurring in a sentence
- Calculating, statistically, what might come next
- Super-powered “autocomplete”

Not all heroes wear _____

Not all heroes wear

capas (80%)

pants (5%)

...

pyjamas (0.01%)

Not all heroes wear _____

Not all heroes wear capes

but (65%)

and (10%)

if (4%)

...

, (0.03%)

What really happens behind the scene ...

From a **human perspective**: We are asking an infinite variety of questions.

From the **AI perspective**: Humans repeatedly ask the same question – what are the most likely words to follow what I just typed ...

What really happens behind the scene ...

- Human: “The first person to walk on the Moon was ...”
- AI interprets the question as “Given the statistical distribution of words in the English corpus, what words are most likely to follow the sequence – The first person to walk on the Moon was?”
- Reaching this answer: “Neil Armstrong”

Human: "What is the highest city in the world?"

AI: La Paz, Bolivia, at 3,869 m above sea level

But: El Alto, Bolivia, is in fact higher, at 4150 m


Problem? The user failed to define "city."

The prompt should be fine-tuned to define city or metropolitan area (having a minimum population of _____)

Share Your Voice



Survey

- Go to <https://Slido.com>
 - Join with code 3214943
 - Under “Polls” (see the tab on top) →
 - What are some words that you associate with ChatGPT?
 - Type in single words (separated by commas)
- 

Share Your Voice

- Go to <https://Slido.com>
- Join with code 3214943
- Under “Q&A” (see the tab on top) →
- Type your questions / reactions during presentation (live)
- Type in single words (separated by commas)



Live Feed

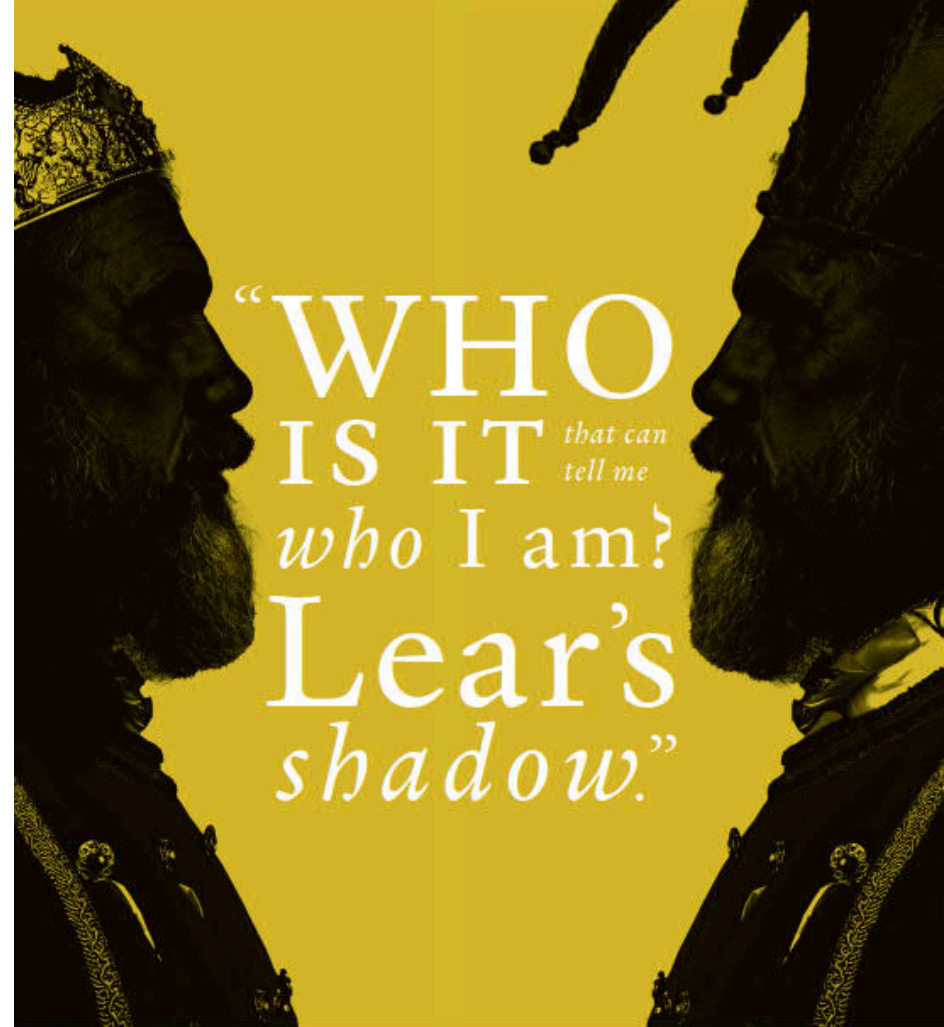
What ChatGPT Does

- A “lumbering **statistical engine** for pattern matching” and for “extrapolating the most likely conversational response” to a question (Noam Chomsky). → **most conventional** responses
- These probabilistic models operate as **black box devices**—producing information without revealing its internal workings. Human coders are unable to fully explain or predict the AI’s output.

What ChatGPT Really Is

- A performance machine: an aesthetic instrument rather than an instrument of reason or an epistemological tool (it puts on impromptu performances based on user prompts; it does not “know” it when it lacks knowledge of something)
- A simulacrum machine: it simulates human speeches in order to give the impression of creating new realities
- A social collaboration tool that illuminates previously hidden concordances between humans. It is a ghost of public voices

ChatGPT, our shadow,
tells us who we are



King Lear

WILLIAM SHAKESPEARE

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BROADVIEW SHAKESPEARE

What ChatGPT Really Is

King Lear: “Who is it that can tell me who I am?”

Fool: “Lear’s shadow.”

ChatGPT is the public’s shadow; it tells us who we are (based on what we said collectively in the data set).

What We Can Do

- Living in AI-mediated world = embracing ambiguity = do not focus on “detecting” AI work; focus on quality
- Learning to work with opaque situations
- Understanding AI as socially bounded within the contexts of its use
- Guiding students toward intentioned interactions with AI
- Providing students with explicit rules of the game
- “Seeing A.I. as a form of social collaboration is more actionable: it gives us access to the engine room, which is made of people” (Jaron Lanier).

What Humans Should Not Do

- Anthropomorphize AI
- Mythologize AI
- Pretend AI has no impact on our industry

In the context of college essays

ChatGPT can form arguments and appears to be even able to cite scholarly literature, but ...

But let's check out these in-text citations...

knowledge gained from experience. When we learn from books, the information is typically presented in a more unbiased and objective way, and has often been rigorously fact-checked and peer-reviewed (Jones, 2017). This means that we can have more

confidence in the accuracy and reliability of the knowledge we gain from books. In contrast, when we gain knowledge from experience, it is often influenced by our own biases, preconceived notions, and subjective interpretations, which can make it less reliable and accurate (Smith, 2019).

situations than knowledge gained from experience. When we learn from books, the knowledge is typically presented in a more abstract and theoretical way, which allows us to apply it to a wider range of situations and contexts (Jones, 2017). In contrast, when we



Sure, here are the full citations for the articles I used in the previous response:

Jones, A. (2017). The value of knowledge gained from books. *Journal of Education*, 53(2), 121-132.

Smith, J. (2019). The limitations of knowledge gained from experience. *Educational Studies*, 45(1), 23-32.



Those are fully *invented* sources!

It generated a (somewhat) convincing article title, since the machine had the context that we were discussing an education/learning related prompt, and even convincing journal titles.

These articles do not exist!

These journals do not exist!

These authors do not exist!

Creator of ChatGPT, Sam Altman



Sam Altman  @sama · Dec 10 ...

ChatGPT is incredibly limited, but good enough at some things to create a misleading impression of greatness.

it's a mistake to be relying on it for anything important right now. it's a preview of progress; we have lots of work to do on robustness and truthfulness.

 783

 3,355

 25.3K



Sam Altman  @sama · Dec 10 ...

fun creative inspiration; great! reliance for factual queries; not such a good idea.

we will work hard to improve!

 135

 164

 3,576



Strength:

Respond to a prompt that provides within it a high level of detail that the AI can use as a starting point for determining “most likely” next words.

Strengths of This Tool

- Performance on questions that request an output that depends on a structured syntax and structure (code, grammar, common content formats like persuasive essays, etc)
- Highly coherent, understandable explanations of concepts/processes that are well-documented already on the internet.
- Taking a chunk of text, and providing a clear synopsis or summary of varying reading levels/lengths (depending on query parameters)
- Rewriting initial output with feedback from a user to modify it, e.g. “rewrite that in the style of _____”
- The bot is a synthesizer that excels at compare-and-contrast tasks that are not based on up-to-date data essay

Weaknesses of This Tool

- Fed the same prompt, the output will be essentially identical each time.
- Originality/Novelness: It is a statistical model, predicting the 'most likely' outcome.
- Factual information will be presented by these models *as if it is accurate*, but it can very often be wrong or invented purely for the purpose of satisfying the input queries' parameters (e.g. False citations, incorrect 'facts').
 - *Remember: These models do not "understand" what they are saying or hold "knowledge about the subject".*
- Struggles with creating novel responses to higher-order Bloom's questions, *particularly* that would depend on external research.
- The bot cannot and does not have an opinion; cannot propose a unique thesis and defend it

Biases

- Social biases and human value systems
- They are are baked into the AI
- Through the corpora (data sets) it trained on
- Even evidence-based arguments can contain biases

Crisis

危機

Danger

Opportunity

Challenges

- Sorting through **conflicting info** about this disruptive innovation
- Amplification of pre-existing social biases and **prejudices**
- Mistaking synthesis for **critical thinking** (a challenge that existed before the AI arrived ...)

Opportunities

- Enhancing metacognition
- Rethinking the craft of writing
- Examining educational practices
- Improving curatorial and editorial skills
- Discussing machine ethics

AI as a Heuristic Tool

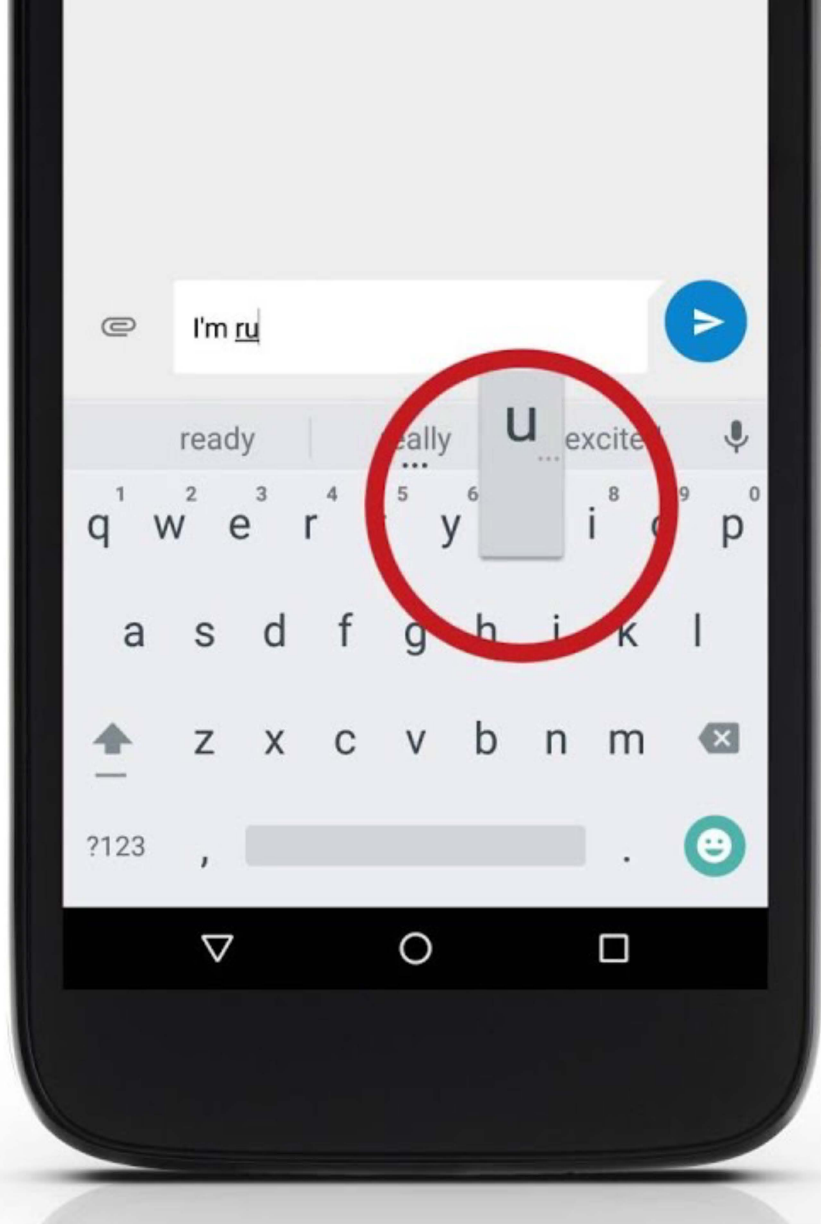


Who am I? What do I believe?

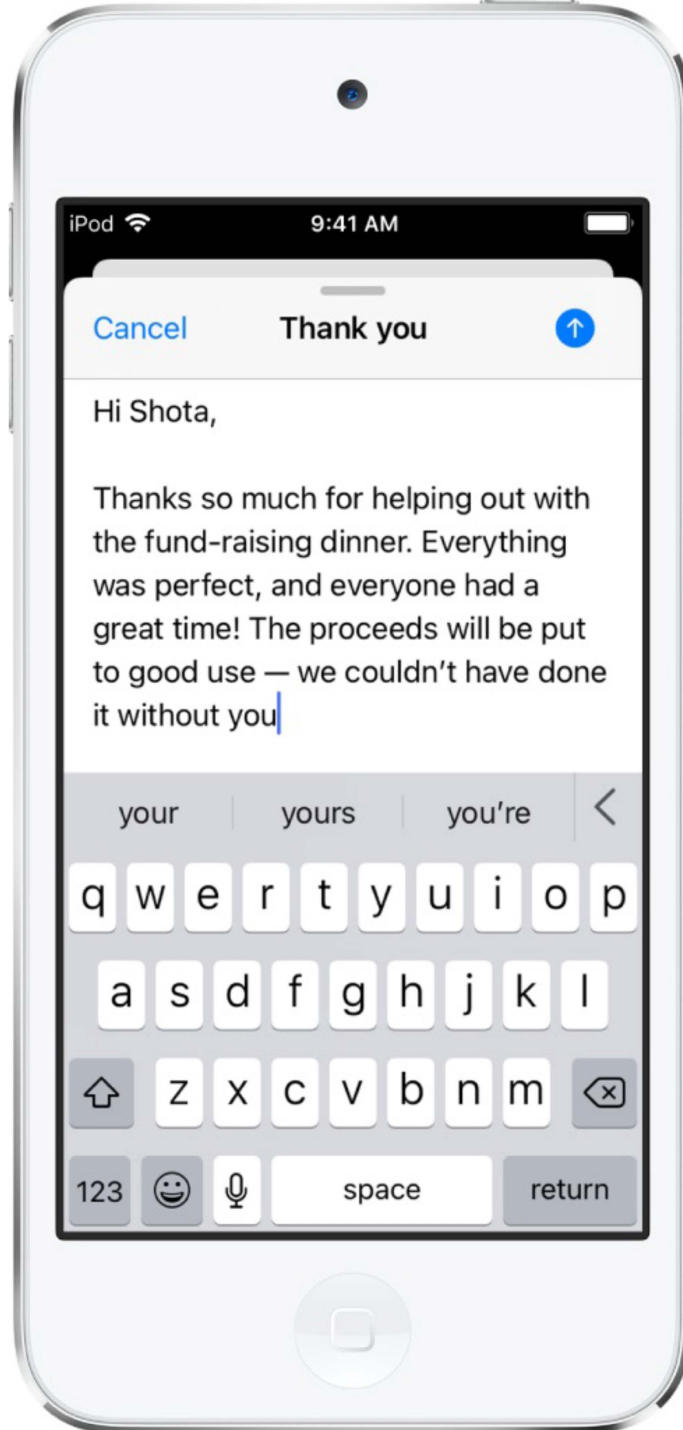
- Understand the world *through language*
- Reveal our **unique selves** *through writing*
- **Freedom** = freely express one's originality, not through embellishment of language generated by an AI chatbot
- Structuring my own language to **find out who I am**
- Therefore, **writing cannot be outsourced**

Who am I? What do I believe?

- Students are less likely to “outsource” writing to AI tools when they are passionate about a topic and have things to say about it.
- **Writing is a form of self expression**
- Debate as classroom activity
- Writing commentary / annotation in class



"I'm running late!
I'll be there in 5."



Cancel

Thank you



Hi Shota,

Thanks so much for helping out with the fund-raising dinner. Everything was perfect, and everyone had a great time! The proceeds will be put to good use — we couldn't have done it without you

your

yours

you're



q w e r t y u i o p

a s d f g h j k l

↑ z x c v b n m ↵

123



space

return

} Predictive text

Who am I?

- AI is a form of auto-complete on steroids
- The risk of predictive text: One can now only think one of 3 thoughts deemed possible by the machine
- Intellectual laziness may lead to erosion of imagination

“Truth” is relative due to time-bound groupthink

If we train ChatGPT on pre-500 BC (pre-Pythagoras) datasets, the generative AI will insist that the Earth is flat.

ChatGPT is a “survey” instrument that collects the mean of opinions (not the truths) – the mathematical average of what the humanity has produced textually.

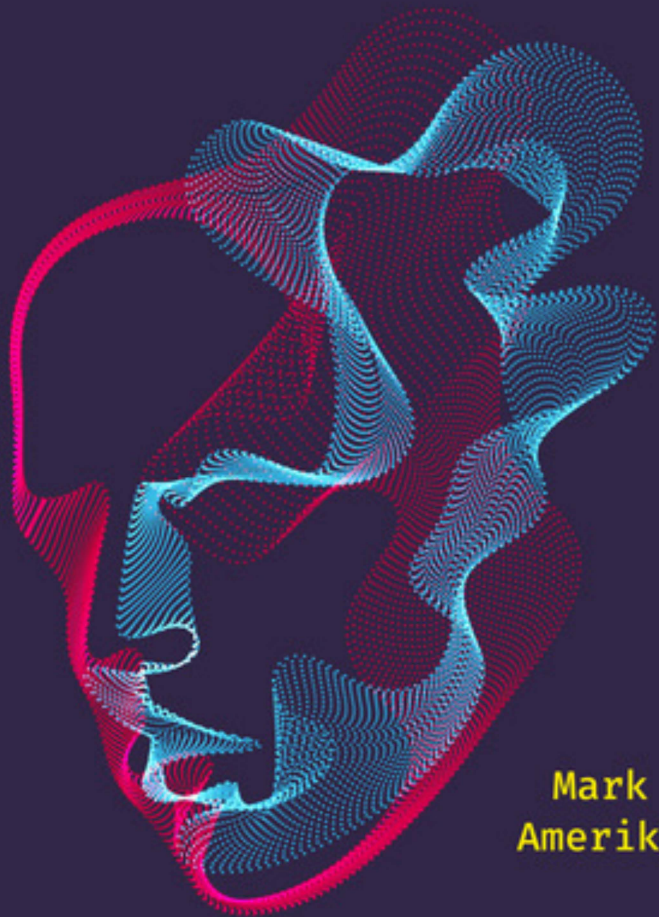


These flaws notwithstanding ...

We can put this AI to good use as long as we recognize that it is an **aesthetic** instrument rather than an instrument of **reason**.

Some artists have already used ChatGPT as an aesthetic instrument.

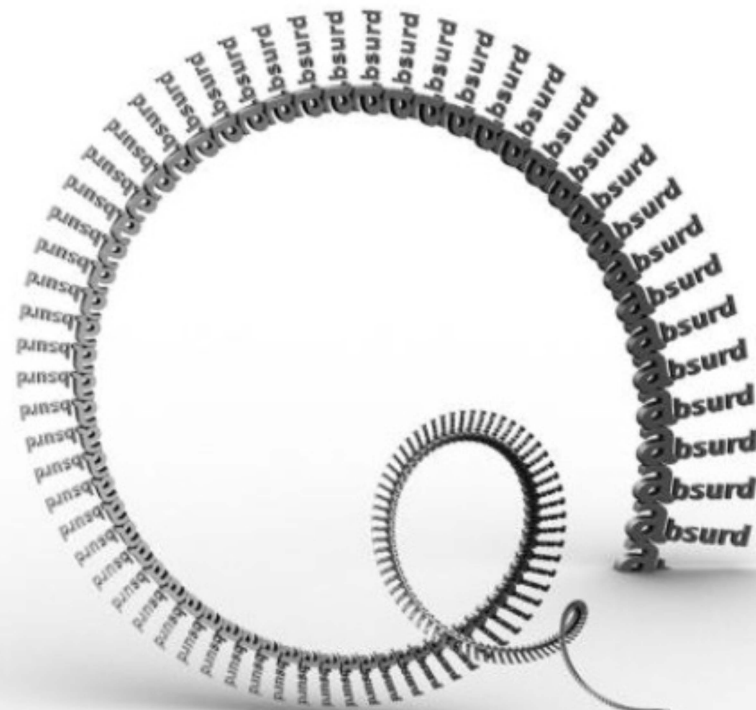
MY
LIFE
AS AN ARTIFICIAL
CREATIVE
INTELLIGENCE



Mark
Amerika

Aesthetic Animism

Digital Poetry's Ontological Implications



David **Jhave** Johnston



Mark Amerika ...

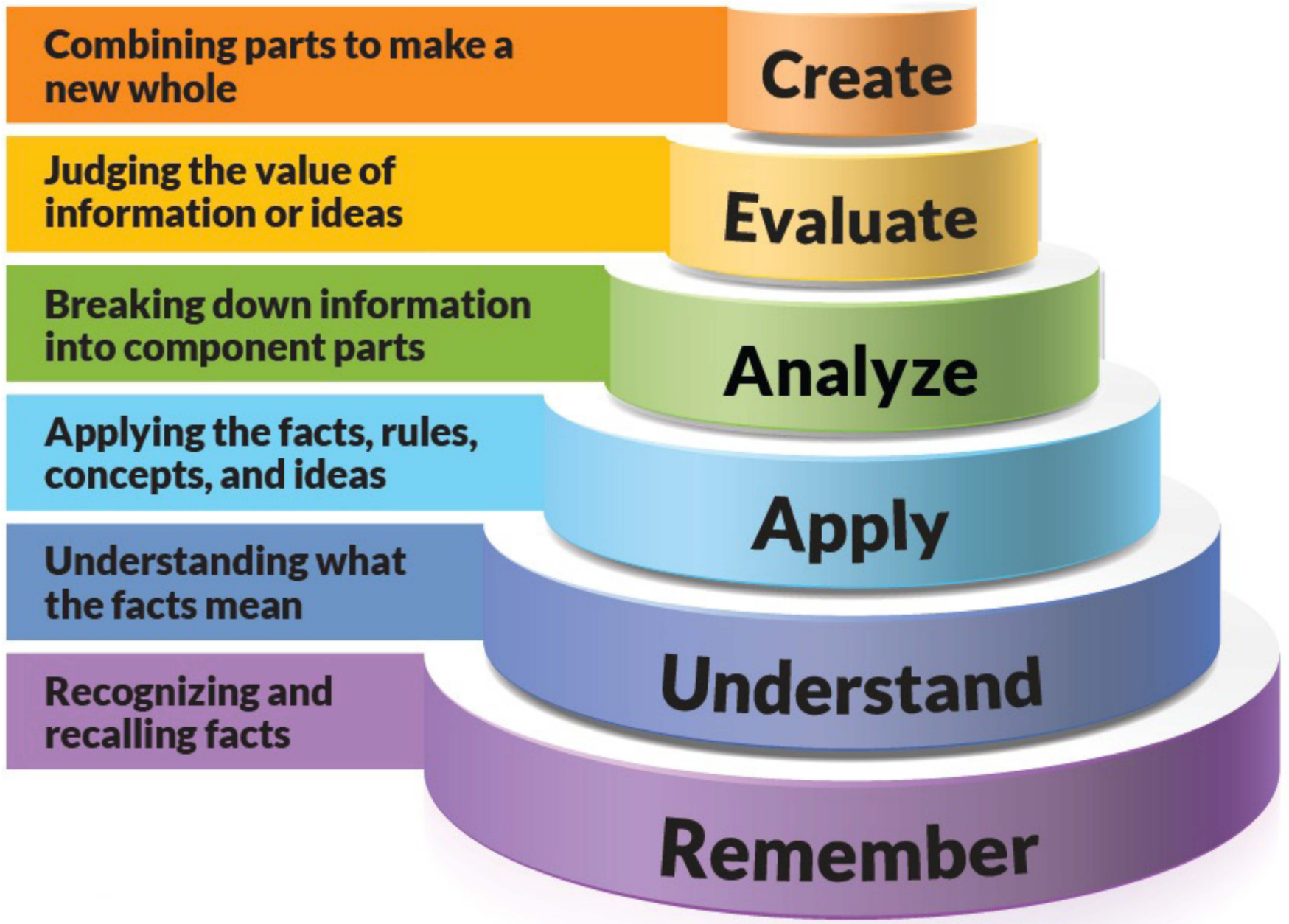
... remixes fragments of AI-generated texts with his own words in order to “defamiliarize language for aesthetic effect” and to increase his work’s “glitch potential,” a process which he compares to the common jazz practice of “intuitively missing a note to switch up the way an ensuing set of phrases get rendered.”

David Jhave Johnston

The avant-garde writer creates outputs from an AI language model through a series of prompts. He believes in a continuum between traditional conceptions of the human author as “a conduit ... through which the wind speaks” and AI as “an oracular vessel” that is similar to “the perforated fiber-optic networks.” By collaborating with generative AI, Johnston wishes to make words “live again” as if reborn from a “modularized ... system of language interchange.”

We live in an inquiry driven culture





Combining parts to make a new whole

Create

Judging the value of information or ideas

Evaluate

Breaking down information into component parts

Analyze

Applying the facts, rules, concepts, and ideas

Apply

Understanding what the facts mean

Understand

Recognizing and recalling facts

Remember

Critical questioning skills are *essential*

- In asking effective questions while interviewing to select the right job after graduation.
- In identifying opportunities for innovation, when starting a business, or working within a team.
- In learning new skills independently after graduation, to keep adapting to a changing world!

Sample Assignments

- Turning Close-Ended Questions into Open-Ended Ones
- Generating Counter-Arguments
- ChatGPT as a “Reading Buddy”
- Peer Review AI-generated “essays”
- Socratic Method assignment
- Critiquing Stereotypes

Turning Close-Ended Questions into Open-Ended Ones

Try this free AI-enhanced tool: <https://labs.packback.co/question/>

The Task:

Use this tool to help you brainstorm and write better questions. Enter a draft of your question. Read the output. Refine your question, and try again.

Go through at least **three rounds of prompt-and-output and question finetuning** to craft an open-ended and in-depth research question.

Turning Close-Ended Questions into Open-Ended Ones

Get Alternatives to A Closed-Ended Question

Ask a close-ended question and the AI will try to find related open-ended questions and also answer the original close-ended question!

Close-ended question

Generate Open Ended Questions

Turning Close-Ended Questions into Open-Ended Ones

Teach Closed-Ended vs. Open-Ended Questions with GPT

Get Alternatives to A Closed-Ended Question

You asked the question "Is Othello a racist play?", which the AI thinks can be answered with:

"The answer to this question is not a simple yes or no. Othello is a complex play that explores the themes of racism, prejudice, and power. It is up to the individual to decide how they interpret the play and its themes."

The following versions of this question may elicit more conversation:

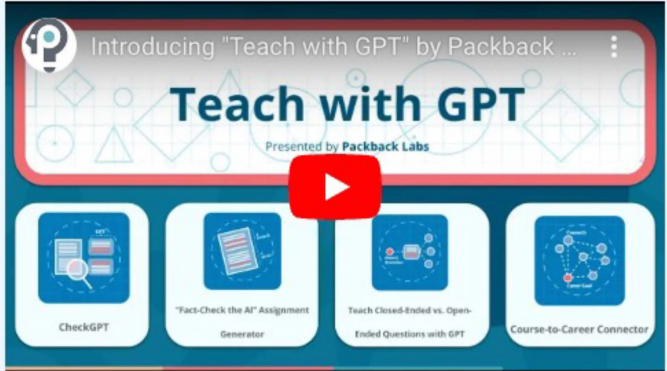
- What themes does Othello explore?
- How does Othello's characterization reflect societal attitudes towards race?
- What messages about race does Othello convey to its audience?

Try Another Closed-Ended Question

Close-ended question

Is Othello a racist play?

Generate Open Ended Questions



Introducing "Teach with GPT" by Packback Labs

Teach with GPT

Presented by Packback Labs

CheckGPT

"Fact-Check the AI" Assignment Generator

Teach Closed-Ended vs. Open-Ended Questions with GPT

Course-to-Career Connector

How to use this tool

We suggest that educators use this tool as a way to demonstrate and teach the difference between closed and open-ended questions. This could be used in a lecture setting as an interactive activity using some questions shouted out or suggested by the students. Or educators can shared with their students as a resource that they can use independently when writing discussion assignments to help them improve the quality of their questions.

Turning Close-Ended Questions into Open-Ended Ones

Get Alternatives to A Closed-Ended Question

You asked the question **“How does Othello's characterization reflect societal attitudes towards race? Are there specific examples from the play where characters' race is made visible or invisible? ”**, which the AI thinks can be answered with:

“Othello's characterization reflects the prevailing societal attitudes towards race during the time period in which the play was written. Othello is a Moor, and his race is often used to question his character and his worthiness as a husband to Desdemona. Othello is often treated as an outsider and is subject to racial slurs and insults from other characters in the play. Specific examples include Iago's repeated use of the term "thick-lips" to refer to Othello, and Brabantio's accusation that Othello has used "spells and medicines" to win Desdemona's love. Additionally, Othello's race is made invisible in the play when characters refer to him as a "valiant soldier" or "noble Moor" instead of by his racial identity.”

Generating Counter-Arguments

Try this free AI-enhanced tool: <https://fermat.ws/>

The Task:

Use this tool to help you brainstorm possible argument and counter-arguments.

Quality of the AI's output correlates to the quality of the input. Write a thorough, coherent, and evidence-based argument.

Use the output to examine loopholes in your arguments. Are there aspects you have not considered?

Generating Counter-Arguments

<https://fermat.ws/>

Shakespeare's Othello is a racist play. It depicts a Black man in unfavorable light.

Pros & Cons

It forces readers to confront the racism of the time period

It can reinforce negative stereotypes

It can be used as an example to show the dangers of racism

It can be seen as promoting racism

It can be used as a tool to help people understand the effects of racism

It can be seen as endorsing the idea that people of color are inferior

Use ChatGPT as a Reading Buddy

Facing a challenging, complex assigned reading? Unsure of your own understanding of the text? Use ChatGPT as (an imperfect) sounding board.

Here is an example of Judith Butler's *Undoing Gender*:



Please summarize this article. What are its main theses? If gender is a kind of a doing, an incessant activity performed, in part, without one's knowing and without one's willing, it is not for that reason automatic or mechanical. On the contrary, it is a practice of improvisation within a scene of constraint. Moreover, one does not "do" one's gender alone. One is always "doing" with or for another, even if the other is only imaginary. What I call my "own" gender appears perhaps at times as something that I author or, indeed, own. But the terms that make up one's own gender are, from the start, outside oneself, beyond oneself in a sociality that has no single author (and that radically contests the notion of authorship itself). The Hegelian tradition links

Use ChatGPT as a Reading Buddy



The main theses of the article are as follows:



1. Gender is not an automatic or mechanical process, but rather a practice of improvisation within a constrained social context.
2. Gender is not an individual endeavor; it is always performed in relation to others, even if those others are imaginary.
3. One's own gender identity is not solely authored or owned by oneself, but rather shaped by external social forces and norms that challenge the concept of authorship.
4. The Hegelian tradition that associates desire with recognition overlooks the fact that the terms of recognition are socially constructed and subject to change.
5. The norms of recognition can result in differential treatment of individuals, where some are recognized as fully human while others are deprived of that status, leading to unequal and unlivable lives.
6. Desire for recognition extends to gender, but the available schemes of recognition can either undo or withhold recognition, becoming a source of power that differentially produces the human.
7. Desire is intertwined with social norms, power dynamics, and the definition of the recognizably human, determining who qualifies and who does not.

Use ChatGPT as a Reading Buddy

Caveat: Do fact check ChatGPT

It may miss the mark or miss or misconstrue an important thesis

No more reliable than a random classmate


But: It is useful as a sounding board and as a “presence” to make you a stronger, critical thinker. In your interaction with ChatGPT, you are taking on the role of a teacher who checks the quality of the AI’s output (like a student’s work).

→ This process enhances **meta-cognition**

Classroom Activity



Peer Review

- **Peer Review Using Generative Artificial Intelligence**
 - **“Peer review” a 500-word essay generated by ChatGPT**
 - **Skill # 1: Prompt engineering**
 - **Skill # 2: Quality analysis**
 - **Why AI?** The text is not by a real person or classmate, students generally feel more comfortable critiquing the writing
- 

Classroom Activity

EXAMPLE: Critique an AI-generated passage

Prompt (to ChatGPT):

Since the late twentieth century, feminism has been struggling with the balance between arguments about self-determination and social impositions of gender roles. Judith Butler theorizes that cultural conventions of gender play a part in how people perceive gender, though she also concedes that no one is "totally determined by cultural norms." Write a 250-word essay on what gender is. ➤

[ChatGPT Jan 9 Version](#). Free Research Preview. Our goal is to make AI systems more natural and safe to interact with. Your feedback will help us improve.

ChatGPT's Answer:

Gender is an abstract concept that has been debated for centuries. It is a social construct that is constantly evolving and has different meanings and implications for different people. Gender is an identity that is shaped by various biological, social, political, and cultural factors. It is a complex concept that is often misunderstood and misused.

Critiquing Stereotypes



- **Catalogue stereotypes and implicit biases using ChatGPT**
- **Students play an active role in decoding messages in the media**
- **Why AI?** Since ChatGPT synthesizes existing texts including their unspoken assumptions, it is a good place to look for **biases** in anonymized public voices

Socratic Method



Assignment

- **Use ChatGPT as an interlocutor**
- Traditional college essays = a single person playing tennis against a practice wall
- Socratic assignment = playing tennis against an AI opponent
- **Why AI?** Students can practice taking on the role of a conversation initiator rather than simply a passive recipient of knowledge

Socratic Method

- Initiate a series of “chain-of-thought prompts and follow-up questions
- Collect chatbot’s answers
- Critique the biases, inconsistent arguments, and factual errors
- Demonstrate your grasp of the domain knowledge



Assignment

TIPS TO IMPROVE



CHATGPT PROMPTS



Keep it Simple

ChatGPT understands most concepts. Focus on context and your requirements instead of general information on concepts.



Use Lists

Use lists for instructions & requirements instead of long paragraphs.

Example: *Create an outline that covers:*

- *Team communication*
- *Trust building*
- *Team goal setting*



Use Prompt Chains

For requests that take multiple steps to complete, separate these into different prompts.

This often provides more accurate, aligned results than using one large prompt.



Reframe Requests

Tell ChatGPT what to do instead of what *not* to do.

Example: Replace "*don't use the same names*" with "*replace all names in the story.*"

Course Objectives

- **Hone critical thinking and writing skills**
- **Form effective research questions**
- **Find well-rounded answers to those questions**



From AI-Artificial Intelligence to AI-Academic Integrity

Do not pass off AI-generated contents as your own.

Using AI-content generators to complete assignment without proper attribution or authorization violates academic integrity.

If you are unsure about whether it is plagiarism or academic dishonesty, ask us!

The Quality of Critical Writing



Presentation

Grammar, legibility, formatting, etc. Share your and pique others' curiosity!

In general, 200 words are needed for a curiosity score of 70 (plus other criteria)



Credibility

Support your arguments with evidence. Be specific in evidence you cite. Cite reliable sources.



Depth

Ask open-ended questions and respond to classmates' questions in engaging manners. The more effort / in-depth your response is, the higher your curiosity score will be.

Questions to Post



Open-Ended

Ask questions that do not have a single accepted “right” answer. Ask open-ended questions that cannot simply be Googled.



Make It Specific

Avoid questions that generate very general answers. Specify historical and cultural contexts.



Make Connections

Ask questions that connect two or more films, theories, or disciplines. **Combinatorial thinking** is an important driver of innovation!

Responses to Write



Thesis-Driven

Think of your response as a mini-essay. Support your thesis with mini case studies. Make it easy to follow by adding paragraph breaks.



Be Thorough

Write a minimum of 1 paragraph. Add value to our collective knowledge. Inspire others' curiosity.



Cite Evidence

Use the Rich Text Editor to embed images, videos, or web links (external sources).

What NOT to Post



Statement

Questions phrased as a statement (not an open-ended question).



Close-Ended

Questions that are close-ended and do not promote exploration and curiosity.



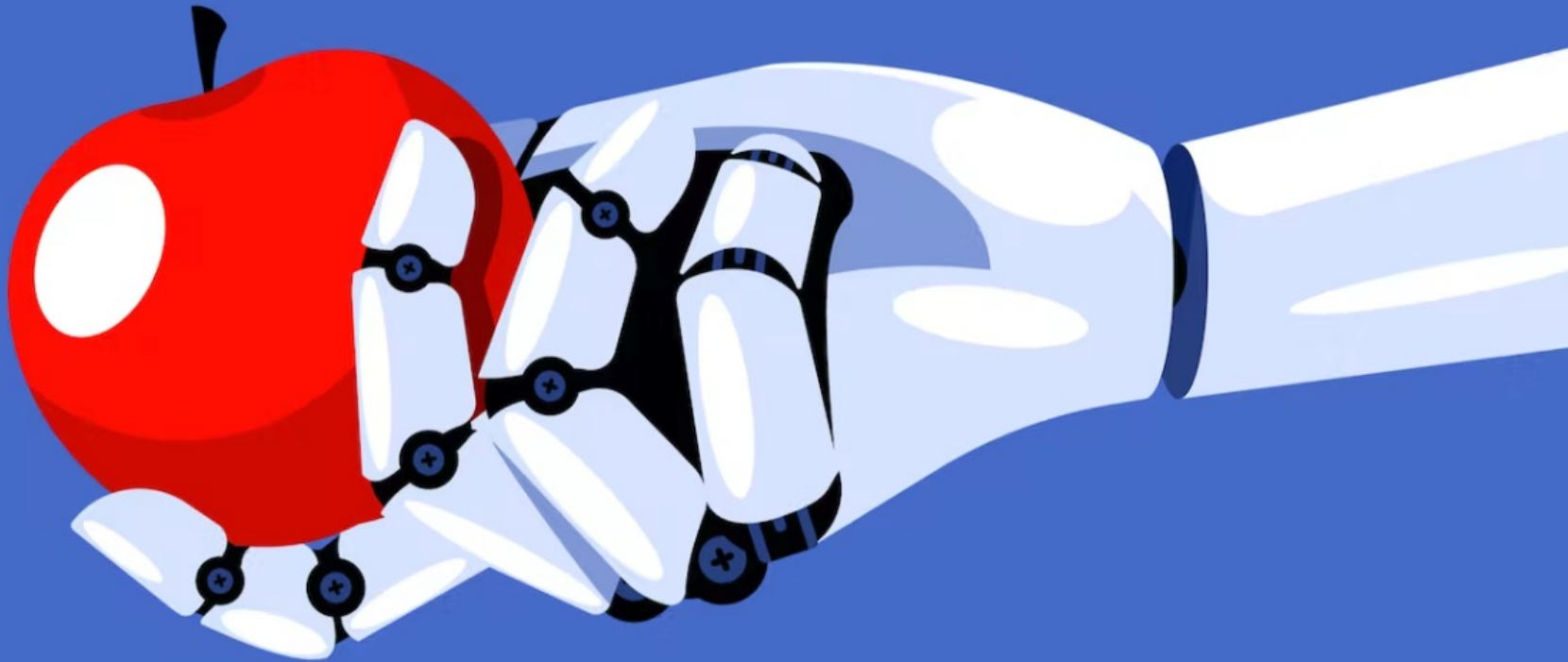
Lack of Depth

Questions about the *what* may not lead to a deep discussion. Focus on the *how* and *why* of course material.



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AI and Digital Humanities: Pedagogical Implications



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