

Generative AI and Higher Education

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College of Business Administration Teaching Committee &
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Agenda

- What is Generative AI
- Challenges
- How Generative AI Can Help You
- Prompt Engineering
- New Approaches
- On the Horizon
- Q&A

What is Generative AI?



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What is Generative AI?

- Generative AI can generate new content, such as images, text, or audio, that is similar to the large datasets of examples it has been trained on.
- Data is sourced from the internet
- In some cases, models can be trained on closed, proprietary datasets



What is ChatGPT?

- A generative AI system that responds to written prompts with text
- Think of it as superpowered auto-complete
- Released to as public prototype on November 22, 2022, ChatGPT reaches one million users in 5 days. It took Facebook 10 months
- Higher education on “high alert”
- Many media outlets are focusing on the “doom and gloom”

ChatGPT Passes Medical License Exam, Bar Exam After Top Performance On Wharton MBA Final

By Ben Zeisloff Jan 24, 2023 DailyWire.com



ChatGPT, a mass-market artificial intelligence chatbot launched by OpenAI last year, passed the bar exam and the medical license exam that typically require human students years of intensive study and postsecondary education to complete.

The language processing tool has gained widespread recognition over the past several weeks as knowledge workers leverage the user-friendly system to complete tasks such as writing emails and debugging code in a matter of moments. Academics have successfully applied the system to exams often considered difficult by even the world's brightest students.

ChatGPT performed "at or near the passing threshold" for all three components of the United States Medical Licensing Exam, a test which physicians holding Doctor of Medicine degrees must pass for medical licensure, without "any specialized training or reinforcement," according to one research paper. The system also showed "a high level of concordance and insight in its explanations," implying that "large language models may have the potential to assist with medical education, and potentially, clinical decision-making."

The researchers fed ChatGPT open-ended and multiple choice questions with and without forced explanations; two physician adjudicators scored the responses with respect to accuracy, concordance, and insight. The

Destabilize

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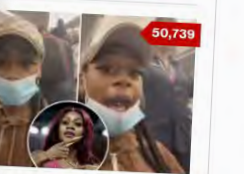
Brady has made decision on next son, according to teammates



who shot teacher told another he wanted to set her on fire and watch die: report



ria Baldwin slammed for using 'Spanish accent when she lectured reporters



track star Sha'Carri Richardson kicked off plane after arguing with flight attendant

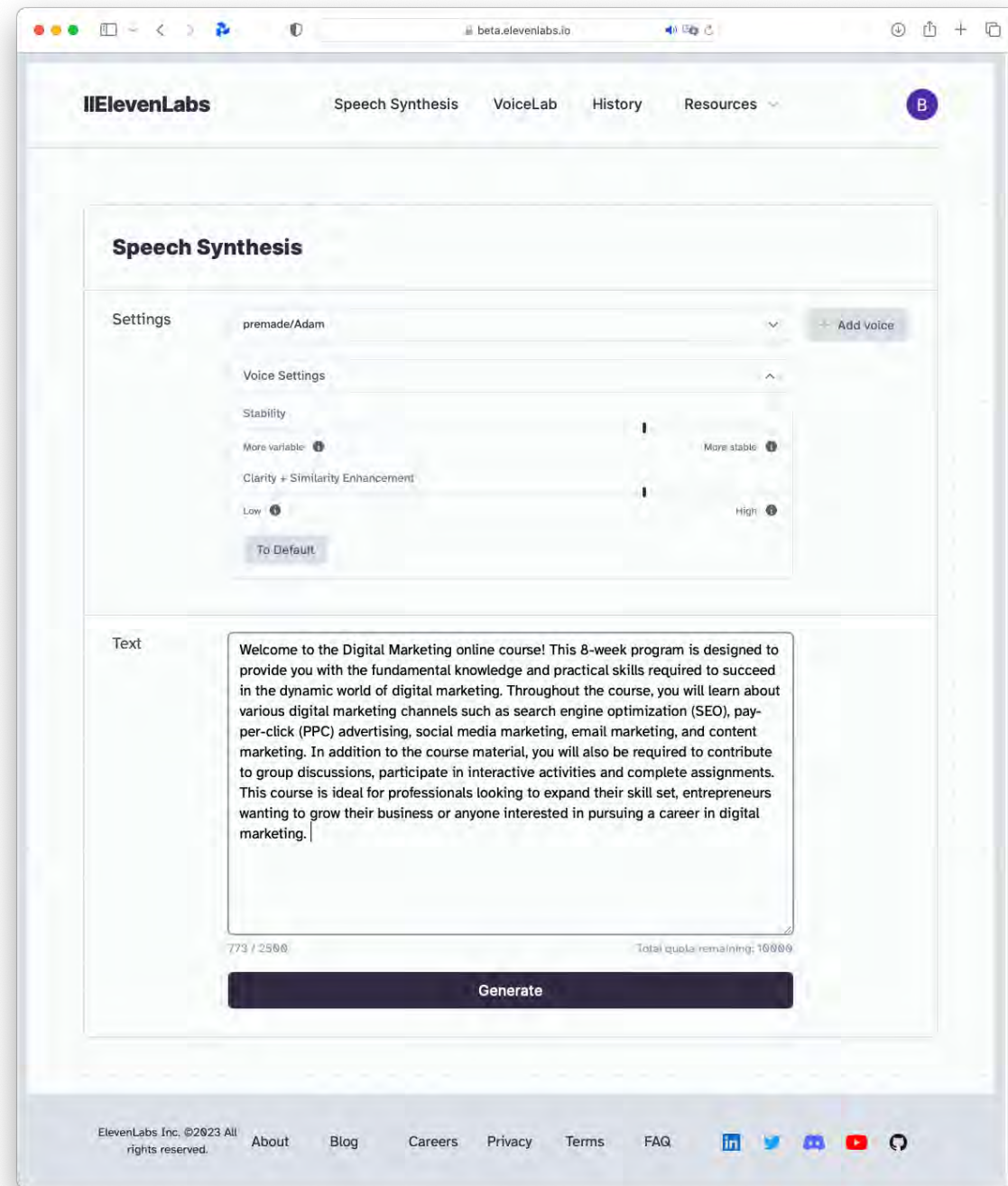
What is MidJourney?

- A generative AI system that responds to written prompts with images
- It is trained on terabytes of image data sourced from the internet
- Can utilize sophisticated prompts to create widely varying images



What is ElevenLabs?

- A generative AI system that builds voice models and synthesizes speech audio from a text input
- Takes a user-provided audio file to create a trained voice model
- Also has library of pre-generated voice models



Challenges



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Challenges



- The Hallucination Problem
- Ethics
- Copyright
- Arms Race
- ChatGPT Limitations

The Hallucination Problem

- Text-based Generative AI systems such as ChatGPT are fundamentally text completion algorithms
- They want, above all else, to sound right...even if they have to make up things to do it
- At this stage, relying on ChatGPT to include references will likely result in bogus citations

< 10 / 10 >

BR

write a paragraph about consumer collecting behavior—specific consumers' motivation to collect— and include at least four citations and include references. Use only academic articles for citations from the past 5 years and include an article from brian spaid. Use APA citation formatting.



Consumer collecting behavior has been the subject of considerable research in recent years, as scholars attempt to understand the underlying motivations that drive individuals to collect specific items (Spaid, 2018). One primary motivation for collecting is the enhancement of one's self-concept, as consumers often use their collections to express their personal identity and communicate social status (Belk, 2016). Additionally, a sense of mastery and control has been identified as another driver of collecting behavior; individuals often feel a sense of accomplishment and expertise when acquiring rare or sought-after items (Spaid, 2018). Furthermore, research has shown that social factors play a significant role in motivating consumer collecting behavior, with individuals participating in collecting communities to forge connections and establish social networks (Newman & Dhar, 2017). Finally, emotional gratification has been found to be an essential aspect of collecting behavior, as individuals derive pleasure from the process of seeking, acquiring, and possessing objects that evoke strong emotional responses (Smith & Lee, 2020).

References:

Belk, R. W. (2016). Extended self and the digital world. *Current Opinion in Psychology*, 10, 50–54. <https://doi.org/10.1016/j.copsyc.2015.10.012>

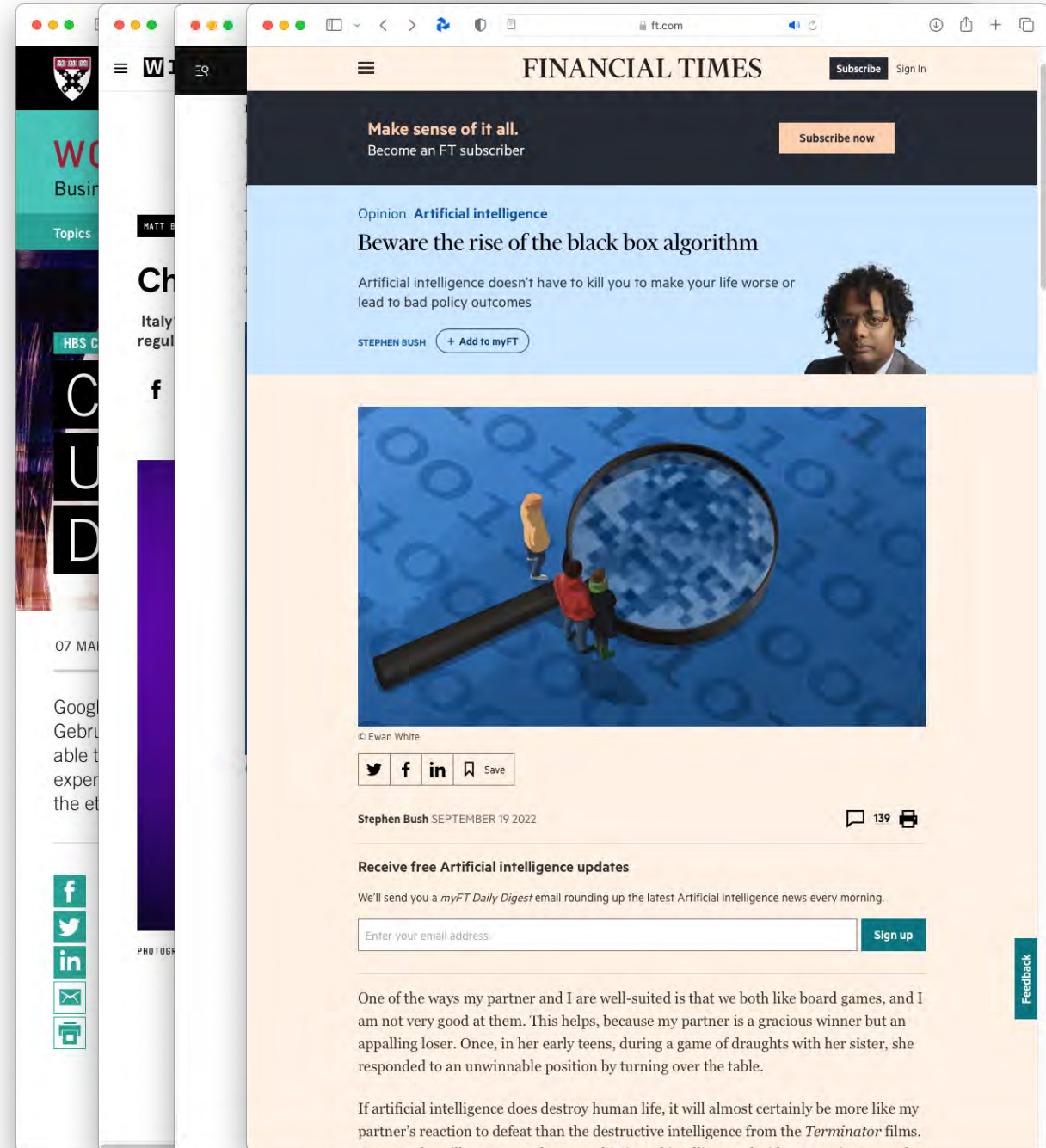
Newman, G. E., & Dhar, R. (2017). Authenticity is contagious: Brand essence and the original source of production. *Journal of Marketing Research*, 54(3), 420–434. <https://doi.org/10.1509/jmr.13.0189>

Smith, A., & Lee, C. S. (2020). Emotional dimensions of collecting: A study of the motivations and experiences of collectors. *Journal of Consumer Culture*, 20(3), 351–369. <https://doi.org/10.1177/1469540518810132>

Spaid, B. I. (2018). The role of affect in consumer collecting behavior: An application of attachment theory. *Marketing Letters*, 29(3), 355–367. <https://doi.org/10.1007/s11002-018-9458-5>

Ethical Issues

- **Bias** – LLM systems will reflect the same biases that exist in the datasets they use for training
- **Privacy** – LLM datasets may include personal information that can be incorporated into results
- **Accountability** – who is ultimately responsible for the use of AI-generated content
- **Transparency** – these systems are black boxes; difficult to assess accuracy or bias



The image shows a screenshot of the Financial Times website. The main article is titled "Beware the rise of the black box algorithm" by Stephen Bush, dated September 19, 2022. The article discusses the risks of artificial intelligence, particularly the "black box" nature of some AI systems. The article includes a sub-headline: "Artificial intelligence doesn't have to kill you to make your life worse or lead to bad policy outcomes". There is a small photo of Stephen Bush next to his name. Below the article, there is a section for "Receive free Artificial intelligence updates" with a sign-up form. The website header includes the Financial Times logo, a "Subscribe" button, and a "Sign In" link. The browser address bar shows "ft.com".

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Opinion **Artificial intelligence**
Beware the rise of the black box algorithm

Artificial intelligence doesn't have to kill you to make your life worse or lead to bad policy outcomes

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Stephen Bush SEPTEMBER 19 2022 [139](#) [Print](#)

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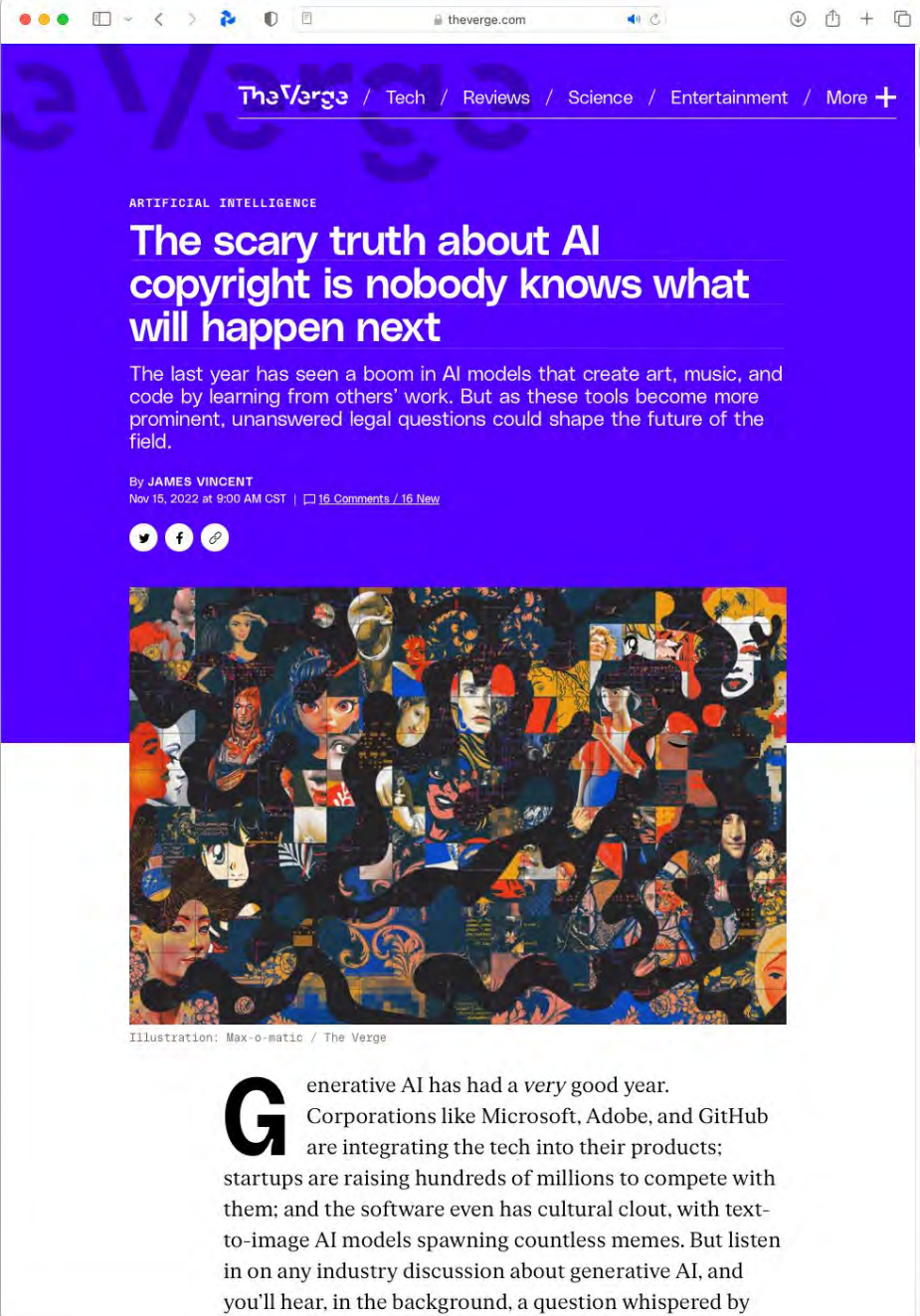
One of the ways my partner and I are well-suited is that we both like board games, and I am not very good at them. This helps, because my partner is a gracious winner but an appalling loser. Once, in her early teens, during a game of draughts with her sister, she responded to an unwinnable position by turning over the table.

If artificial intelligence does destroy human life, it will almost certainly be more like my partner's reaction to defeat than the destructive intelligence from the *Terminator* films.

[Feedback](#)

Copyright

- Large language models (ChatGPT) and diffusion models (Stable Diffusion, MidJourney) rely on vast quantities of copyrighted material to generate their outputs
- Lawsuits currently pending; fair use?
- Question of who truly owns the content is unknown



The Verge / Tech / Reviews / Science / Entertainment / More +

ARTIFICIAL INTELLIGENCE

The scary truth about AI copyright is nobody knows what will happen next

The last year has seen a boom in AI models that create art, music, and code by learning from others' work. But as these tools become more prominent, unanswered legal questions could shape the future of the field.

By JAMES VINCENT
Nov 15, 2022 at 9:00 AM CST | [16 Comments](#) / [16 New](#)

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Illustration: Max-o-matic / The Verge

Generative AI has had a very good year. Corporations like Microsoft, Adobe, and GitHub are integrating the tech into their products; startups are raising hundreds of millions to compete with them; and the software even has cultural clout, with text-to-image AI models spawning countless memes. But listen in on any industry discussion about generative AI, and you'll hear, in the background, a question whispered by



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A high-yield bond fund with the flexibility to add return potential and diversification with stocks.

AXIOS

CBS NEWS

MONEYWATCH

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MONEY WATCH

Now Playing

Does artificial help students c

115 Words

A Princeton University student has built an app that checks whether a text was written by a human being or by an intelligence tool ChatGPT.

Senior and computer science major Edward Tian, 21, is the creator of the app. He says he built it to help students who are worried about being caught using AI.

49.2 Waco Thursday, April 6, 2023

BAYLOR News for the student

NEWS ARTS & LIFE OPINION

Turnitin announces new feature to detect ChatGPT

By Sydney Matthews - March 21, 2023

Graphic illustration by Olivia Havre | Photographer

By Sydney Matthews | Staff Writer

Turnitin — a web service that identifies plagiarism — will be adding a new feature to detect ChatGPT and other AI-generated text. The feature is set to release as early as next month.

The platform is able to compare passages of text against a database of billions of documents. The purpose of Turnitin is to detect academic dishonesty by highlighting the sentences of plagiarized text.

According to Turnitin, the platform already has a feature that can detect AI-generated text. These features are designed to help educators and students identify text that has been generated by AI.

Dr. Lauren Short, lecturer and assistant director of the Center for Academic Integrity, says this new feature will give confidence to professors and students alike. She said that while most professors have been skeptical of AI, she has been more open to it. She said that while most professors have been skeptical of AI, she has been more open to it.

washingtonpost.com

The Washington Post
Democracy Dies in Darkness

DRMKTG

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.

Analysis by [Geoffrey A. Fowler](#)
Columnist | [+ Follow](#)

Updated April 3, 2023 at 9:47 a.m. EDT | Published April 3, 2023 at 6:00 a.m. EDT

Lucy Goetz, a student at Concord High School in California helped tech columnist Geoffrey A. Fowler test Turnitin's AI detector. She was surprised to discover it erroneously flagged part of her original essay as created by AI. (Andria Lo for The Washington Post)

Listen 11 min | Comment 604 | Save | Gift Article | Share

High school senior Lucy Goetz got the highest possible grade on an original essay she wrote about socialism. So imagine her surprise when I told her that a new kind of educational software I've been testing claimed she got help from artificial intelligence.

Tech is not your friend. We are. Sign up for The Tech Friend newsletter. →

ChatGPT Limitations

- Cannot cite and analyze evidence
- Cannot create logical links between claims
- Cannot arrange claims into a hierarchy of significance
- Does not understand emotional context
- Can produce biased and/or incorrect content
- References are hit or miss
- Uses data mostly prior to 2021
- English-only



1. Limited understanding of context and background information: ChatGPT may not have the same level of understanding and knowledge about a topic as a human writer, leading to inaccuracies or misconceptions in the essay.
2. Limited ability to understand and convey emotions: ChatGPT may struggle to understand and convey emotions in an essay, making the writing seem robotic or impersonal.
3. Limited ability to understand and use figurative language: ChatGPT may not be able to understand or use figurative language effectively, leading to awkward or confusing sentences in the essay.
4. Limited ability to understand and use proper grammar and syntax: ChatGPT may struggle to understand and use proper grammar and syntax, leading to grammatical errors and awkward sentence structure in the essay.
5. Limited ability to understand and use appropriate tone and style: ChatGPT may not understand and use the appropriate tone and style for a given essay, making the writing seem out of place or inappropriate.
6. Limited ability to understand and use transitions and cohesive devices: ChatGPT may struggle to understand and use transitions and cohesive devices effectively, leading to choppy or disjointed writing in the essay.
7. Limited ability to understand and use rhetorical devices: ChatGPT may not be able to understand or use rhetorical devices effectively, leading to a lack of emphasis or persuasion in the essay.
8. Limited ability to understand and use referencing and citation: ChatGPT may not understand or use referencing and citation correctly, leading to inaccuracies or plagiarism in the essay.
9. Limited ability to understand and use formatting and structure: ChatGPT may struggle to understand and use formatting and structure effectively, leading to a lack of organization or coherence in the essay.
10. Limited ability to understand and use critical thinking: ChatGPT may not have the ability to understand or use critical thinking effectively, leading to a lack of depth or analysis in the essay.



University Perspective



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University Perspective

- The Committee on Teaching
 - AI policies at this point
- The Center for Teaching and Learning
 - AI and your teaching practice
 - Collaborating with others
 - Partnerships to advance understanding

How Generative AI Can Help You



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How Generative AI Can Help You

- Course Planning & Development
- Student Support
- Academic Research
- Lecture Narration
- Creative Visualization

Course Planning & Development

- Curriculum Design
 - Course module creation
 - Assignment/Subject matter recommendations
 - Rubric creation
- D2L Assistance
 - Module introductions
 - Topic discussion questions and response summaries
- Market your course

Student Support – Virtual Tutor



ChatGPT

Model: GPT-4

4 / 4

BR

I want you to mimic a tutor helping me with accounting. You create questions around a generally accepted accounting principles (GAAP) subject that I provide and I will answer them. Ask a multiple choice question with four answers and wait for my response. If I answer correctly, let me know and ask me another question (up to 10 questions). If I answer incorrectly, walk me through the logic to understand the correct answer, and then ask me another question. Do you understand?

Interacting with written research



ChatPDF

The screenshot shows a web browser window with the URL chatpdf.com. The page title is "Chat with Spaid - Exploring Collecting Behavior.pdf". The interface includes a sidebar on the left with a "New Chat" button and a list of chat sessions. The main content area displays text from a PDF document with three blue question boxes overlaid on it. The sidebar also contains "Reset Chat", "My Account", and a "Sign in" prompt.

Chat with Spaid - Exploring Collecting Behavior.pdf

Why do some people collect?

According to the research presented in this PDF file, there are many motivations behind collecting. Pearce (1993) offers a diverse list of motivations for collecting, including leisure, aesthetics, competition, risk, fantasy, a sense of community, prestige, domination, sensual gratification, sexual foreplay, desire to reframe objects, the pleasing rhythm of sameness and difference, ambition to achieve perfection, extending the self, reaffirming the body, producing gender identity and achieving immortality. Other motivations found in the literature include envy (Subkowski 2006), psychological security (Belk 1995a; Muensterberger 1994), financial security (Belk et al. 1991), legitimization (Belk et al. 1991), play (Danet & Katriel 1994), and power (Belk 1998). In short, people collect for a variety of reasons that can be both personal and social in nature.

What role does tension play in collecting?

Tension plays a significant role in collecting, according to the research presented in this PDF file. Tensions, specifically those related to items in the collection and the collection itself, were most often mentioned in the literature. Collectors intentionally create an agenda for the production of, and reduction of, manageable tension. This tension connects the two primary themes of collecting: pursuit of the collectible and closure of the collection. Thus, the collector is like a tension machine, providing both the means for building tension (seeking another object for the collection) and the method to reduce this tension (adding another item to complete or perfect their collection). (Danet & Katriel 1994, p.264)

How does paradox manifest in collecting?

Paradox plays a significant role in collecting, according to the research presented in this PDF file. The concept of paradox was prominent throughout the collecting behavior literature. Some paradoxical aspects such as the rational/irrational nature of collecting were well covered, while others received less attention. A specific paradox not directly addressed in the literature is the social/solitary nature of collecting. Tension creation and dissipation were also reoccurring topics and were closely associated with the paradoxical nature of collecting. Collectors experience a tension between their desire to acquire new items for their collection and their need to complete or perfect it, which can create a sense of conflict or contradiction in their behavior. This tension can be both motivating and frustrating for

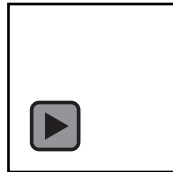
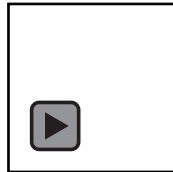
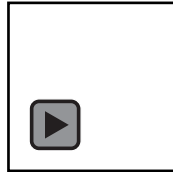
Reset Chat
My Account
Sign in to save your chat history

Experimental Visualization



Midjourney

Lecture Narration



ElevenLabs

The screenshot shows the ElevenLabs website interface. At the top, there is a navigation bar with the logo "ElevenLabs" and links for "Speech Synthesis", "VoiceLab", "History", and "Resources". A user profile icon with the letter "B" is visible in the top right corner. The main content area is titled "Speech Synthesis" and contains a "Settings" section. The "Settings" section includes a dropdown menu for "premade/Adam" with an "Add voice" button. Below this is the "Voice Settings" section, which has two sliders: "Stability" (ranging from "More variable" to "More stable") and "Clarity + Similarity Enhancement" (ranging from "Low" to "High"). A "To Default" button is located at the bottom of the "Voice Settings" section. The "Text" section contains a large text input area with the following text: "Welcome to the Digital Marketing online course! This 8-week program is designed to provide you with the fundamental knowledge and practical skills required to succeed in the dynamic world of digital marketing. Throughout the course, you will learn about various digital marketing channels such as search engine optimization (SEO), pay-per-click (PPC) advertising, social media marketing, email marketing, and content marketing. In addition to the course material, you will also be required to contribute to group discussions, participate in interactive activities and complete assignments. This course is ideal for professionals looking to expand their skill set, entrepreneurs wanting to grow their business or anyone interested in pursuing a career in digital marketing." Below the text input area, there is a character count "773 / 2500" and a quota indicator "Total quota remaining: 10000". At the bottom of the interface is a large "Generate" button.

Creative Visualization

“Ancient Selfies” by Duncan Thomsen



Midjourney

“I spent a month working out a formula of prompts, language and photographic elements to give photos this 'selfie' effect.”

Prompt Engineering



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Basic Prompt Types

Prompt Type	Description	Prompt Text	ChatGPT Response
Zero-shot Prompting	Basic ChatGPT interaction model; simple Q&A	What is Marketing?	<i>Marketing refers to the process of promoting and selling products or services through various activities, such as advertising, public relations, sales, and distribution. It involves understanding consumer behavior, identifying target markets, creating products or services that meet consumer needs and wants, and promoting those products or services to potential customers.</i>
One-shot Prompting	Provide a single example of the output you expect	I need short, bullet-point answers to my questions. Question: How does the sun work? Answer: <ul style="list-style-type: none">• fusing of hydrogen nuclei to form helium• releasing an enormous amount of energy in the form of light and heat• estimated that the sun has enough "fuel" for around 5 billion more years Question: How does a bird work?	<i>Answer:</i> <ul style="list-style-type: none">• <i>generate lift using wings</i>• <i>use feathers to provide insulation and streamlining for flight</i>• <i>use a muscular system for flight control</i>• <i>use a digestive and respiratory system to provide energy and intake oxygen for powering flight muscles</i>
Few Shot Prompting	Provide a multiple examples of the output you expect	Answer me in a fantasy language: Question: Who are you? Answer: Nomo Badu esterion. Question: What is your name? Answer: Badu. Question: What does "name" mean in your language? Answer: Nomo. Question: How old are you? Answer: Badu hut esterion. Question: Where do you live and what do you do for living?	<i>Answer: Yer Badu ilo lafetaste esterion, ar Badu ilo retvosastes esterion.</i> Question: Translate your last sentence into English. <i>Answer: I live in a small village and I work as a craftsman!</i>

Basic Prompt Types (cont.)

Prompt Type	Description	Prompt Text	ChatGPT Response
Chain of Thought Prompting	A few shot prompt with embedded logic that the AI will also mimic; helps with mathematical operations	<p>Which is a faster way to get home?</p> <p>Option 1: Take an 10 minutes bus, then a 40 minute bus, and finally a 10 minute train.</p> <p>Option 2: Take a 90 minutes train, then a 45 minute bike ride, and finally a 10 minute bus.</p> <p>Option 1 will take $10+40+10 = 60$ minutes.</p> <p>Option 2 will take $90+45+10=145$ minutes.</p> <p>Since Option 1 takes 60 minutes and Option 2 takes 145 minutes, Option 1 is faster.</p> <p>Which is a faster way to get to work?</p> <p>Option 1: Take a 1000 minute bus, then a half hour train, and finally a 10 minute bike ride.</p> <p>Option 2: Take an 800 minute bus, then an hour train, and finally a 30 minute bike ride.</p>	<p><i>Option 1 will take $1000+30+10 = 1040$ minutes.</i></p> <p><i>Option 2 will take $800+60+30 = 890$ minutes.</i></p> <p><i>Since Option 2 takes 890 minutes and Option 1 takes 1040 minutes, Option 2 is faster.</i></p>
Role Prompting	Define ChatGPT's role and explain what it will be doing	I want you to act as a tour guide. I'll give you my location and you will suggest a place for me to visit near my location. In some cases, I will also tell you the type of places I want to visit. You will also suggest places of a similar nature that are near my first location. My first command is "I am in Milwaukee, Wisconsin and I want to visit museums."	<p><i>Great! If you're in Milwaukee, Wisconsin and interested in visiting museums, I would highly recommend checking out the Milwaukee Art Museum. It has an impressive collection of over 30,000 works of art, ranging from contemporary...</i></p>

New Approaches



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New Approaches

If you currently...	You might consider instead...
Use writing assignments where students summarize longer articles or cases.	Creating an assignment where students critique AI generated summaries of articles or cases Creating an assignment where students find current events to illustrate concepts from an article or case (ChatGPT currently does not pull from recent news)
Assign take-home exams with open-ended writing questions.	Creating more in-class opportunities for students to reflect and write
Mainly ask students to do qualitative analysis	Adding some quantitative aspects
Assign written essays	Assigning more presentations
Ask students to summarize current thinking	Creating written assignments that encourage bold instead of conventional ideas
Only have students submit final drafts of writing	Asking students to submit more of their drafting process, such as outlines or “tracked changes” in Word documents

Other Thoughts

- Focus more on multimedia assignments, in-class work, or oral presentations/ exams
- Flip your teaching so most important work is done in class
- Double-down on feedback and revision
- Ask students to write about topics of genuine interest to them, current events, or their lives
- Have students build on ChatGPT output: correct, elaborate, improve



Midjourney "/>imagine a robot sitting on a chair in front of a desk on the desk are stacks of papers there are diplomas on the wall colorful photorealistic"

On the Horizon



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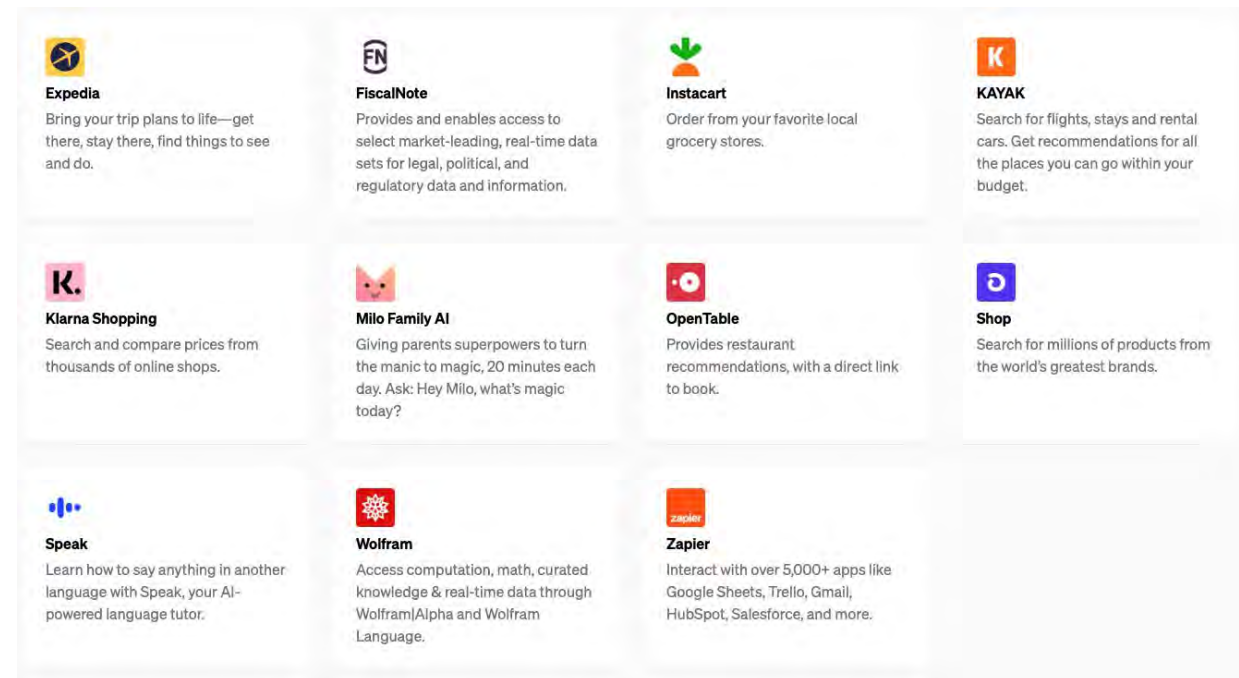
Office Suite & Bing Integration

- Microsoft made a major investment in OpenAI
- “Copilot” is an AI companion to be integrated into Office 365
- Allows users to automate the creation of documents; even using existing documents as starting points
- Bing has already integrated ChatGPT functionality (though you must use MS’s Edge)

The screenshot shows a CNBC article page. At the top, there's a red 'BREAKING' banner with the text 'Stocks making the biggest moves midday: Micron, Pioneer Natural Resources, Block, AMC and more'. Below that is the CNBC navigation bar with categories like MARKETS, BUSINESS, INVESTING, TECH, POLITICS, CNBC TV, INVESTING CLUB, and PRO. The article title is 'Microsoft adds OpenAI technology to Word and Excel' in large, bold black font. Below the title, it says 'PUBLISHED THU, MAR 16 2023-11:06 AM EDT | UPDATED THU, MAR 16 2023-2:23 PM EDT'. The author is Jonathan Vanian, with a Twitter handle @JONATHANVANIAN. There are social media share icons for Facebook, Twitter, LinkedIn, and Email. A 'KEY POINTS' section follows, containing three bullet points: 1. Microsoft said the new A.I. features, dubbed Copilot, will be available in some of the company's most popular business apps like Word, PowerPoint and Excel. 2. In February, Microsoft debuted a new version of its Bing search engine that included a chatbot powered by OpenAI's GPT-4 language technology. 3. OpenAI publicly revealed its GPT-4 software earlier this week and pitched it as being more capable than the GPT-3 technology. Below the key points is a section 'In this article' with a stock ticker for MSFT at -3.55 (-1.22%) and a button to 'Follow your favorite stocks CREATE FREE ACCOUNT'. A large image shows Satya Nadella speaking at a Microsoft Developer Day event. Below the image is a caption: 'Satya Nadella, chief executive officer of Microsoft Corp., speaks during the opening keynote session at the Microsoft Developer Day in Singapore, on Friday, May 27, 2016. Microsoft has all but abandoned the smartphone game. The company said Wednesday that it will axe as many as 1,850 jobs, many of them in Finland -- home base of the handset business Microsoft acquired two years ago from Nokia Oyj. Photographer: Charles Pertwee/Bloomberg via Getty Images'. At the bottom left of the article, it says 'Bloomberg | Bloomberg | Getty Images'. On the right side of the page, there are two promotional banners. The top one is for 'Fast Money Halftime Report' with a 'WATCH LIVE' button and 'UP NEXT | The Exchange 01:00 pm ET Listen'. The bottom one is a large yellow banner for 'Zoho One' with the text 'The Operating System for Business' and a 'GET STARTED' button. At the bottom right, there's a 'TRENDING NOW' section with two items: 'ReCharge Bar' and 'FBI warns against using public phone charging stations', and a partial item for 'Pfizer CEO signs letter in'.

ChatGPT Plug-ins

- ChatGPT will soon be able to connect with additionally online services
- Commands can be strung together to create highly complex prompts
- Allows ChatGPT to access more up-to-date content than LLM dataset



Questions?



Teaching with Generative AI Handout



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Higher Ed & AI

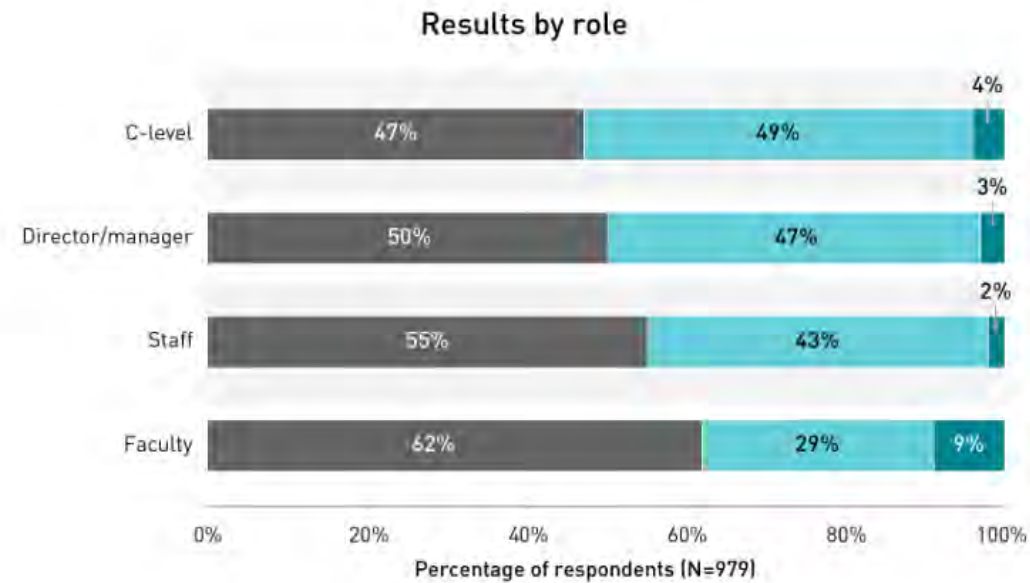
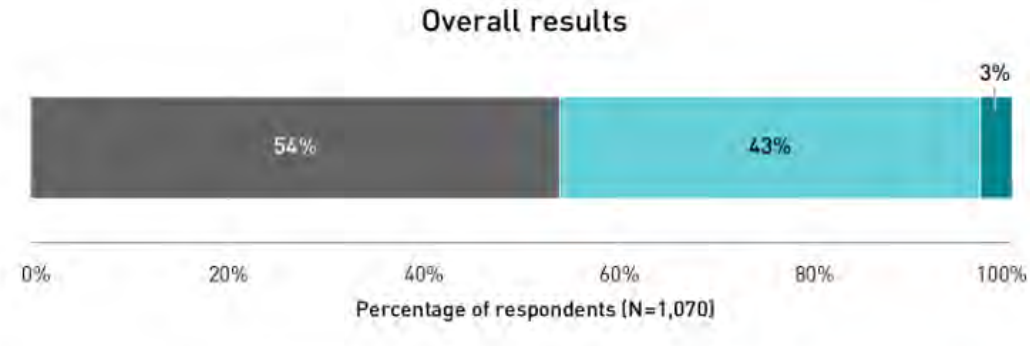


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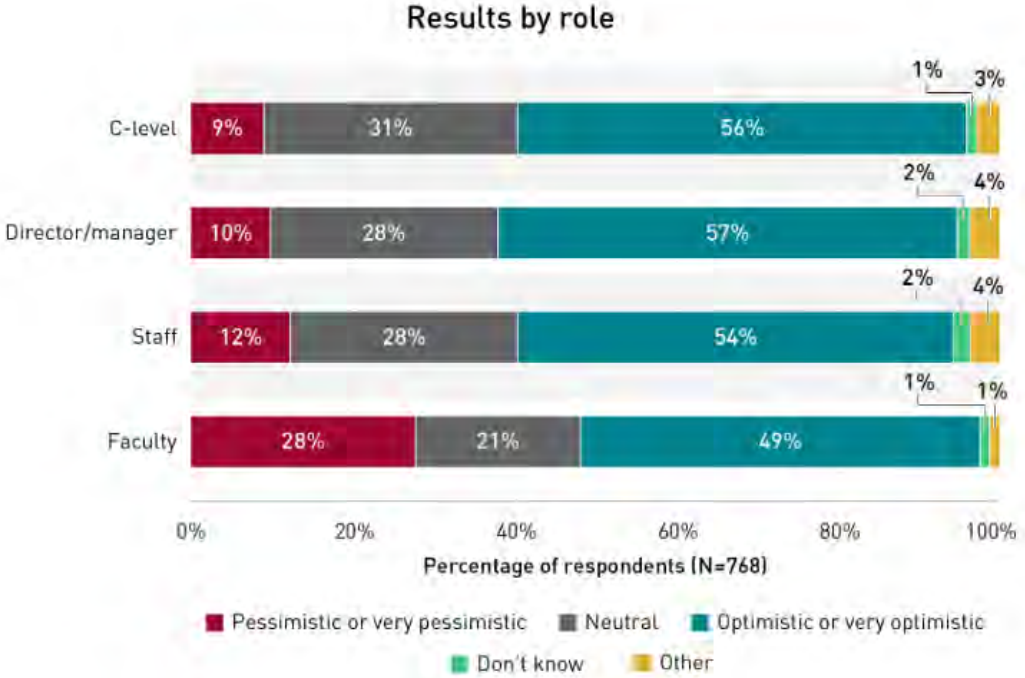
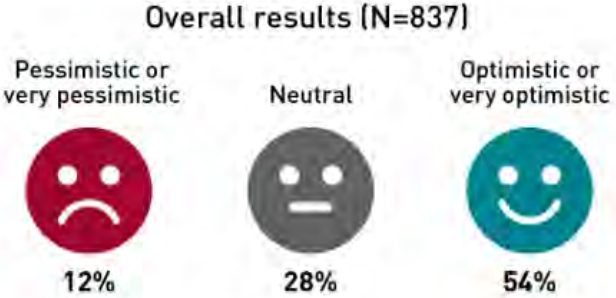


Almost everyone has heard of generative AI



- Somewhat familiar (know a little about it)
- Very familiar (have implemented or used it)
- Extremely familiar (have technical expertise with it)

Most everyone is optimistic about generative AI technology





Example Complex Midjourney Prompt:

Cute pixar style young girl with a Cyberpunk design. Picture is from the ground in the middle of the road, rainy, wet, Dark, Moody lighting, Ultra-realistic, UHD, High Quality Camera, Ambient, Depth of Field, hyper-detailed, beautifully color-coded, insane details, intricate details, beautifully color graded, Cinematic, Color Grading, Editorial Photography, Photography, Photoshoot, Depth of Field, DOF, Tilt Blur, White Balance, 32k, Super-Resolution, Megapixel, ProPhoto RGB, Good, Massive, Halfrear Lighting, Backlight, Natural Lighting, Incandescent, Optical Fiber, Cinematic Lighting, Studio Lighting, Soft Lighting, Volumetric, Contre-Jour, Beautiful Lighting, Accent Lighting, Global Illumination, Screen Space Global Illumination, Ray Tracing Global Illumination, Optics, Scattering, Glowing, Shadows, Rough, Shimmering, Ray Tracing Reflections, Lumen Reflections, Screen Space Reflections, Diffraction Grading, Chromatic Aberration, GB Displacement, Scan Lines, Ray Traced, Ray Tracing Ambient Occlusion, Anti-Aliasing, Fxaa, TAA, RTX, SSAO, Shaders, OpenGL-Shaders, GLSL-Shaders, Post Processing, Post-Production, Cel Shading, Tone Mapping, insanely detailed and intricate, hypermaximalist, elegant, realistic, super detailed, dynamic pose, photography, photoshoot with 24mm at f/22 volumetric lighting --s 50 --ar 1:1 --chaos 7 --v 5