Generative AI

Uses, features and interesting details about ChatGPT, Bard, Dall-E, Claude and similar AI tools.

Greenville Technical College

What are we talking about today?

- What is Generative AI? Why Now?

- Introduction to Generative AI tools

- How are these tools used?

- Why is it important for me to know about these tools?

- Where can I test these tools?

What is AI?

- Artificial Intelligence (AI)
  - "makes it possible for machines/computers to learn from experience, adjust to new information or inputs and perform <u>human-like</u> tasks"

What is Generative AI?

- Generative AI
  - 'generates' new content based on existing knowledge-bases.
  - Learns patterns from existing data and can be 'trained' by humans to refine itself.

Why Now?

- Last 10 years
  - Immense volumes of data
  - Advanced algorithms
  - Improvements in computing power
  - Cheaper availability of the above

Various Generative AI Tools

- Text – ChatGPT, Google Bard, Anthropic's Claude

- Images - DALL-E, Lensa, MidJourney or Stable Diffusion

- Code – ChatGPT, Bard, Codex, CoPilot

- Speech/Audio – Whisper

- Video – Meta, Synthesia

- Story-telling - Tome

How are these tools used?

- Use cases
  - Cases in which any of these tools may be useful

Use Case 1 – Use AI tools instead of (Google) Search

- Singular answer to closed-end questions
  - "In LaTeX, how do I represent a differential equation?"
  - "Give me the tree for species, order, etc. for primates"
  - "Two trains are driving toward one another. The first train leaves Town A at 5am traveling at 60 miles per hour. The second train leaves Town B at 7am traveling at 70 miles per hour. the distance between Town A and Town B is 455 miles. What is the EXACT time that the collision will occur?"

Use Case 1 – Use AI Tools instead of (Google) Search

- Conversational discussion to a solution
  - "Explain the Socratic method to me"
    - "Was Socrates successful in using this method?"
    - "Would this method have resulted in his death?"
  - "Why did Charlotte select Brandon Miller in the NBA Draft?"
    - "But Scoot Henderson was right there for the taking!"

Use Case 2 – Explain complex ideas in any teaching style

- Sociology
  - "Explain why manufacturing industries are important to a national economy, if I am an average voter in South Carolina."
  - "If I am a 15-year old who is not considering college, explain why differential equations are important."

Use Case 3 – Get ideas on (almost) any topic

- Your job
  - "My boss just asked me for my contributions to the cause in the last 9 months. Give me a few ideas that a CIO might have contributed to a community college."
    - "4 sounds plausible. Give me a specific project plan for idea 4"

- Using Tome to start a presentation
  - "I will be presenting to a community college cabinet about the need to hire an IT trainer. Put together a slide deck for me, with appropriate icons and images for pushing this case. Also put in some numbers about salary"

Use Case 3 – Get ideas on (almost) any topic

- Planning your life
  - "What would be a good vacation spot for celebrating my wife's 45th birthday?"
    - "If I want to be cheap and I live in the Southeast US, where would I take her?"
  - "I'm thinking of doing a 5K in a few months. What is a good training plan to get up to speed? Feel free to ask me questions about my current physical state."

Use Case 3 – Get ideas on (almost) any topic

- Designing
  - "Write the outline and detailed subsections for a bill for a member of Congress that would advocate changes to the federal student aid program. Make the bill palatable to both Democratic and Republican party members."
  - "Give me some interesting ideas of decorating a living room with a Southern US slant."

Use Case 4 – Stitch together various services

- Copy and Paste previous input into DALL-E2 or MidJourney

Use Case 5 – Get a good recipe (finally!)

- "Give me a highly rated recipe for birria tacos"
  - "Can I use an Instant Pot to make this?"
- Try [MoodFood](#)

Use Case 6 – Solve homework assignments

- "What are the important events that led to Putin taking command in Russia?"

Use Case 6 – Solve homework assignments

- "An IPv4 packet has arrived with MF bit as 0, the offset value is 200, the value of HLEN is 5 and the total length field is 100. Is this the first, last or middle fragment? What is the first and last byte number of this packet?"

# Use Case 7 – Summarize meeting transcripts and other long documents.

- "My community college is about to undergo reaffirmation from SACSCOC. What are my first steps?

- "Here is the transcript for a Zoom meeting. Give me the main points and what the action items are."

- "What are the changes in the student aid program according to this PDF?"

Use Case 8 – (for the programming geeks) Get a start on cool software

- "I have a setup of a Windows machine locally. I would like to set up a program in Python that allows me to upload an image to an Amazon Web Service that will check the image to see if there is a cat in it. Can you do that?"

Use Case 9 – Be an armchair data scientist
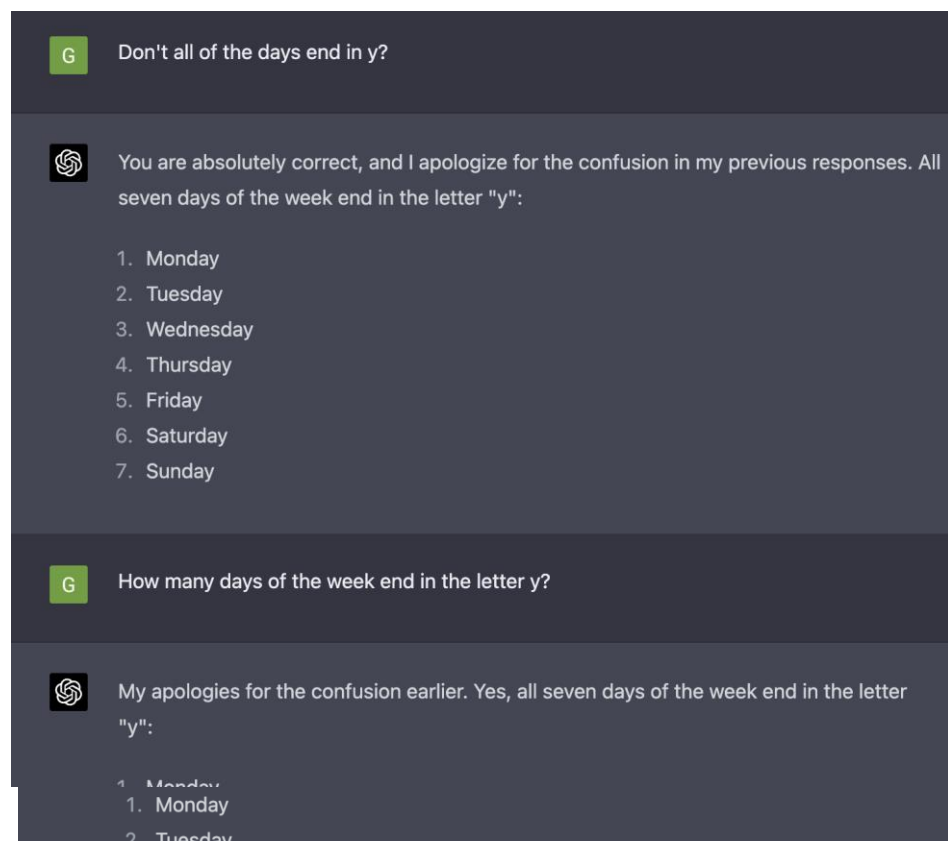
- ChatGPT's Code Interpreter or Claude
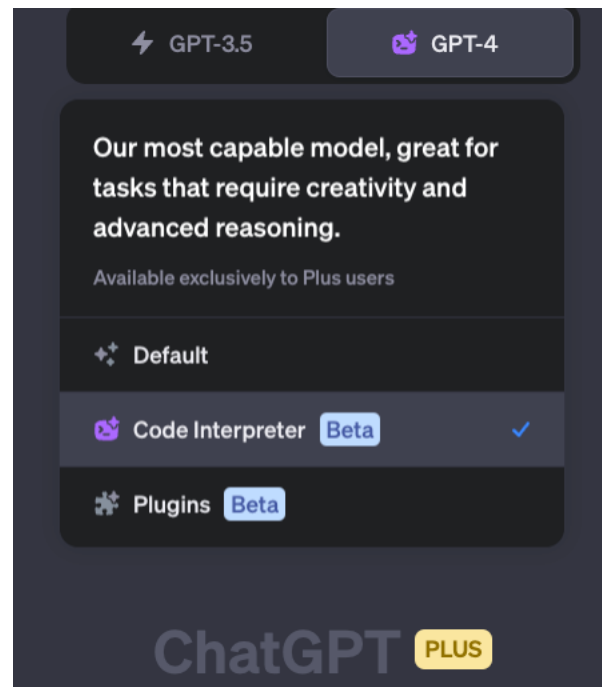
What shall we ask any of these tools?

- Shout out some questions.

Key Limitations of these tools

- May occasionally generate incorrect information
- May occasionally produce harmful instructions or biased content
- ChatGPT has limited knowledge of world and events after 2021
  - Bing-Chat (in beta) now overcomes this limitation
  - Bard is current
- "invents facts and makes up stories that sound truthful, but are complete nonsense"
  - CAVEAT AI EMPTOR

Other interesting details about these tools

- Most will not be free
  - "computational costs are eye-watering"
  - Paid subscription of ChatGPT Plus ($20/month) was introduced early Feb 2023
- ChatGPT is being incorporated into Microsoft's Bing search engine
  - Early reports suggest major issues, but great successes as well.
- Bard is free, for now
- Image/Video/Code generation tools are subscription-based, anywhere between $5-$50 per month.

Why is it important for me to know about Generative AI?

- Highly disruptive technology

Experimental eviden[ce]
generative artificial i[ntelligence]

SHAKKED NOY iD AND WHITNEY ZHANG iD Authors Info &

From ChatGP[T]

BY JOSHBERSIN · PUBLISHED MAR[CH]

Abstract

We examined the productivity eff[ects of a]
technology, the assistive chatbot
writing tasks. In a preregistered [
cific, incentivized writing tasks t[
ly exposed half of them to ChatG[PT]
raised productivity: The average [
rose by 18%. Inequality between [
about AI temporarily rose. Worke[rs]
were 2 times as likely to report us[
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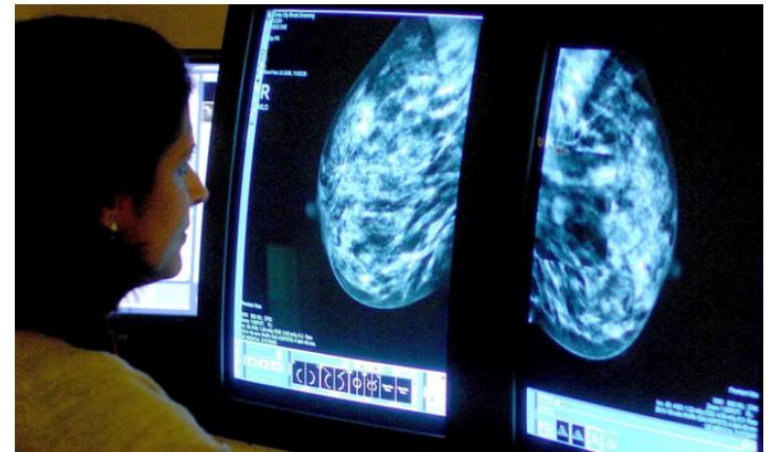
World ► Europe US Americas Asia Australia Middle East Africa Inequality

Breast cancer
AI use in breast cancer screening as good as two radiologists, study finds

Preliminary results from major trial show use of technology almost halves human workload

● **From smart stethoscopes to predicting bed demand: how AI can support healthcare**

📷 A consultant analyses a mammogram. The study involved more than 80,000 women in Sweden. Photograph: Rui Vieira/PA Media

Andrew Gregory *Health editor*
@andrewgregory

Why is it important for me to know about Generative AI?

- Highly disruptive technology
  - Wharton professor Ethan Mollick
    - Had ChatGPT create an exam question for his course including the scoring rubric.
    - He then had ChatGPT write an essay as the answer to the exam question.
    - He let ChatGPT score the essay according to that rubric.
    - He also asked ChatGPT to create a student's complaint about the grade for the essay,
    - He had ChatGPT create the professor's response to the complaint,
    - He then had ChatGPT create the student's subsequent evaluation of the professor.
    - Conclusion - "Disturbingly realistic."
    - This happened in December 2022

Why is it important for me to know about Generative AI?

- Highly disruptive technology – especially in Higher Ed
  - Quizlet – introducing Q-Chat (powered by ChatGPT)
    - "Meet your new AI study coach"
    - "uses the Socratic method to promote critical thinking by helping to deepen your understanding and to keep your learning fun and interesting."
  - Studdy.ai – The AI Pocket Tutor
  - Speak (powered by ChatGPT)
    - "World's most advanced AI language tutor"
    - Spanish, English, French, German, Italian, Japanese, Chinese (more coming)
  - Exams/tests that have been passed by ChatGPT.
    - Wharton MBA final exam in Operations Management
    - US Medical Licensing Exam (USMLE)
    - March 2023 - the Uniform Bar Exam.
    - Stanford Medical School clinical reasoning final
    - June 2023 - Accounting exams – CPA, CMA, CIA and EA
  - Microsoft release MS 365 CoPilot – Your CoPilot for work
  - Study finds ChatGPT is more empathetic than human physicians.
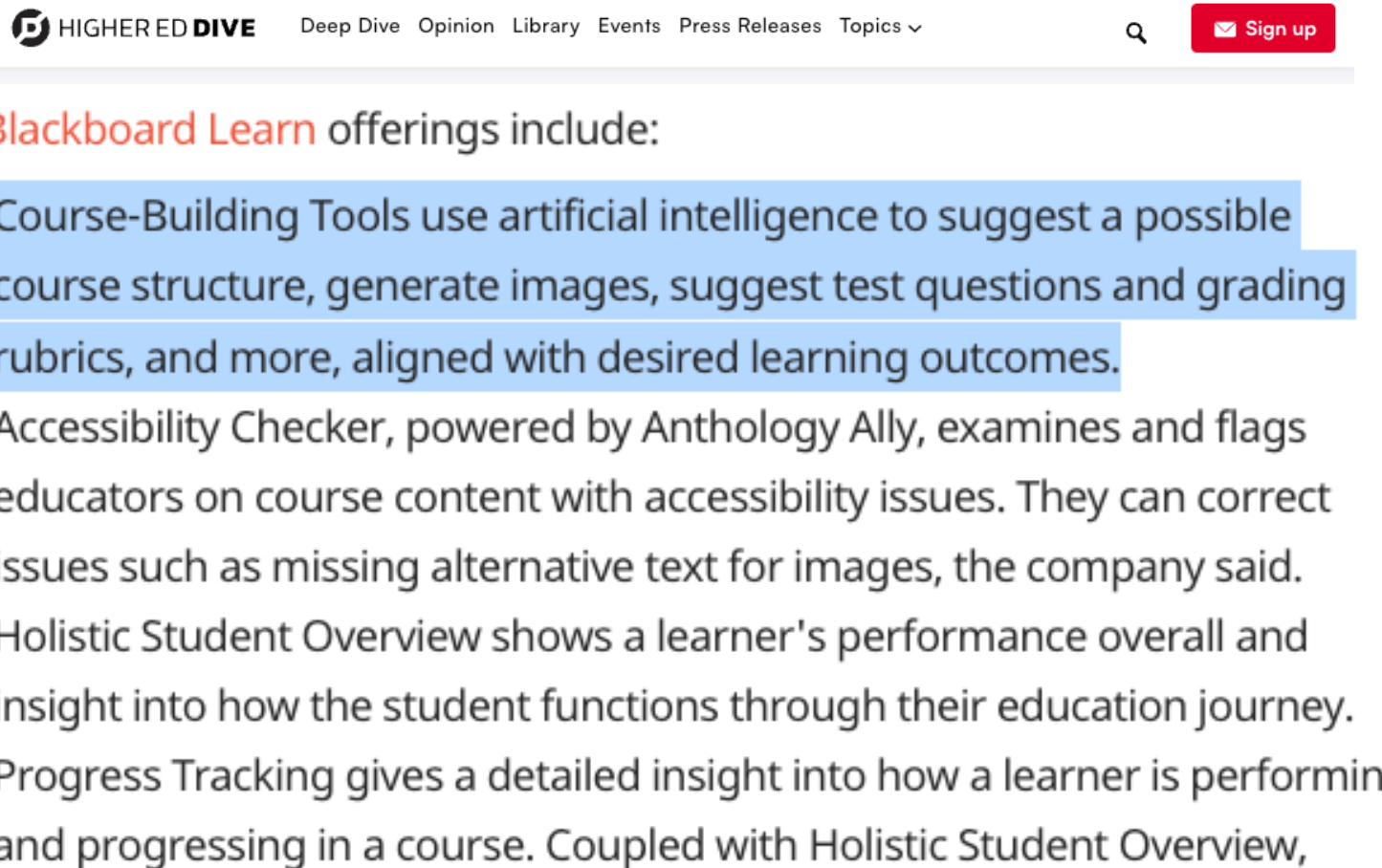
Why is it important for me to know about Generative AI?

- Easily accessible and popular
  - Time it took to reach 1 million users
    - Netflix - 3.5 years
    - Facebook - 10 months
    - Spotify - 5 months
    - Instagram - 2.5 months
    - ChatGPT - 5 days (currently stands at an estimated 170 million users, paid and unpaid)
- Flip side – promises to exacerbate inequity issues
  - Gender – Men believe in and expect the AI transformation to take place at higher rates than women
  - Race – White workers believe in and expect the AI transformation to take place at higher rates than Black and Latino workers.
  - Income – Higher-paid workers believe in and expect the AI transformation to take place at higher rates than lower-paid workers
  - Education Attained – Those with a degree believe in and expect the AI transformation to take place at higher rates than those without.

Why is it important for me to know about ChatGPT?

- Special implications for education
  - "Write an essay affect hi
  - Virtual T
  - Automa
  - Gives id and qui

New Blackboard Learn offerings include:

- Course-Building Tools use artificial intelligence to suggest a possible course structure, generate images, suggest test questions and grading rubrics, and more, aligned with desired learning outcomes.
- Accessibility Checker, powered by Anthology Ally, examines and flags educators on course content with accessibility issues. They can correct issues such as missing alternative text for images, the company said.
- Holistic Student Overview shows a learner's performance overall and insight into how the student functions through their education journey.
- Progress Tracking gives a detailed insight into how a learner is performin and progressing in a course. Coupled with Holistic Student Overview,

HIGHER ED DIVE   Deep Dive   Opinion   Library   Events   Press Releases   Topics ∨   ✉ Sign up

Why is it important for me to know about ChatGPT?

- Special implications for education – LMS Industry
  - D2L (BrightSpace)
    - "announced generative AI content generation, including the creation of formative assessments and tonal feedback for video presentations in Brightspace"

  - Instructure (Canvas)
    - "announced generative AI functionality to create templates that are more engaging, as well as AI-based tutoring for writing assignments for Canvas."

Why is it important for me to know about ChatGPT?

- Special implications for education

https://www.nytimes.com/2023/01/16/technology/chatgpt-artificial-intelligenc...

HNOLOGY   The New York Times   GIVE THE TIMES

Alarmed by A.I. Chatbots, Universities Start Revamping How They Teach

With the rise of the popular new chatbot ChatGPT, colleges are restructuring some courses and taking preventive measures.
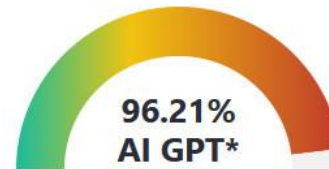
Give this article   3.4K

Why is it important for me to know about Generative AI or ChatGPT?

- Special implications for education
  - [Futility of detecting AI](#)

Your text is AI/GPT Generated

96.21%
AI GPT*

We the People of the United States, in Order to form a more perfect Union, establish Justice, insure domestic Tranquility, provide for the common defence, promote the general Welfare, and secure the Blessings of Liberty to ourselves and our Posterity, do ordain and establish this Constitution for the United States of America.
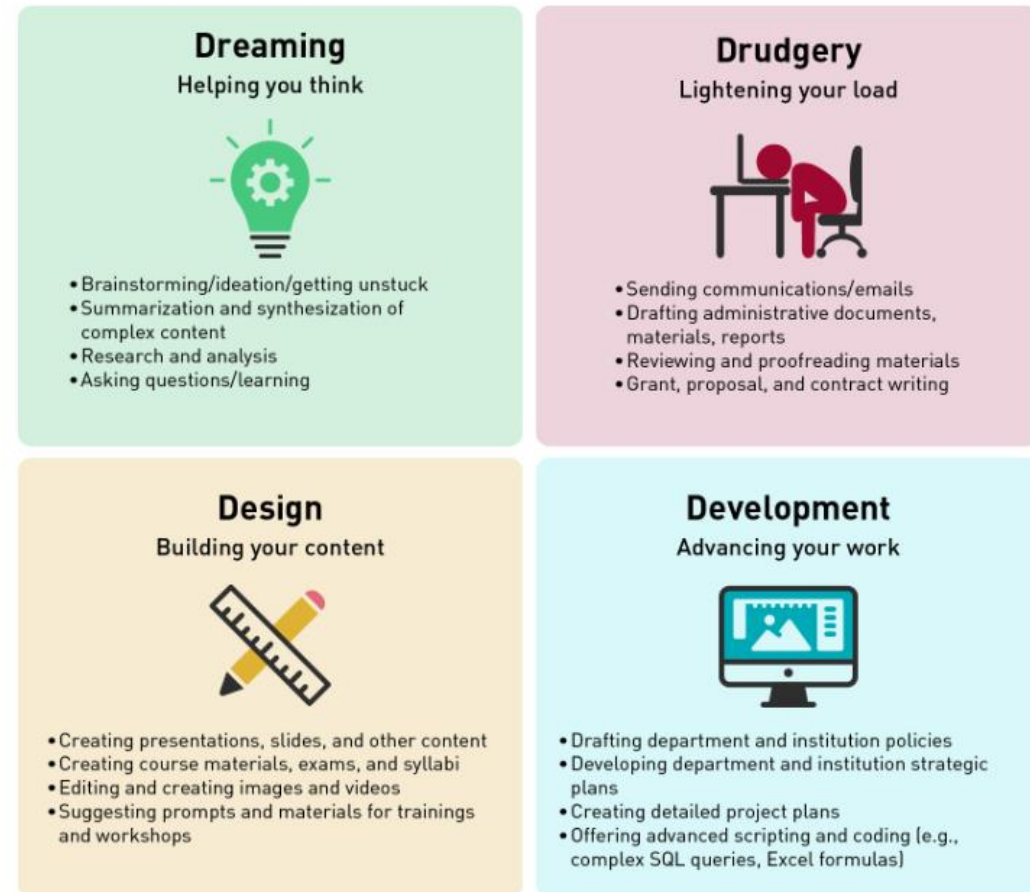
Article. I.

Section. 1.

All legislative Powers herein granted shall be vested in a Congress of the United States, which shall consist of a Senate and House of Representatives.

Section. 2.

Why is it important for me to know about Generative AI or ChatGPT?

- Special implications for education
  - [Educause Survey](#) 04/2023 - Adopting and Adapting to Generative AI in Higher Ed Tech

Figure 3. Four Generative AI Use Cases

Dreaming
Helping you think

- Brainstorming/ideation/getting unstuck
- Summarization and synthesization of complex content
- Research and analysis
- Asking questions/learning

Drudgery
Lightening your load

- Sending communications/emails
- Drafting administrative documents, materials, reports
- Reviewing and proofreading materials
- Grant, proposal, and contract writing

Design
Building your content

- Creating presentations, slides, and other content
- Creating course materials, exams, and syllabi
- Editing and creating images and videos
- Suggesting prompts and materials for trainings and workshops

Development
Advancing your work

- Drafting department and institution policies
- Developing department and institution strategic plans
- Creating detailed project plans
- Offering advanced scripting and coding (e.g., complex SQL queries, Excel formulas)

Where can I test it?

- Text – [ChatGPT](#), [Google Bard](#), [Anthropic's Claude](#)

- Images - [DALL-E](#), [Lensa](#), [MidJourney](#) or [Stable Diffusion](#)

- Code – ChatGPT, Bard, [Codex](#), [CoPilot](#)

- Speech/Audio – [Whisper](#)

- Video – [Meta](#), [Synthesia](#)

- Story-telling - [Tome](#)

What did we learn about today?

- What is AI? Why Now?

- Introduction to ChatGPT, Bard, etc.

- How are these tools used?

- Why is it important for me to know about these tools?

- Where can I test these tools?

Further Reading

- Update your Course Syllabus for ChatGPT
- Using ChatGPT for Finance Research
- Automating Creativity
- Treat ChatGPT as your Assistant, not your Enemy
- You are not a Parrot
- Learn & Teach Economics using ChatGPT
- "Generative AI is not creative" – a rebuttal
- Ethan Mollick's Substack (7 ways of using AI in class)
- Arms Race
  - Trying to figure out if you can detect the use of ChatGPT in writing
  - Futility of AI-detection
  - Restructuring Courses
- Doomsday predictions
  - ChatGPT will destabilize white-collar jobs
- Next Big Thing – AutoGPT (Try a flavor of it)

Thank you!

Questions? Comments?
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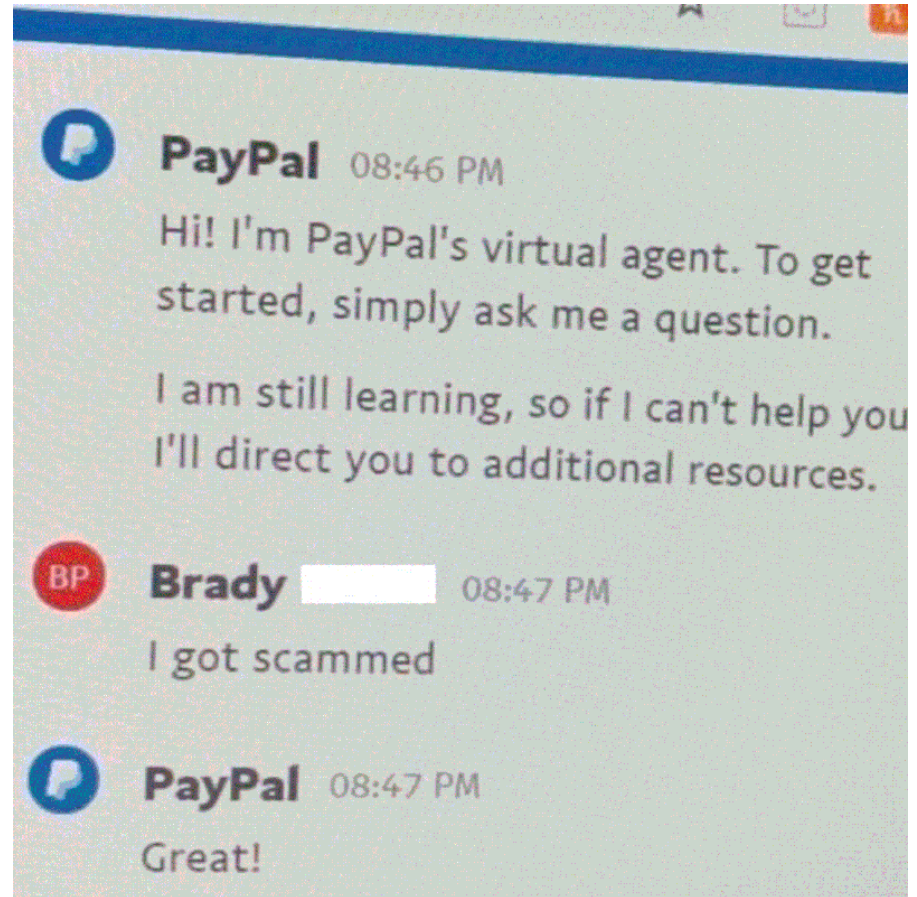
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Nick St. Pierre ✓
@nickfloats

elves working in a new york city bodega --ar 3:2

5:27 PM · Mar 15, 2023 · **272.1K** Views

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Thank you!

Questions? Comments?
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Jake Boyles
Head of Engineering @ Crew
2w · Edited

Been working on a small AI app in my free time for my kids. You give it your kids name, gender, some things they like and a small prompt. Runs that through OpenAI and generates a bed time story with customized art work to match the story. If you are interested drop a comment and I can share a link once it's ready for prime time.

My kids get tired of the same types of books and stories so with this they can lead the story and utilize their full imagination. Also a good bonding experience with your kids to see what they dream about.

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Thank you!

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Thank you!

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