



JONES COLLEGE OF BUSINESS



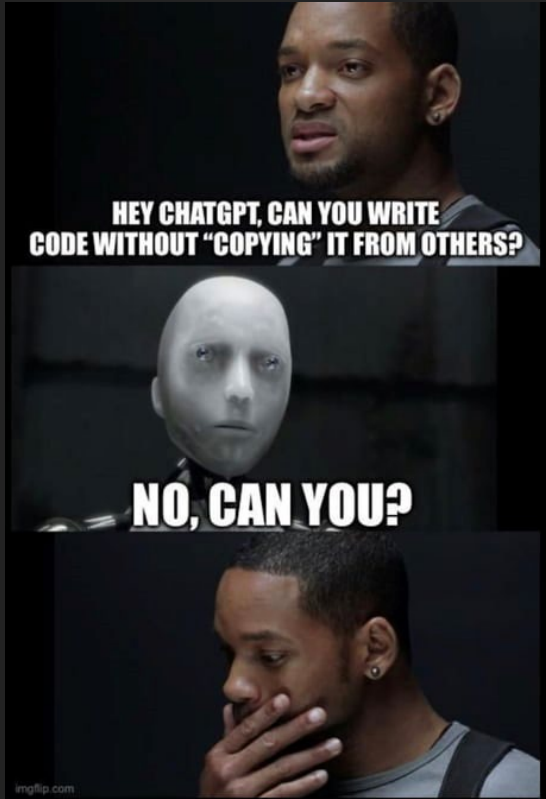
From Numbers to Insights: How AI Could Revolutionize the Accounting Landscape

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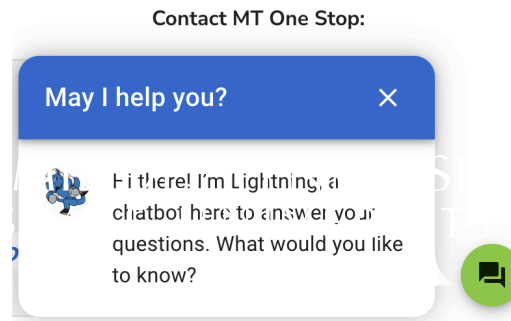
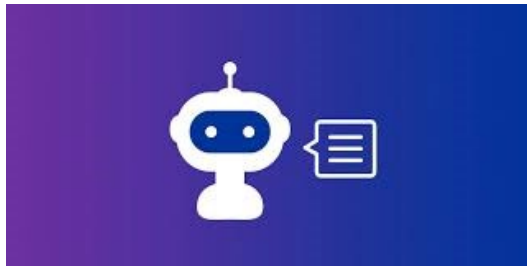


Reality Check: AI is already here!

ChatGPT uses a language model (GPT 3.5 & 4), which is an AI algorithm created by OpenAI and designed to understand and generate human-like language.

[<https://platform.openai.com/docs/chatgpt-education/educator-considerations-for-chatgpt>]

An A.I.-Generated Picture Won an Art Prize. Artists Aren't Happy.



Jason Allen's A.I.-generated work, "Théâtre D'opéra Spatial," took first place in the digital category at the Colorado State Fair. via Jason Allen



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<https://www.chronicle.com/article/chatgpt-is-already-upending-campus-practices-colleges-are-rushing-to-respond>

<https://www.nytimes.com/2022/09/02/technology/ai-artificial-intelligence-artists.html>

How much do you know about ChatGPT

- What does GPT stand for?
- Does ChatGPT always generate accurate output?
- Is the ChatGPT-generated output potentially bias?
- Is it possible to always detect AI-generated text?
- Is the use of ChatGPT helpful in learning/work?
- Is the use of ChatGPT always “cheating”?
- Have you used ChatGPT for work or other purposes?



[Answers](#)

How much do you know about ChatGPT

How much do you know about
ChatGPT?



[Answers](#)

ChatGPT Prompts

- **Write / Create** article/outline/play/song/poem
- Limit words -> **Maximum 400 words**
- **[Rewrite] / Act as** “a British poet and rewrite”
- **Summarize** “ text in quotes ”
- Add “**in the style of a pirate**” or any well know public personality
- **Rephrase** “text in quotes ...”
- **Solve** ... “math / algebra equation”
- **[write as a doctoral student. Use clear and advanced language]**
How do I improve attendance in my classroom?
- **[format response using markups, headings, subheadings, bullet points, and boldface to organize information]** How do I increase attendance in my class?

TO LIVE DEMO

Chat with your documents

Just talk to your PDF file as if it were a human with “perfect” understanding of the content.

[Humata.ai](https://humata.ai)

- Ask questions about a pdf document
- Limited to 20 pages due to high demand (60 before!)
- Technology is changing quickly!

TO LIVE DEMO



Example 1 – Financial Statement Analysis

Nathan's Famous (Nath) 10-K

(<https://www.sec.gov/ix?doc=/Archives/edgar/data/69733/000143774922014727/nath2022032710k.htm> page F-3) Copy the balance sheet into ChatGPT.

Prompt “What are the risks?”

Based on the information provided in the financial statement, here are some of the risks for the company:

1. **Liquidity risk:** The company's current assets have decreased from \$94,665 to \$65,400, while its current liabilities have increased from \$14,593 to \$16,412, indicating a liquidity risk. The decrease in current assets and increase in current liabilities may result in the company having difficulties in meeting its short-term obligations.
2. **Debt risk:** The company has a significant amount of long-term debt amounting to \$108,183, which has increased from \$146,831 in the previous year, indicating debt risk. If the company is not able to service its debt obligations or refinance its debt, it may result in default and have an adverse effect on the company's financial position.
3. **Operating lease risk:** The company has operating lease liabilities of \$6,487, which has increased from \$7,553 in the previous year, indicating operating lease risk. The increase in operating lease liabilities may result in the company having difficulties in meeting its lease obligations, which may lead to a default on its lease payments.
4. **Franchise fees risk:** The company has deferred franchise fees of \$1,748, which has increased from \$1,536 in the previous year, indicating franchise fees risk. The increase in deferred franchise fees may result in the company not being able to recognize revenue from its franchise agreements until a later date, which may affect its financial performance.
5. **Market risk:** The company operates in the fast-food industry, which is highly competitive and subject to changes in consumer preferences, food prices, and health regulations. Any adverse changes in the market conditions may affect the company's financial performance.

It's important to note that these risks are not exhaustive and other risks may exist, which are not apparent from the financial statement. Therefore, it's essential to consider other factors while assessing the company's risk profile.



Example 2 – Ratio Analysis

Nathan's Famous (Nath) 10-K

(https://www.sec.gov/ix?doc=/Archives/edgar/data/69733/000143774922014727/nath20220327_10k.htm)

Copy the income statement into ChatGPT.

Prompt "Use the balance sheet at the beginning and the income statement at the end and perform ratio analysis."

- **Current Ratio** = Current Assets / Current Liabilities
2019: Current Ratio = 57,441 / 15,845 = 3.62 2020: Current Ratio = 59,882 / 17,221 = 3.48
The current ratio measures the ability of a company to meet its short-term obligations. A higher ratio is generally preferred as it indicates a better ability to pay off current liabilities. **In this case, both ratios indicate a strong ability to meet short-term obligations.**
- **Debt-to-Equity Ratio** = Total Liabilities / Total Equity
2019: Debt-to-Equity Ratio = 34,977 / 67,136 = 0.52 2020: Debt-to-Equity Ratio = 35,625 / 81,745 = 0.44
The debt-to-equity ratio measures the proportion of debt to equity in a company's capital structure. A lower ratio is generally preferred as it indicates a lower level of financial risk. **In this case, the decrease in the ratio from 2019 to 2020 indicates a decrease in financial risk.**
- **Gross Profit Margin** = Gross Profit / Total Revenue
2019: Gross Profit Margin = 12,063 / 75,839 = 0.16 2020: Gross Profit Margin = 29,063 / 114,882 = 0.25
The gross profit margin measures the percentage of revenue that is left after deducting the cost of goods sold. A higher ratio is generally preferred as it indicates a more profitable business. **In this case, the increase in the ratio from 2019 to 2020 indicates an improvement in profitability.**
- **Net Profit Margin** = Net Income / Total Revenue
2019: Net Profit Margin = 11,075 / 75,839 = 0.15 2020: Net Profit Margin = 13,596 / 114,882 = 0.12
The net profit margin measures the percentage of revenue that is left after all expenses, including taxes, have been deducted. A higher ratio is generally preferred as it indicates a more efficient and profitable business. **In this case, the decrease in the ratio from 2019 to 2020 indicates a decrease in efficiency and profitability.**
- **Return on Equity (ROE)** = Net Income / Total Equity
2019: ROE = 11,075 / 67,136 = 0.17 2020: ROE = 13,596 / 81,745 = 0.17
ROE measures the return a company generates on its shareholder equity. A higher ratio is generally preferred as it indicates a better return on investment for shareholders. **In this case, the ratio remained stable from 2019 to 2020, indicating a consistent return on investment for shareholders.**



Using Chat GPT with Excel

Accountants rely on Excel for their everyday work. Here are some example videos of how they can use ChatGPT to do things in Excel.

Ask ChatGPT help with Excel formulas

<https://www.journalofaccountancy.com/news/2023/jan/using-chatgpt-with-excel.html>

Integrate ChatGPT directly into Excel

<https://www.journalofaccountancy.com/news/2023/apr/build-chatgpt-into-excel.html>

TO LIVE DEMO



“The ChatGPT Artificial Intelligence Chatbot: How Well Does It Answer Accounting Assessment Question?”

Forthcoming in *Issues in Accounting Education*

By Wood, Achhpilia, Adams, [et al. including Kelton and Vagner]

Abstract

ChatGPT, a language-learning model chatbot, has garnered considerable attention for its ability to respond to users' questions. Using data from 14 countries and 186 institutions, we compare ChatGPT and student performance for 28,085 questions from accounting assessments and textbook test banks. As of January 2023, ChatGPT provides correct answers for 56.5 percent of questions and partially correct answers for an additional 9.4 percent of questions. When considering point values for questions, students significantly outperform ChatGPT with a 76.7 percent average on assessments compared to 47.5 percent for ChatGPT if no partial credit is awarded and 56.5 percent if partial credit is awarded. Still, ChatGPT performs better than the student average for 15.8 percent of assessments when we include partial credit. We provide evidence of how ChatGPT performs on different question types, accounting topics, class levels, open/closed assessments, and test bank questions. We also discuss implications for accounting education and research.

Data was collected during December 2022 and January 2023.



Continued....

Here are some anecdotes from the paper that might be interesting to the audience:

- During testing, ChatGPT did not always recognize it was performing mathematical operations and **made nonsensical errors**, such as adding two numbers in a subtraction problem or dividing numbers incorrectly. This is especially problematic for workout problems.
- ChatGPT often provided descriptive explanations for its answers, even if they were incorrect. **This raises the important question about how its authoritative, yet incorrect, responses may impact students.** Similarly, at times ChatGPT's descriptions were accurate, but its selection of multiple-choice answers was incorrect.^[1]
- ChatGPT **sometimes “made up” facts.** For instance, when providing a reference, it generates a real-looking reference that is completely fabricated—the work, and sometimes authors, do not even exist.



Continued....

- ChatGPT could produce specialized non-conversational text, such as journal entries, computer code, tables, and financial statements. The format of the journal entries varied from a simple listing of account names and amounts to a more formal entry in the general journal form with headings for dates, account names, debits, and credits.
- Faculty members noted that ChatGPT sometimes suggested answers that were not included as multiple-choice options. This could be beneficial in identifying ambiguities or mistakes in assessment questions if used by the instructor in advance.
- ChatGPT's answers to the same question sometimes varied when the question was entered multiple times, and its responses did not always progress from incorrect to correct.

This apparent weakness highlights one method instructors might use to prevent cheating or identify it after the fact: require that students explain how they arrived at a particular answer in order to receive credit.





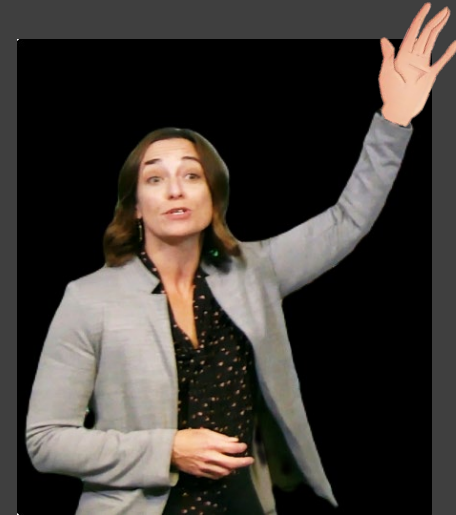
In conclusion

What can you do with ChatGPT?

- Get an account and experiment
- Use it to generate marketing and cost-saving ideas
- Chat with your documents - ask questions (pdf)
- Analyze data and verify results
- Assist with research
- Help with Excel
- Ask ChatGPT...



Questions?



<https://www.mtsu.edu/businesslab/services/AITools.php>