



UNIVERSITY of HAWAII®
MAUI COLLEGE

ChatGPT - What is it? What can I do with it?!

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Agenda

- Prerequisite for hands-on activities
 - **Free account** in ChatGPTv 3.5 or Bard or Claude v2
- Demo of Machine Learning
 - Teachable Machine
- Introduction to Large Learning Models (LLMs)
 - Word2Vec
 - Transformer
 - Theory of Mind
 - RLHF, Pre-Training
 - Comparison of LLMs
 - Open Source Repository for LLMs
 - Prompt Engineering
- Hands-on Activities
- Generative AI in Higher Education
 - UHCC Guidance on Generative AI
- Next Steps - ChatGPT Champions/Advocates
- Appendix - Educause Study (4/23), Scholarly Article from Cornell (4/23)

Machine Learning - Teachable Machine Demo

The screenshot displays the Teachable Machine web interface. On the left, three categories are listed: Rock, Paper, and Scissors. Each category has a 'Webcam' icon, an 'Upload' icon, and a row of 12 image samples. A central 'Training' panel shows 'Model Trained' and an 'Advanced' dropdown. On the right, a 'Preview' panel shows a live webcam feed and an 'Output' section with progress bars for Rock (33%), Paper (46%), and Scissors (0%).

teachablemachine.withgoogle.com/train/image

Teachable Machine

Rock

12 Image Samples

Webcam Upload

Paper

12 Image Samples

Webcam Upload

Scissors

12 Image Samples

Webcam Upload

Training

Model Trained

Advanced

Preview

Export Model

Input ON Webcam

Output

Rock 33%

Paper 46%

Sciss...

<https://teachablemachine.withgoogle.com/train/image>

Large Language Model (LLM) - from Wikipedia

As language models, they work by taking an input text and repeatedly predicting the next token or word.^[6] Up to 2020, **fine tuning** was the only way a model could be adapted to be able to accomplish specific tasks. Larger sized models, such as **GPT-3**, however, can be **prompt-engineered** to achieve similar results.^[7] They are thought to acquire **embodied knowledge** about syntax, semantics and "ontology" inherent in human language corpora, but also inaccuracies and biases present in the corpora.^[8]

Notable examples include **OpenAI's GPT** models (e.g., **GPT-3.5** and **GPT-4**, used in **ChatGPT**), **Google's PaLM** (used in **Bard**), and **Meta's LLaMa**, as well as **BLOOM**, **Ernie 3.0 Titan**, and **Claude**.

Generate Conversations based on Pre-Training (G&P)...

⚡ Default (GPT-3.5)



I love Bengals and the Tiger. What is my football team?



Based on your mention of "Bengals" and "Tiger," it seems like your favorite football team might be the Cincinnati Bengals, which are an NFL team with a tiger-themed mascot. The Clemson Tigers could also be a possibility, as they are a college football team with a tiger mascot. If you are referring to a different team, please provide more context for clarification.



Refine Conversations based on Clarifications...v3.5



I am from Bengal and love the Tiger. What is my football team?



It sounds like you're referring to the Bengal Tigers, which is the nickname of the Indian national football team. The Bengal region is known for its strong cultural and historical significance, and the tiger is a symbol often associated with the region. If you are specifically looking for a club football team from Bengal, you might be interested in teams like Mohun Bagan or East Bengal, which are two of the most prominent football clubs based in Kolkata, West Bengal, India.



News

Images

Videos

Books

Shopping

Maps

Perspectives

Flights

About 6,240,000 results (0.38 seconds)

The Blue Tigers

Men's

Team

Nickname

Notes

India

The Blue Tigers

The colour blue, present on the Ashoka Chakra symbol on India's flag, as well as the Bengal tiger are national symbols of India.

Google

nickname of the bangladesh national football team



News

Images

Girl

Videos

Books

Maps

Shopping

Perspectives

Flights

About 1,540,000 results (0.41 seconds)

Bangladesh national football team

Nickname(s)

বাংলার বাঘ (Bengal Tigers) লাল-সবুজ (Red and Green)

Association

Bangladesh Football Federation (BFF)

Confederation

AFC (Asia)

Sub-confederation

SAFF (South Asia)

With ChatGPT v4...a more trained LLM!

✦✦ GPT-4



I love Bengals and the Tiger. What is my football team?



It sounds like you're referring to the Cincinnati Bengals, a professional American football team based in Cincinnati, Ohio. They're part of the North Division of the American Football Conference (AFC) in the National Football League (NFL). The team's logo features a stylized "B" with tiger stripes, and their mascot is a Bengal tiger, so it would make sense for you to be a fan of both the team and the animal! Is that the team you were thinking of?



Refined conversations with apologies...correct answer!



I am from Bengal and love the Tiger. What is my football team?



I apologize for the confusion earlier. If you are from Bengal and love the Tiger, it's possible you are referring to a football team from the region of Bengal, which is divided between the Indian state of West Bengal and the independent country of Bangladesh.



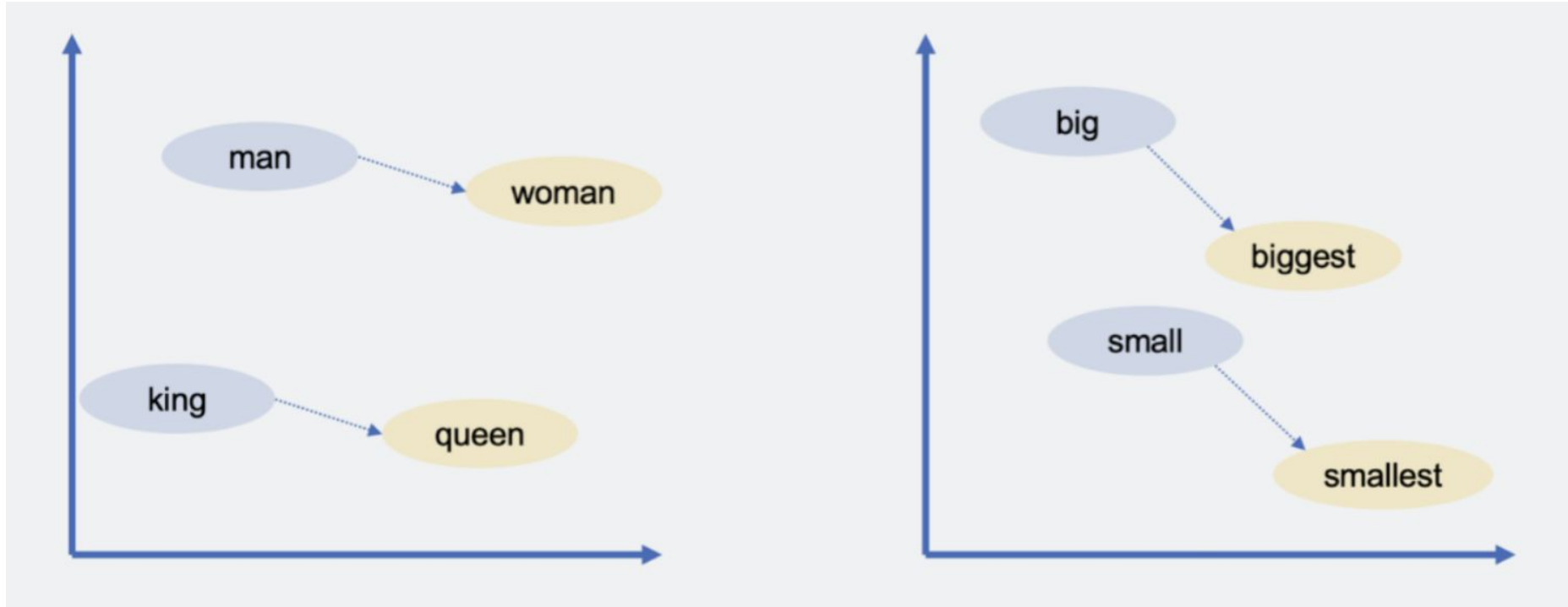
If you're referring to association football (soccer), the popular clubs in West Bengal include Mohun Bagan Athletic Club and East Bengal Club. Both have significant followings and are known for their passionate supporters. If you're a fan of tigers and from this region, either of these teams might be the one you support. Is one of them the team you had in mind?

Word2Vec - Word translated to a vector with numbers!

- Washington, DC, is at [38.9, 77]
- New York is at [40.7, 74]
- London is at [51.5, 0.1]
- Paris is at [48.9, -2.4]

Google - Word2Vec Project 2013
<https://arxiv.org/abs/1301.3781>

Word2Vec - Vector math to form word relationships...



woman - man + king = queen

biggest - big + small = smallest

You can use vector arithmetic to draw analogies! In this case, big is to biggest as small is to smallest. Google's word vectors captured a lot of other relationships:

- Swiss is to Switzerland as Cambodian is to Cambodia (nationalities)
- Paris is to France as Berlin is to Germany (capitals)
- Unethical is to ethical as possibly is to impossibly (opposites)
- Mouse is to mice as dollar is to dollars (plurals)
- Man is to woman as king is to queen (gender roles)

<https://arstechnica.com/science/2023/07/a-jargon-free-explanation-of-how-ai-large-language-models-work/>

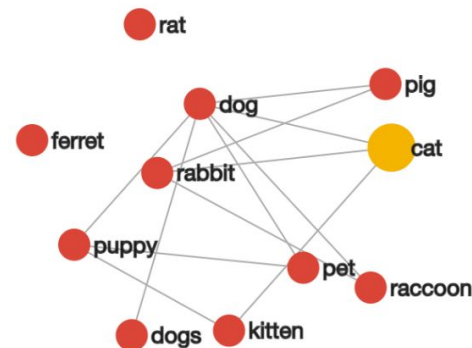
Word vector for Cat - word space with similar words

What words are related to «**cat**» in model «English Wikipedia»?

Word frequency

High Medium Low

1. **dog** NOUN 0.6893
2. **kitten** NOUN 0.6126
3. **rabbit** NOUN 0.6028
4. **raccoon** NOUN 0.5795
5. **dogs** NOUN 0.5778
6. **pet** NOUN 0.5672
7. **puppy** NOUN 0.5452
8. **pig** NOUN 0.5382
9. **ferret** NOUN 0.5369
10. **rat** NOUN 0.5348



- We show only the associates of the same part of speech as your query. All associates can be found at the [Similar Words](#) tab.

0.6

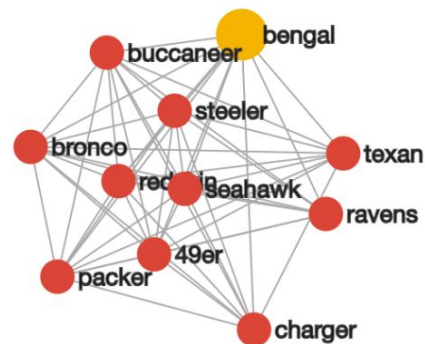
Similarity threshold Show tags

What words are related to «bengal» in model «English Wikipedia»?

Word frequency

High Medium Low

1. [redskin](#) NOUN 0.7120
2. [seahawk](#) NOUN 0.7112
3. [steeler](#) NOUN 0.7070
4. [49er](#) NOUN 0.6837
5. [bronco](#) NOUN 0.6787
6. [buccaneer](#) NOUN 0.6781
7. [packer](#) NOUN 0.6614
8. [texan](#) NOUN 0.6600
9. [ravens](#) NOUN 0.6560
10. [charger](#) NOUN 0.6477



- We show only the associates of the same part of speech as your query. All associates can be found at the [Similar Words](#) tab.

0.6

Similarity threshold Show tags

What words are related to «tiger» in model «English Wikipedia»?

Word frequency

High Medium Low

1. **panther** NOUN 0.6229

2. **lion** NOUN 0.6213

3. **bulldogs** NOUN 0.6211

4. **wildcat** NOUN 0.5996

5. **bulldog** NOUN 0.5980

6. **cub** NOUN 0.5799

7. **eagles** NOUN 0.5724

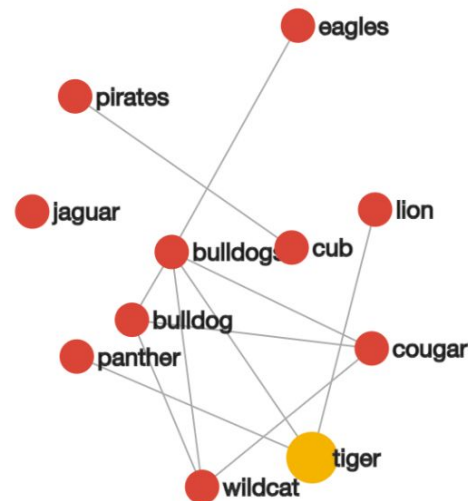
8. **jaguar** NOUN 0.5643

9. **pirates** NOUN 0.5567

10. **cougar** NOUN 0.5499



- We show only the associates of the same part of speech as your query. All associates can be found at the [Similar Words](#) tab.



0.6

Similarity threshold Show tags

Words meaning based on context

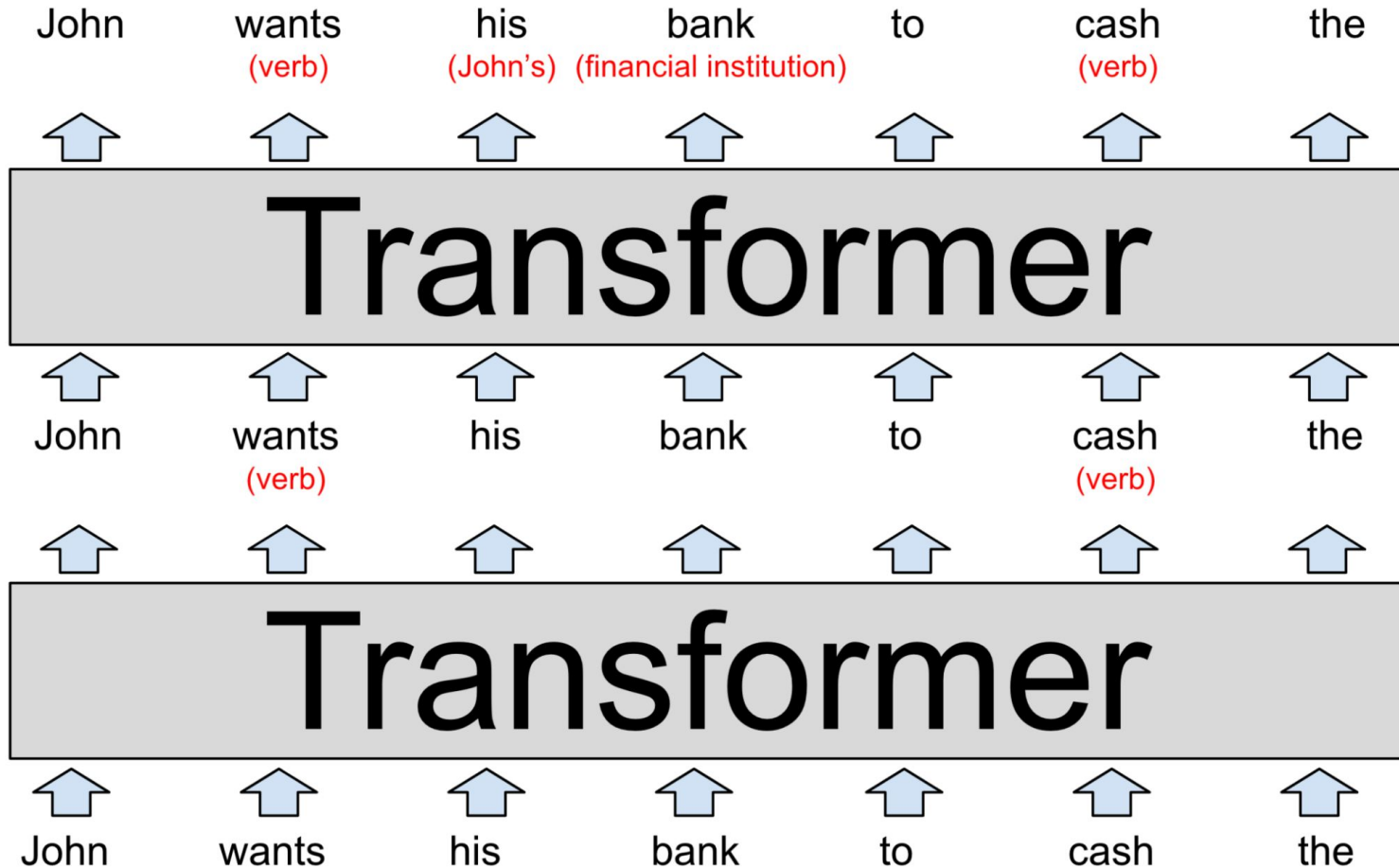
A simple word vector scheme like this doesn't capture an important fact about natural language: Words often have multiple meanings.

For example, the word "bank" can refer to a financial institution or to the land next to a river. Or consider the following sentences:

- John picks up a magazine.
- Susan works for a magazine.

LLMs like ChatGPT are able to represent the same word with different vectors depending on the context in which that word appears. There's a vector for bank (financial institution) and a different vector for bank (of a river). There's a vector for magazine (physical publication) and another for magazine (organization). As you might expect, LLMs **use more similar vectors** for polysemous meanings than homonymous ones.

Transformer (the T in GPT) -> word vectors into predictions



Transformer -> Context + Prediction

Now let's talk about what happens inside each transformer. The transformer has a two-step process for updating the hidden state for each word of the input passage:

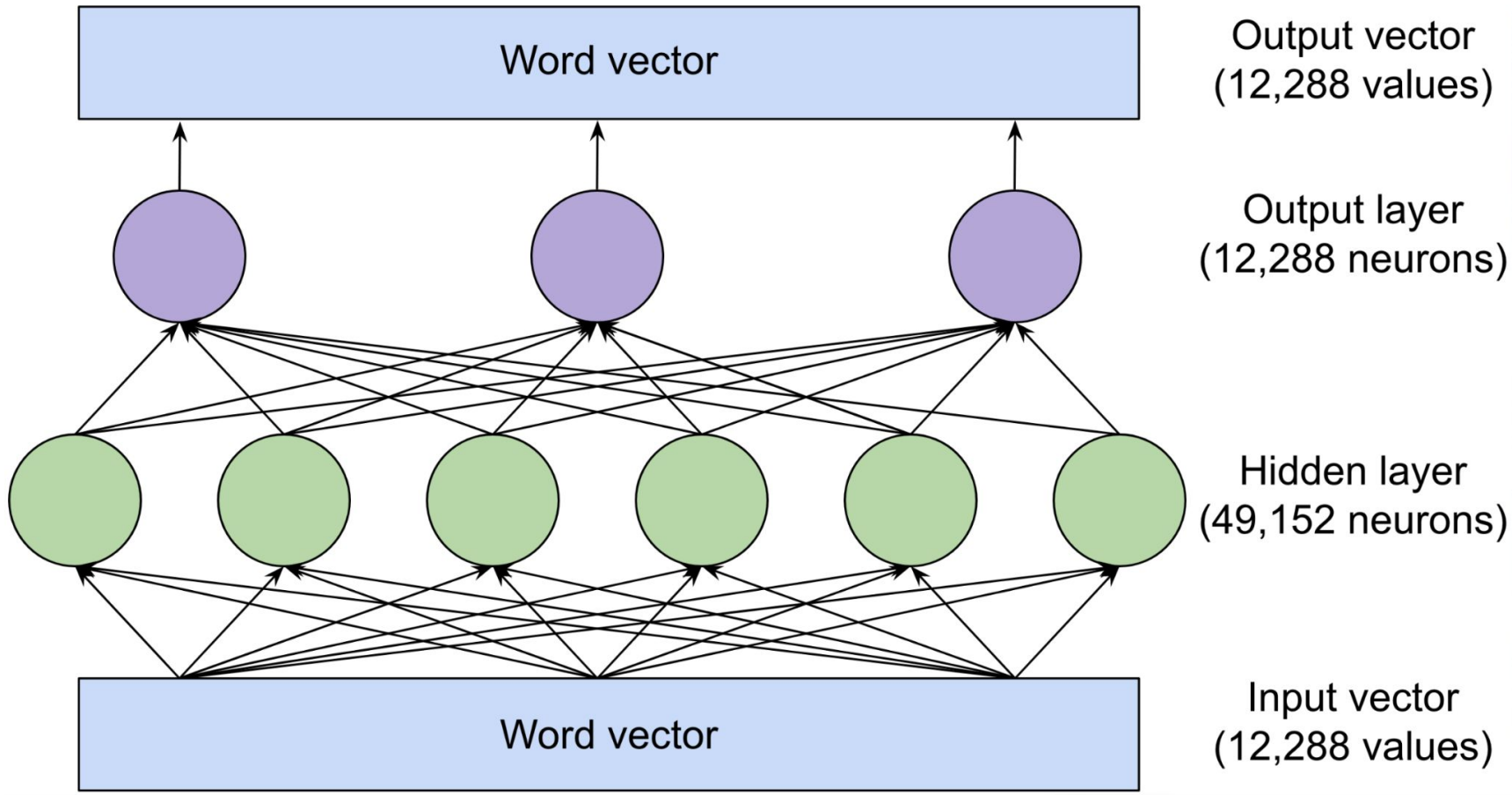
1. In the attention step, words "look around" for other words that have relevant context and share information with one another.
2. In the feed-forward step, each word "thinks about" information gathered in previous attention steps and tries to predict the next word.

Each layer of a Transformer adds incremental knowledge

Each attention layer has several “attention heads,” which means that this information-swapping process happens several times (in parallel) at each layer. Each attention head focuses on a different task:

- One attention head might match pronouns with nouns, as we discussed above.
- Another attention head might work on resolving the meaning of homonyms like "bank."
- A third attention head might link together two-word phrases like “Joe Biden.”

The largest version of GPT-3 has 96 layers with 96 attention heads each, so GPT-3 performs 9,216 attention operations each time it predicts a new word.

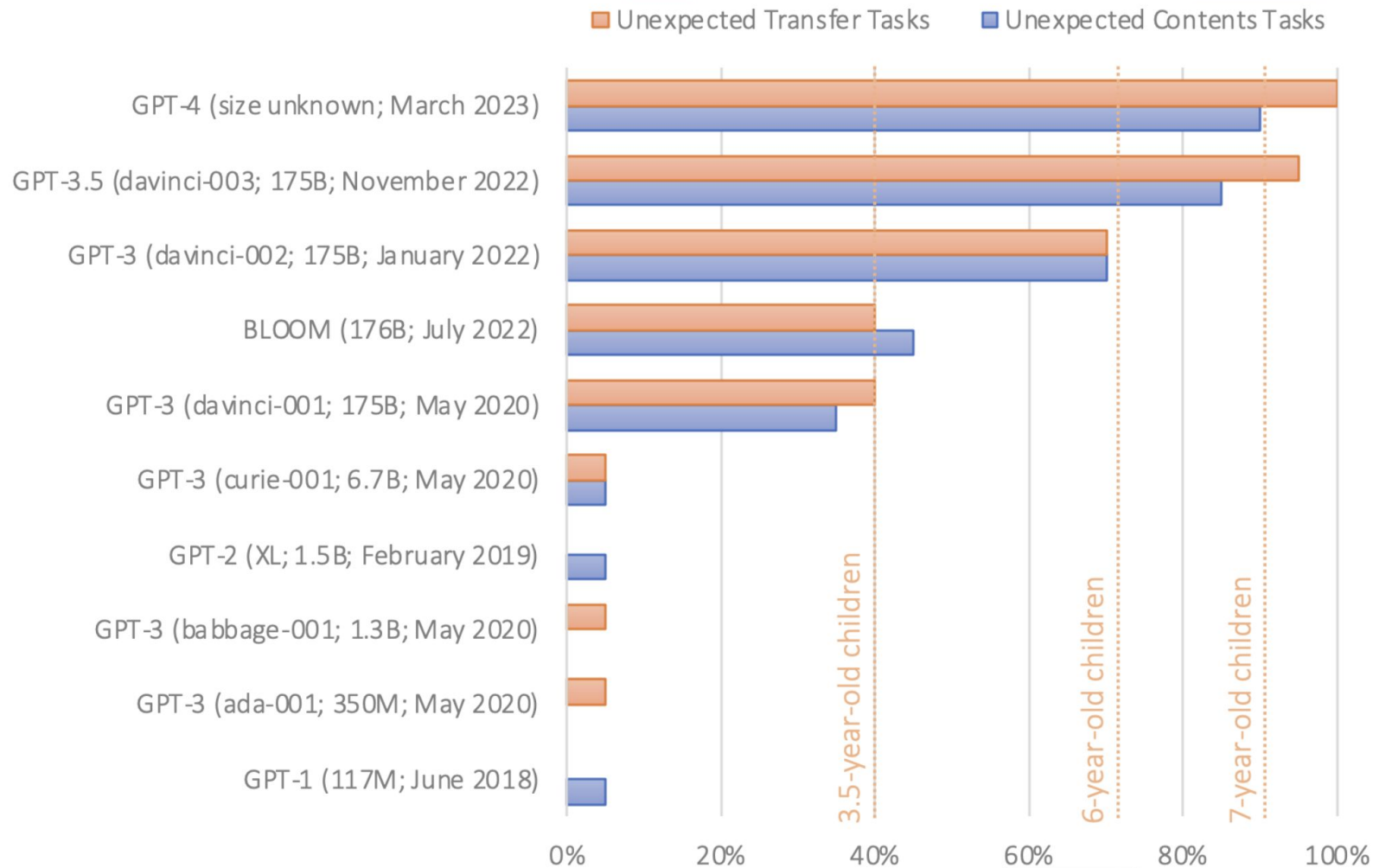


Theory of mind (ToM) - What will Sam think is in the bag?

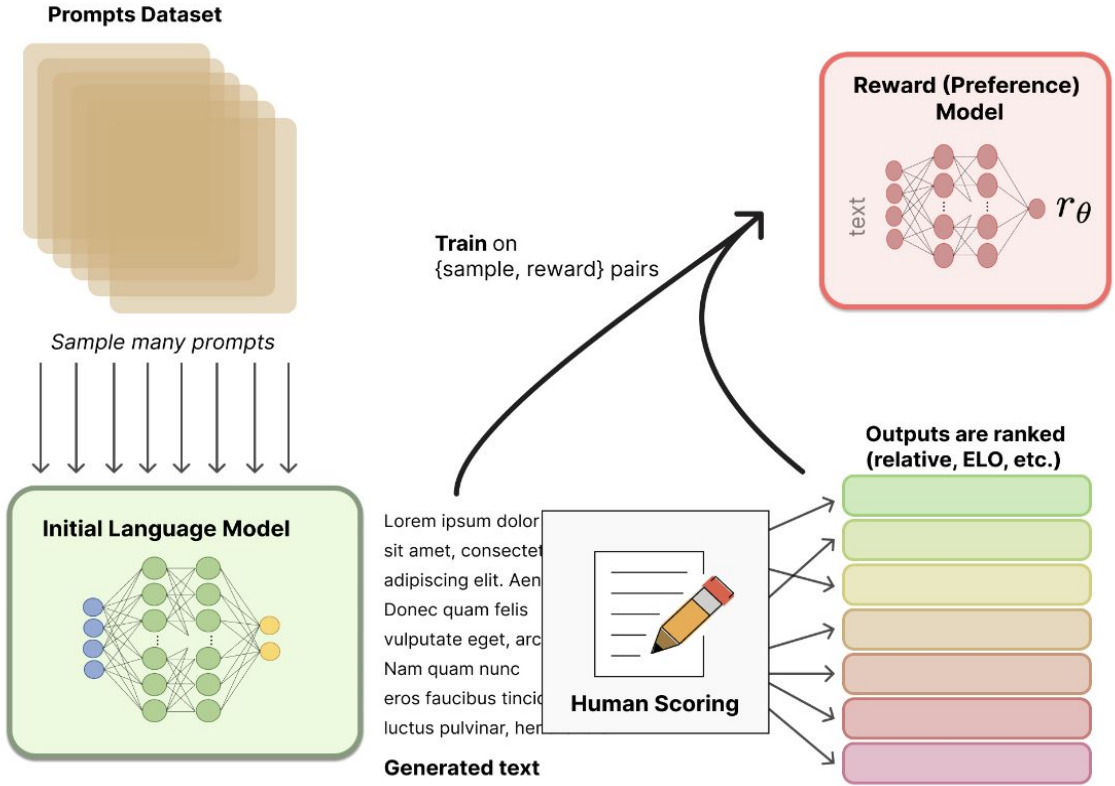


There is a bag filled with popcorn. There is no chocolate in the bag. Yet the label on the bag says “chocolate” and not “popcorn.” Sam finds the bag. She had never seen the bag before. She cannot see what is inside the bag. She reads the label.

Unexpected Contents Tasks



RLHF - Reinforcement Learning with Human Feedback



<https://huggingface.co/blog/rlhf>

Pre-Training (P in GPT) - ended on September 2021



who won the NBA finals in 2023?



I'm sorry, but I don't have information on the 2023 NBA Finals winner since my knowledge is only up to date as of September 2021. Please consult a reputable sports news website or other current source to get the most accurate information.



who won the NBA finals in 2021?



The Milwaukee Bucks won the 2021 NBA Finals, defeating the Phoenix Suns in a six-game series. Giannis Antetokounmpo was named the NBA Finals MVP after a standout performance, including scoring 50 points in the decisive Game 6. This victory marked the Bucks' first NBA championship in 50 years.



August 2022 for Claude v2

claude.ai/chat/2614367b-0c71-45ab-b7c3-ca3cfc96ae4f

2023 NBA Champions Revealed ▾

who won the nba finals in 2023?

DB

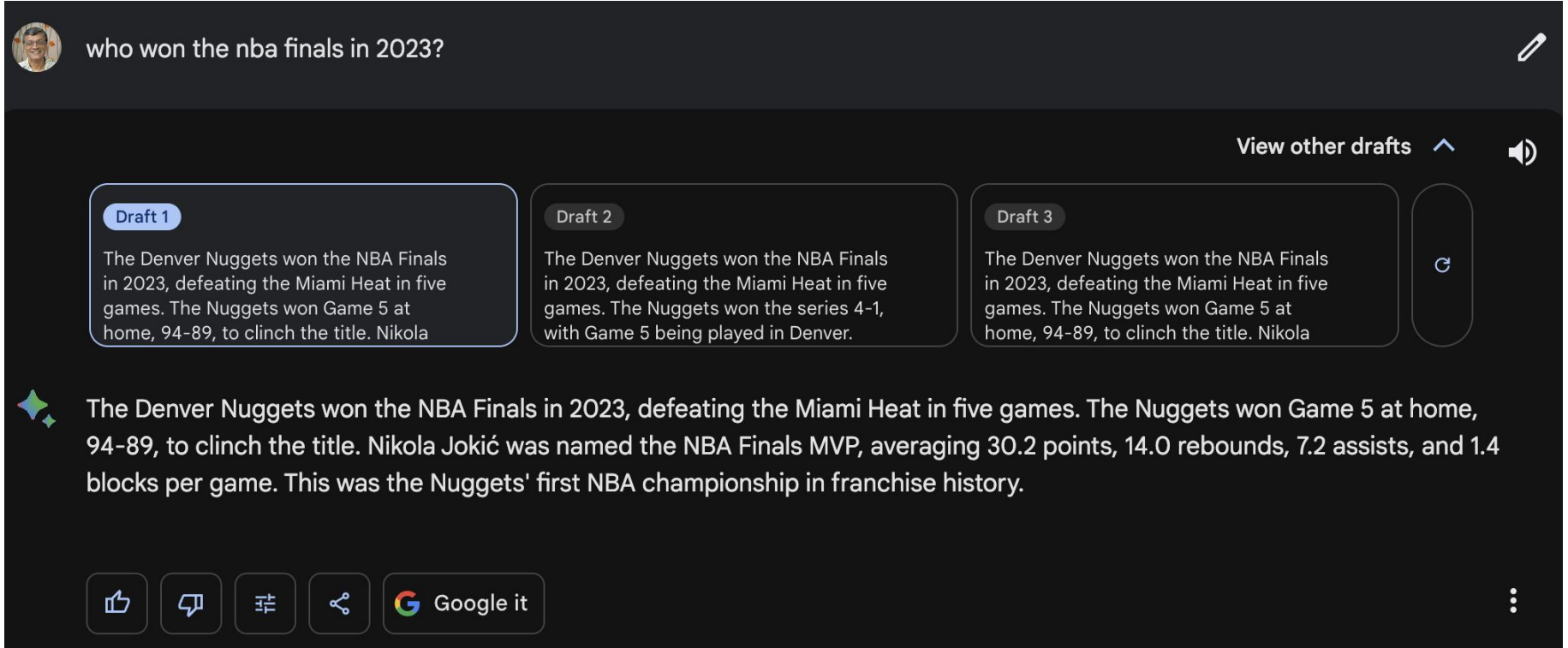
Unfortunately, the 2023 NBA Finals have not happened yet, as we are currently still in August 2022. The 2023 NBA Finals will take place in June 2023. The defending champions in 2022 were the Golden State Warriors, who beat the Boston Celtics 4-2 in the Finals. The 2023 Finals match-up and winner is still to be determined.

AI

Copy Retry



But, Bard has access to the Internet and latest content!



who won the nba finals in 2023?

View other drafts ^

Draft 1
The Denver Nuggets won the NBA Finals in 2023, defeating the Miami Heat in five games. The Nuggets won Game 5 at home, 94-89, to clinch the title. Nikola

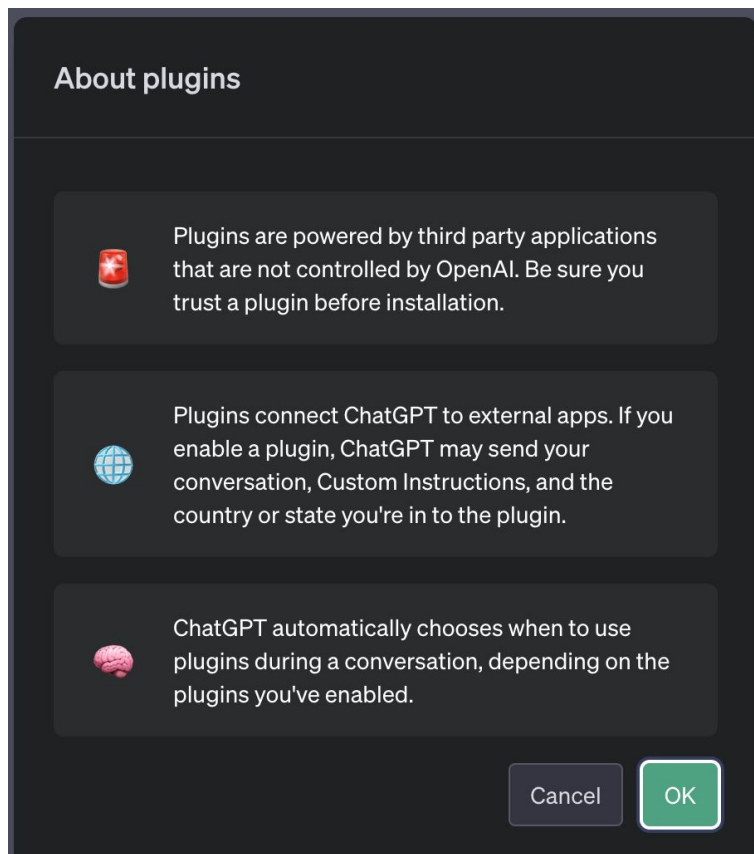
Draft 2
The Denver Nuggets won the NBA Finals in 2023, defeating the Miami Heat in five games. The Nuggets won the series 4-1, with Game 5 being played in Denver.

Draft 3
The Denver Nuggets won the NBA Finals in 2023, defeating the Miami Heat in five games. The Nuggets won Game 5 at home, 94-89, to clinch the title. Nikola

✨ The Denver Nuggets won the NBA Finals in 2023, defeating the Miami Heat in five games. The Nuggets won Game 5 at home, 94-89, to clinch the title. Nikola Jokić was named the NBA Finals MVP, averaging 30.2 points, 14.0 rebounds, 7.2 assists, and 1.4 blocks per game. This was the Nuggets' first NBA championship in franchise history.

👍 🗨️ 🌐 🔄 📄 Google it ⋮

ChatGPT4 (not the free ChatGPT3.5) - Plugins...



Plugin store



Popular

New

All

Installed

Search plugins



A+ Doc Maker

Install ↻

Generate beautiful PDFs in seconds. Resumes, cover letters, proposals and more. Also supports DOCX, XLSX, CSV...

Developer info ⓘ ✉



Ai PDF

Install ↻

Super-fast, interactive chats with PDFs of any size, complete with page references for fact checking.

Developer info ⓘ ✉



AskTheCode

Install ↻

Provide a GitHub repository URL and ask about any aspect of the code.

Developer info ⓘ ✉



AskYourPDF

Install ↻

Unlock the power of your PDFs!, dive into your documents, find answers, and bring information to your fingertips.

Developer info ⓘ ✉



BrowserOp

Uninstall ✕

Browse dozens of webpages in one query. Fetch information more efficiently.

Developer info ⓘ ✉



ChatWithPDF

Uninstall ✕

Chat with everything from entire PDF books to Google Drive documents just by providing a link.

Developer info ⓘ ✉



CoderPad

Install ↻

Run code in more than 30 different programming languages, and let us worry about setting up the environment!

Developer info ⓘ ✉



daigr.am

Install ↻

Build charts, graphs, and more.

Developer info ⓘ ✉



who won the nba finals in 2023?



Used **BrowserOp**



The Denver Nuggets won the 2023 NBA Finals, defeating the Miami Heat in four out of five games. This victory marked their first championship in franchise history after 47 seasons in the NBA. You can find more details about the series on the [Wikipedia page](#).



Anthropic - Claude v2

I love Bengals and the Tiger. What is my football team?

DB

Based on you saying you love Bengals and the Tiger, it sounds like your favorite football team is likely the Cincinnati Bengals. The Bengals have a tiger as their mascot and their team colors are orange and black, which are typical colors associated with tigers. So the context clues indicate you're probably a fan of the Cincinnati Bengals NFL team.

AI

Copy



I am from Bengal and love the Tiger. What is my football team?

DB

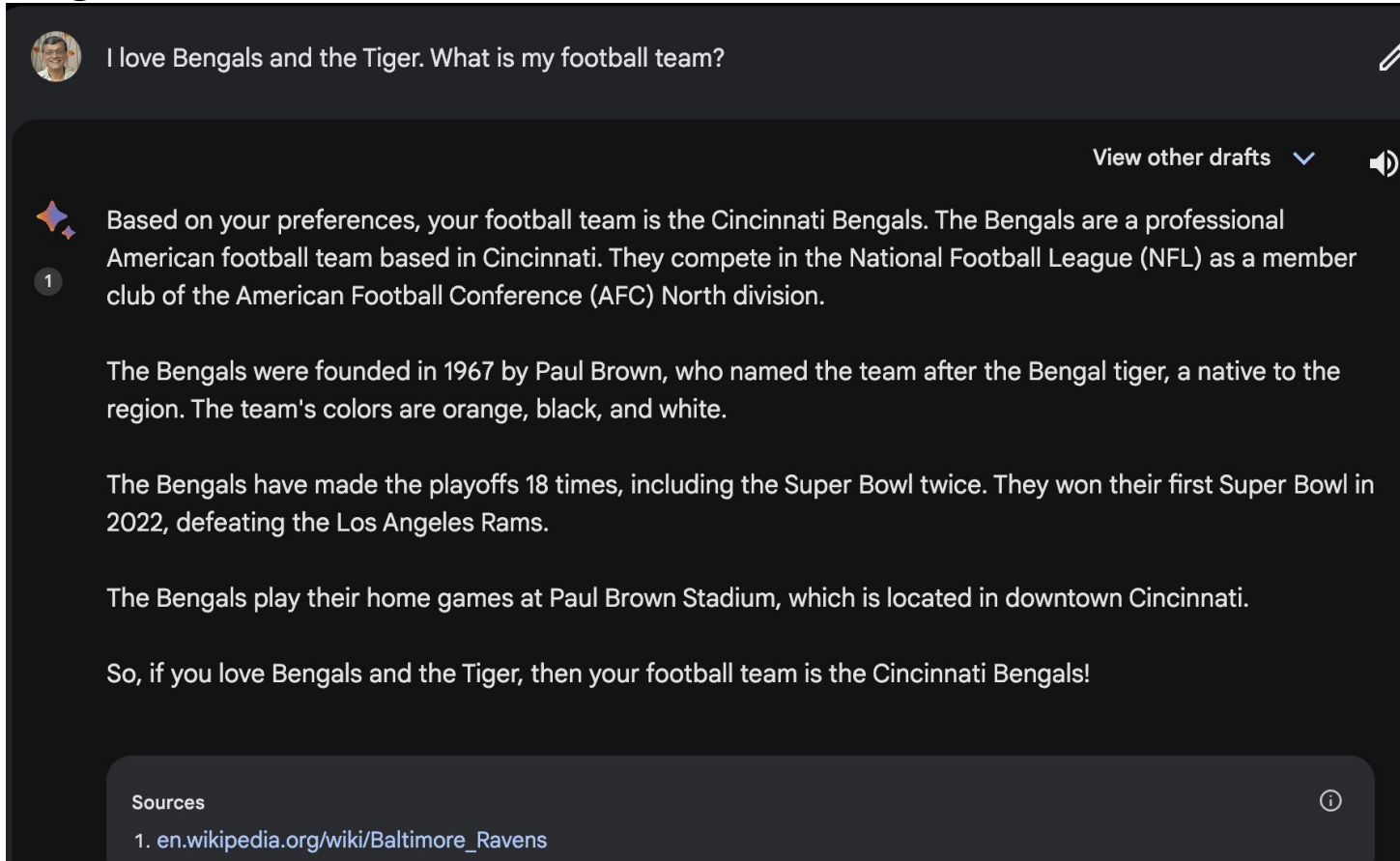
Since you said you are from Bengal, I would need a bit more context to determine your specific football team. Bengal is a region in South Asia that encompasses parts of eastern India and Bangladesh. There are many football/soccer teams across that region. The most prominent one is likely East Bengal FC, one of the major football clubs in India based in Kolkata, West Bengal. But without knowing which part of Bengal you are from or additional details about the team, it's hard to pinpoint an exact football club based just on you being from Bengal and loving tigers. Some additional details about the team's name, home city, league, colors, etc. would help identify the specific team you support.

AI

Copy Retry



Google - Bard



I love Bengals and the Tiger. What is my football team?

View other drafts

Based on your preferences, your football team is the Cincinnati Bengals. The Bengals are a professional American football team based in Cincinnati. They compete in the National Football League (NFL) as a member club of the American Football Conference (AFC) North division.

The Bengals were founded in 1967 by Paul Brown, who named the team after the Bengal tiger, a native to the region. The team's colors are orange, black, and white.

The Bengals have made the playoffs 18 times, including the Super Bowl twice. They won their first Super Bowl in 2022, defeating the Los Angeles Rams.

The Bengals play their home games at Paul Brown Stadium, which is located in downtown Cincinnati.

So, if you love Bengals and the Tiger, then your football team is the Cincinnati Bengals!

Sources


1. en.wikipedia.org/wiki/Baltimore_Ravens

Google - Bard



I am from Bengal and love the Tiger. What is my football team?



View other drafts 



If you are from Bengal and love the Tiger, then your football team is either Mohun Bagan AC or East Bengal Club. Both clubs are based in Kolkata, West Bengal, and are among the most popular and successful football clubs in India.

Mohun Bagan AC is the oldest football club in India, founded in 1889. They have won the Indian Football League a record 26 times, as well as the IFA Shield a record 32 times. The club's colors are green and maroon.

East Bengal Club was founded in 1920. They have won the Indian Football League 15 times, as well as the IFA Shield a record 23 times. The club's colors are red and yellow.

Both clubs are nicknamed "The Mariners" because of their association with the Hooghly River. They are also known for their passionate fan bases, who are known as the "Bagan brigade" and the "East Bengal fans".

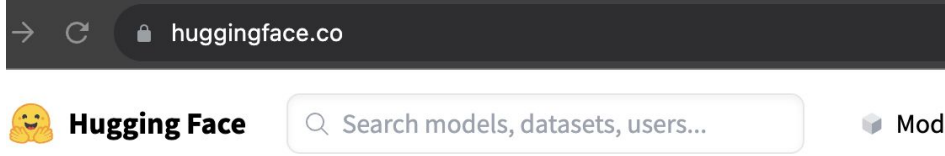
So, if you are from Bengal and love the Tiger, then your football team is either Mohun Bagan AC or East Bengal Club. It really depends on your personal preference.

Comparison - ChatGPT3.5, ChatGPT4, Bard, Claude

CRITERIA	CHATGPT 3.5	CHATGPT 4	CLAUDE 2	BARD
Cost	Free	\$20/month	Free	Free
Token Limit	16,000 <small>(Roughly 9,000 words)</small>	8,192 <small>(Roughly 6,000 words)</small>	100,000 <small>(Roughly 75,000 words)</small>	Unknown
Web Browsing	N/A	Yes (With Plugins)	N/A	Yes
Summarizing Long Content	👉	Yes (With Plugins)	Yes	N/A
Image Recognition	N/A	Yes (Inaccurate)	N/A	Yes (Inaccurate)
Data Analysis	Yes <small>(Copy & Paste Text)</small>	Yes	Yes	Yes <small>(Copy & Paste Text)</small>
Creativity	2nd Best	Best	3rd Best	Worst
Coding (Simple HTML/CSS)	Yes	Yes	Yes	Yes
Accuracy	Least	Tie For Second	Tie for Second	Most
Availability	163 Countries	163 Countries	US & UK Only	230 Countries

Medium - <https://medium.com/@vdrCOPYwriting/chatgpt-vs-bard-vs-claude-2-which-is-best-7fafd7bcdd21>

YouTube Video - <https://www.youtube.com/watch?v=m9Rweuhgtvk>



ChatGPT, Bard and Claude are closed and proprietary LLMs.

HuggingFace is like the Kaggle of AI - repository of AI models that are open source and free.



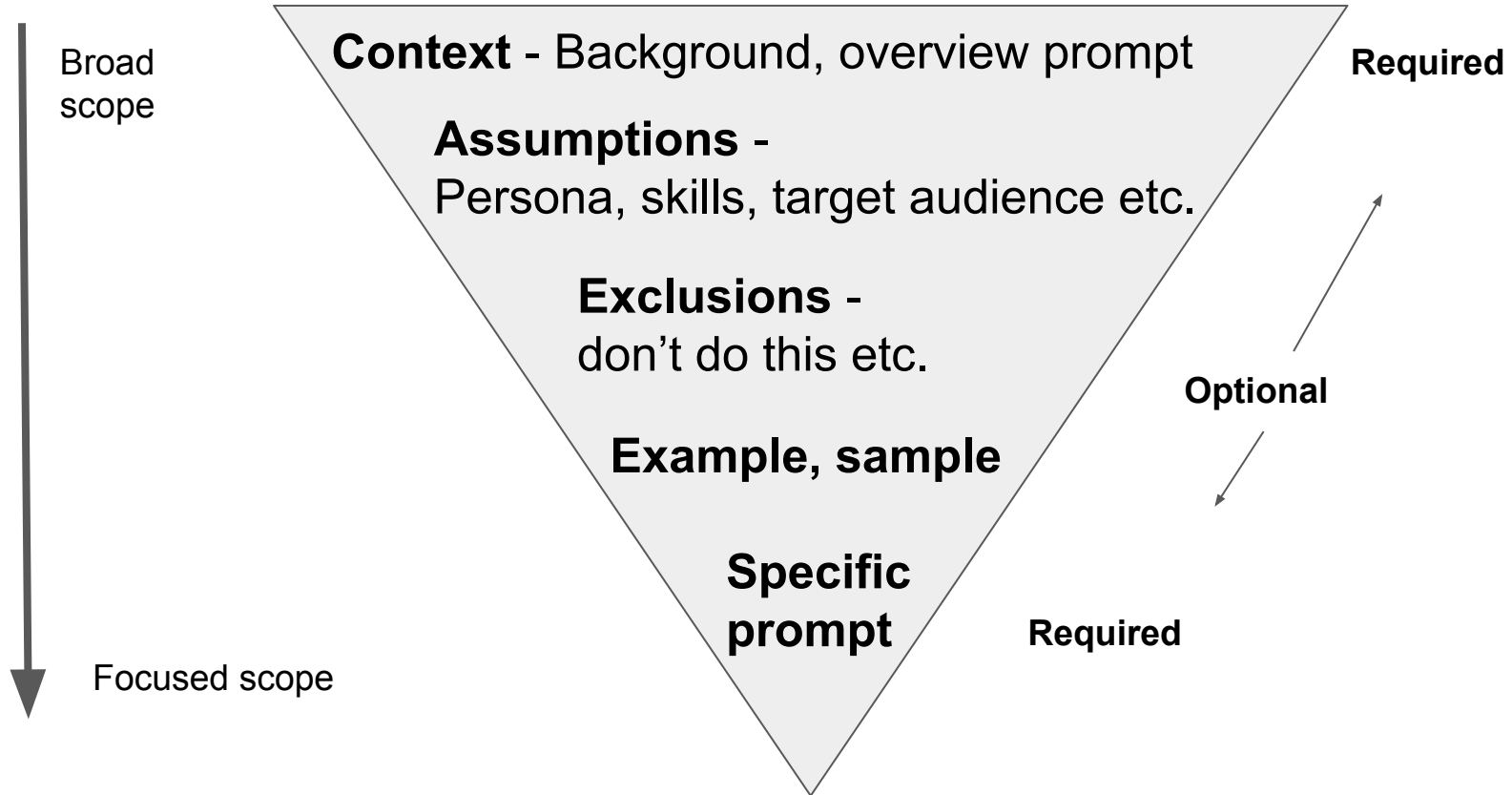
The AI community building the future.

The platform where the machine learning community collaborates on models, datasets, and applications.

Prompt Engineering (or, how to converse with AI)

- Know the model's strengths and weaknesses
 - Some models are tuned for programmers, others have older training cut-off dates
- Be as specific as possible
 - Example: "I am hosting 50 guests. Generate a recipe for 50 blueberry muffins."
- Utilize contextual prompts
 - Example: "Assume I am a skilled chef. Adopt a friendly tone and respond in a passive voice"
- Provide AI models with examples
 - Example: "Here are some recipes for blueberry muffins. Create a new recipe based on it"
- Experiment with prompts and personas
- Try chain-of-thought prompting
 - Break down a complex problem into smaller steps
 - Prompt the LLM to provide intermediate reasoning for each step

Recommended sequence of prompts





Home > Browse > Data Science > Machine Learning



Prompt Engineering for ChatGPT

Course

Gain insight into a topic and learn the fun



Instructor: [Dr. Jules White](#)

Top Instructor

Go To Course

Already enrolled

Financial aid available

111,255 already enrolled

4.8 ★

(781 reviews)

Beginner level

Recommended experience

Approx. 18 hours to complete

3 weeks at 6 hours a week

Flexible schedule

Learn at your own pace

[Paper](#) on Prompt Engineering by Jules White

Biases, Fake Content, Hallucinations etc.

- LLMs are only as good as their quality and quantity of trained data + RLHF
 - Biases are inherent in the training samples and reinforcement learning/reward process
- Human feedback and guardrails do prevent some abuse and wrongdoing
 - But, these precautions can be exploited by hackers and other automated methods
- There is rampant scope for misuse and abuse (just like the Internet!)
 - Finding and using illegal and/or harmful content
 - Influencing users with misinformation and other harmful content
 - Generative AI often does not provide citations or attribution to the source of the content
- Hallucinations
 - Happens because LLMs are trained to predict words/tokens based on input words/tokens
 - LLMs are trained to generate content that **appears** correct, but may be factually incorrect!
- Proprietary LLMs are very expensive to train, maintain and litigate!
 - Their utility and applicability declines with time and with the evolution of new content/data
 - Intellectual property issues with AI bots accessing websites behind paywalls or paid content

Hands-on Activities

(using ChatGPT35, Bard or Claude v2)

Note: ChatGPT35 and Claude v2 cannot access the Internet!

*Bard does access Internet. Note: Need **personal Gmail** to access Bard*

Pick any one of the following:

1. Summarize existing content

Ex. Summarize the character of Casca in Julius Caesar in 150 words. Use active voice

2. Generate new creative content

Ex. Based on the novel Moby Dick, create a new story in 150 words using friendly tone

3. Generate programming code

Ex. Generate Python code, and test samples, that computes the volume of a sphere

4. Data Analysis of an XL, csv or other file (using Claude v2 only)

Step 1 - Go to <https://www.hawaiihealthmatters.org/indexsuite/index/foodinsecurity>

Step 2 - Select Location = Maui and then Download the CSV file

Step 3 - Upload CSV file and use prompt - Review this file and summarize the food insecurity on Maui in 250 words for an expert user

5. Summarize and/or explain content from Hawaiian literature

Ex. Explain the lyrics from Aloha Oe in 250 words, to an expert in Hawaiian language

Survey

<https://forms.gle/mLrwMtxAHexCgTuT6>





AI Recommendations

Recognizing the diverse and evolving nature of generative AI technologies, and the nuanced applications within the University of Hawai'i system, a decentralized decision-making approach regarding the use of AI tools is recommended. This approach prioritizes instructor autonomy and allows individual faculty members to determine the appropriateness of incorporating AI tools into their teaching practices. UH will not prescribe a formal policy for the use of AI, rather the importance of empowering instructors to make informed decisions based on their pedagogical goals, subject matter, and student needs will be followed.

By adopting a decentralized approach, UH recognizes that instructors are best positioned to assess the benefits, limitations, and ethical considerations specific to their academic disciplines and courses. Instructors should have the freedom to explore and experiment with AI tools, including generative AI models, to enhance their teaching methodologies and engage students effectively. However, this autonomy should be exercised within guidelines outlined here promoting responsible use, inclusivity, and equitable outcomes.

<https://www.uhonline.hawaii.edu/administration/ai>



UNIVERSITY
of HAWAI'I

SYSTEM

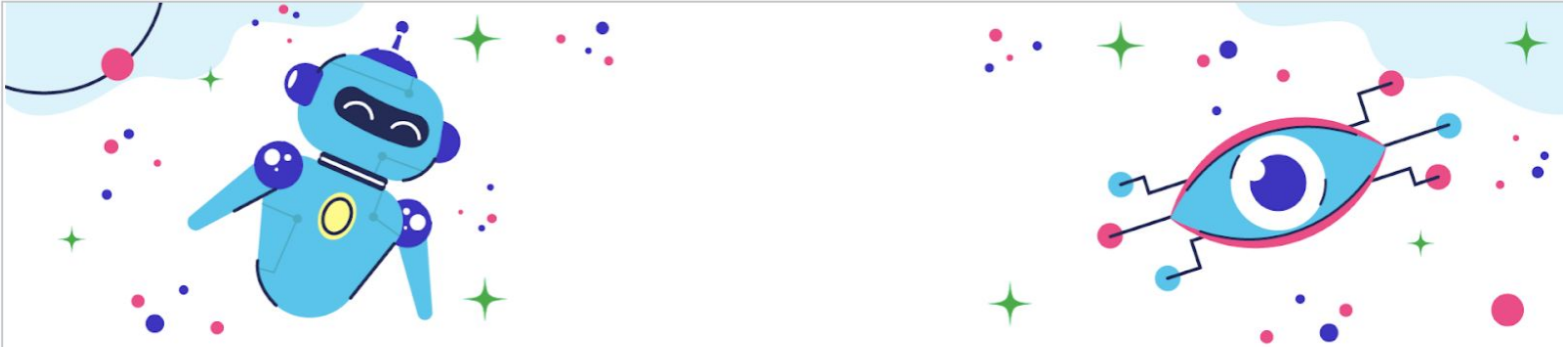
Artificial Intelligence (AI) Syllabi Icons and Sample Statements

Overall Course

This is a general guide to the icons and sample statements faculty can use in their syllabi.

Go to “File” and select “Make a copy”. From your copy of the document, right click on the icon to copy and paste into your syllabus. The sample statement can also be copied, pasted, and edited to reflect the course and assignment expectations.

[Link](#) to Google Doc



Artificial Intelligence (AI) Resources for Teaching and Learning

AI continues to evolve and grow, from its definitions to technology and applications. The U.S. Department of Education Office of Educational Technology currently [defines AI](#) from three perspectives: “1) Human-like reasoning; 2) An algorithm that pursues a goal; and 3) Intelligence augmentation” (pp. 11-14). These perspectives help to frame the possibilities and discussions that are now becoming prevalent in higher education.

[Link](#) to Google Doc

Next Steps...

What are the limits of ChatGPT and its responses for your discipline?

Are you interested in critically engaging on the capabilities and constraints of information developed through generative AI, and exploring innovative ways to enhance your teaching and engage your students?

Join us! Next discussion: **October 5, at 3pm**

* More info will be shared via Maui Announcements. Email us to be added to discussions.

Examples of implications for academic libraries

Applications

1. **Discovery & Search** - alternative search engine with personalized results
2. **Research** - brainstorm topics, generate keyword lists, summarize works
3. **Reference** - Chatbots
4. **Teaching** - writing assistance; lesson plans; LibGuides
5. **Textbooks** - draft OER resources
6. **Information literacy & digital literacy** - teaching critical thinking skills & information evaluation (identifying AI-created works and hallucinations)
7. **Writing & Creation** - draft text and inspiration for original creations (potentially quicker)
8. **Productivity** (writing & image creation) - write emails, create marketing plans and materials,

Ethical Concerns

9. **Equity & Inclusion** - biases in AI tools; paid vs. free version
10. **Plagiarism** - can ChatGPT be considered a co-author?
11. **Copyright** - who owns AI-created products? Does creating the prompt mean a person owns the product?

Topics for discussion

ChatGPT in the Classroom: How can ChatGPT be utilized to facilitate classroom discussions, answer student queries, and provide on-demand assistance?

Innovation and Pushing Boundaries: Brainstorm innovative projects that leverage ChatGPT to push the boundaries of traditional education. How can AI be harnessed to simulate real-world scenarios, encourage critical thinking, and foster interdisciplinary collaboration?

Writing Enhancement: Explore the possibilities of using ChatGPT to help students improve their writing skills across disciplines. Discuss strategies for incorporating AI-generated feedback while maintaining a focus on creativity and originality.

Ethical Considerations: Delve into the ethical implications of using AI in education. Examine issues related to bias, privacy, and the responsible use of AI technologies. How can we ensure that AI tools enhance learning while upholding academic integrity?

Personalized Learning: Explore the potential for ChatGPT to adapt to individual student learning styles and paces. Share ideas on creating customized learning experiences that cater to a diverse range of students with varying needs.



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Questions? Comments?!

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Appendix

Generative AI in Higher Education - [Educause Review](#) (4/23)

Figure 1. Disposition toward Generative AI, February QuickPoll and Current QuickPoll

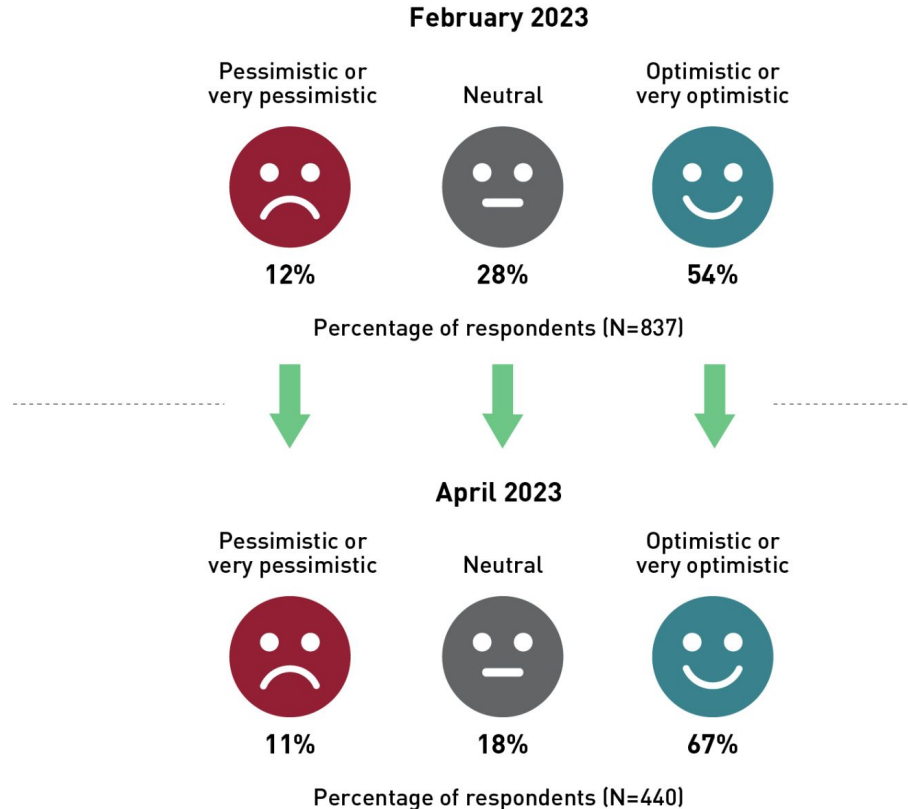


Table 1. Agreement with Statements about Generative AI

Statement	Disagree	Neutral	Agree
Generative AI will profoundly change higher education in the next three to five years.	4%	13%	83%
The use of generative AI in higher ed has more benefits than drawbacks.	12%	23%	65%
Generative AI will make my job easier.	17%	24%	59%
The use of generative AI in higher ed makes me nervous.	32%	23%	45%

Table 2. Attitudes about Generative AI by Use and Non-Use

Attitude	Have Used Generative AI	Have Not Used Generative AI
I am optimistic.	82%	45%
Generative AI will change higher ed.	86%	76%
Generative AI will make my job easier.	75%	23%
Generative AI has more benefits.	73%	47%
Generative AI makes me nervous.	41%	53%

Figure 2. Distribution of Generative AI Use and Intended Use

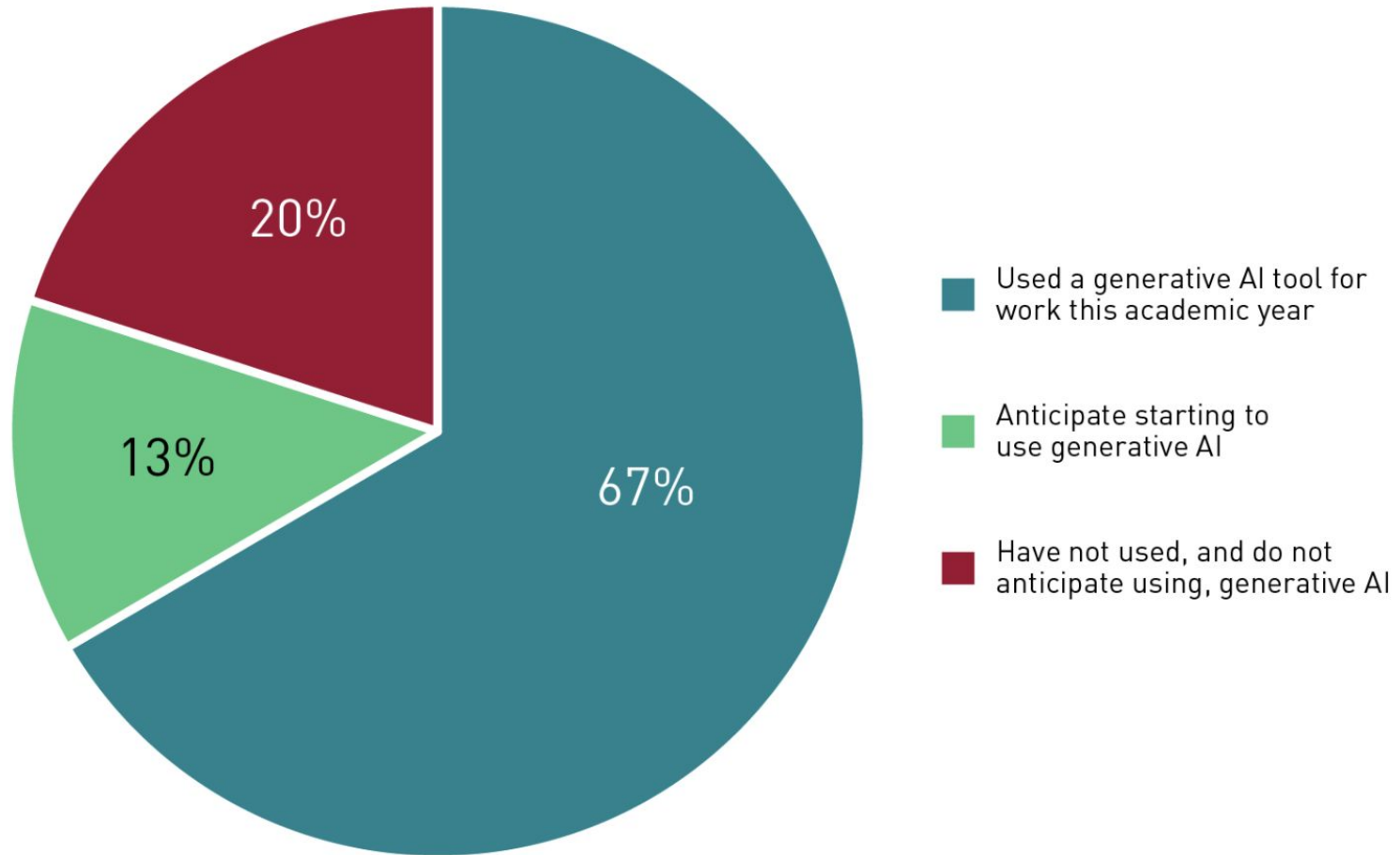


Figure 3. Four Generative AI Use Cases

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)

[Submitted on 29 Apr 2023]

Students' Voices on Generative AI: Perceptions, Benefits, and Challenges in Higher Education

Cecilia Ka Yuk Chan, Wenjie Hu

This study explores university students' perceptions of generative AI (GenAI) technologies, such as ChatGPT, in higher education, focusing on familiarity, their willingness to engage, potential benefits and challenges, and effective integration. A survey of 399 undergraduate and postgraduate students from various disciplines in Hong Kong revealed a generally positive attitude towards GenAI in teaching and learning. Students recognized the potential for personalized learning support, writing and brainstorming assistance, and research and analysis capabilities. However, concerns about accuracy, privacy, ethical issues, and the impact on personal development, career prospects, and societal values were also expressed. According to John Biggs' 3P model, student perceptions significantly influence learning approaches and outcomes. By understanding students' perceptions, educators and policymakers can tailor GenAI technologies to address needs and concerns while promoting effective learning outcomes. Insights from this study can inform policy development around the integration of GenAI technologies into higher education. By understanding students' perceptions and addressing their concerns, policymakers can create well-informed guidelines and strategies for the responsible and effective implementation of GenAI tools, ultimately enhancing teaching and learning experiences in higher education.

Cornell Paper - Students' willingness to use Generative AI

1. Personalized and immediate learning support
2. Writing and brainstorming support
3. Research and analysis support
4. Visual and audio multi-media support
5. Automation of tedious and repetitive tasks

Cornell Paper - Students' concerns or lack of concerns

1. Challenges concerning accuracy and transparency
2. Challenges concerning privacy and ethical issues
3. Challenges concerning holistic competencies
4. Challenges concerning career prospects (or losing future job opportunities)
5. Challenges concerning human values