

Talking to You or a Chatbot

*Creating a Customized Chatbot (GPT) Using
ChatGPT*

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Agenda

- Define Generative AI
- Define Large Language Model (LLM)
- Define Chatbot
- Examples of Popular Chatbots
- Ideas for Using Chatbots in Education
- How to Create a Custom Chatbot

Sources/Research/Input

- Bozkurt, A., & Sharma, R. C. (2024). Are we facing an algorithmic renaissance or apocalypse? Generative AI, ChatBots, and emerging human-machine interaction in the educational landscape. *Asian Journal of Distance Education*, 19(1), i-xii.
<https://doi.org/10.5281/zenodo.10791959>
- Du, J., & Daniel, B. K. (2024). Transforming language education: A systematic review of AI-powered chatbots for English as a foreign language speaking practice. *Computers and Education: Artificial Intelligence*, 6. <https://doi.org/10.1016/j.caeai.2024.100230>
- Gökçearslan, Ş., Tosun, C., & Erdemir, Z. G. (2024). Benefits, Challenges, and Methods of Artificial Intelligence (AI) Chatbots in Education: A Systematic Literature Review. *International Journal of Technology in Education*, 7(1), 19–39.
<https://doi.org/10.46328/ijte.600>
- Labadze, Lasha & Grigolia, Maya & Machaidze, Lela. (2023). Role of AI chatbots in education: systematic literature review. *International Journal of Educational Technology in Higher Education*. [20. 10.1186/s41239-023-00426-1.](https://doi.org/10.1186/s41239-023-00426-1)

Generative AI Defined

Definition

- Technology that creates content — including text, images, video and computer code — by identifying patterns in large quantities of training data and then creating original material that has similar characteristics. — [Chapman University AI Literacy Glossary](#)

Abstract Image of “Generative AI” by Microsoft Copilot



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Generative AI Defined

Abstract Image of “Generative AI” by Microsoft Copilot

Prompt to NotebookLM: “Define Generative AI.”

- Generative AI can process, contextualize, interpret, and use human language better than generic AI.
- Generative AI uses human knowledge to identify patterns that may elude human perception.
- Generative AI models are adept at natural language processing (NLP) applications, including chatbots, virtual assistants, language translation and text generation.



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NotebookLM Prompt & Conversation Window

The screenshot displays the NotebookLM interface. On the left, a source document titled "Are We Facing an Algorithmic Renaissance or Apocalypse Generative AI, C..." is shown. The document includes a "Source guide" button, publication information from the Asian Journal of Distance Education, and an abstract discussing the transformative potential of Generative AI (GenAI) and ChatBots in educational interaction. The abstract mentions that GenAI uses human knowledge to identify patterns that may elude human perception and is adept at natural language processing (NLP) applications like chatbots and text generation. It also notes that GenAI has particular importance in the educational landscape by introducing a novel learner-interface interaction. The abstract further states that the revolutionary features of generative AI extend beyond the learning environment and that GenAI is an artificial intelligence which is now in a state of current intelligence, processing information in an efficient, systematic, and informative way to reform education. AI Chatbots are available for learning and can be used to support different learning outcomes. Some examples of Generative AI applications are listed, including chatbots and virtual assistants. The chat window on the right is titled "NotebookLM" and has a "Refresh" button. A yellow arrow points from the word "Prompt" to a text input field containing "Define generative AI." Below the input field, a yellow box highlights a portion of the source document text, which is the same text shown in the abstract. At the bottom of the chat window, there is a text input field with "Start typing..." and a "4 sources" indicator, along with a blue send button. Below the input field, there are two suggested prompts: "How does GenAI affect transactional distance?" and "How do AI c...".

GenAI, Chatbots, and Human-Machine Interaction in Education

NotebookLM

Chat Refresh

Prompt → Define generative AI.

Generative AI can process, contextualise, interpret, and use human language better than generic AI ¹. Generative AI uses human knowledge to identify patterns that may elude human perception ². Generative AI models are adept at natural language processing (NLP) applications, including chatbots, virtual assistants, language translation and text generation ³. Generative AI has particular importance in the educational landscape by introducing a novel learner-interface interaction ⁴. The revolutionary features of generative AI extend beyond the learning environment ⁵. Generative AI is an artificial intelligence which is now in a state of current intelligence, processing information in an efficient, systematic, and informative way to reform education ⁶. AI Chatbots are available for learning and can be used to support different learning outcomes ⁶. Some examples of Generative AI applications:

- **Chatbots and virtual assistants** These AI models are particularly adept at NLP applications ³. At its core, a ChatBot is a software application designed for online interaction via text or text-to-speech, becoming a prominent feature alongside generative AI advancements ⁷. Known variably as bots, chatterbots, smart bots, intelligent

Start typing... 4 sources

How does GenAI affect transactional distance? How do AI c...

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Large Language Model Defined

Definition

- A type of neural network that **learns skills** — including generating prose, conducting conversations and writing computer code — **by analyzing vast amounts of text from across the internet**. The basic function is to predict the next word in a sequence, but these models have surprised experts by learning new abilities. - [Chapman University AI Literacy Glossary](#)
- **LLMs form the foundation for generative AI** (GenAI) systems; include some chatbots and tools including OpenAI's GPTs, Meta's LLaMA, xAI's Grok, and Google's PaLM and Gemini. – [Center for Integrative Research in Computing and Learning Sciences](#)
- **LLMs are a type of foundation model, which are pre-trained with deep learning techniques on massive data sets of text documents.**

Abstract Image of “LLM” by Microsoft Copilot



Large Language Model Defined

NotebookLM Prompt – “What is a large language model?”

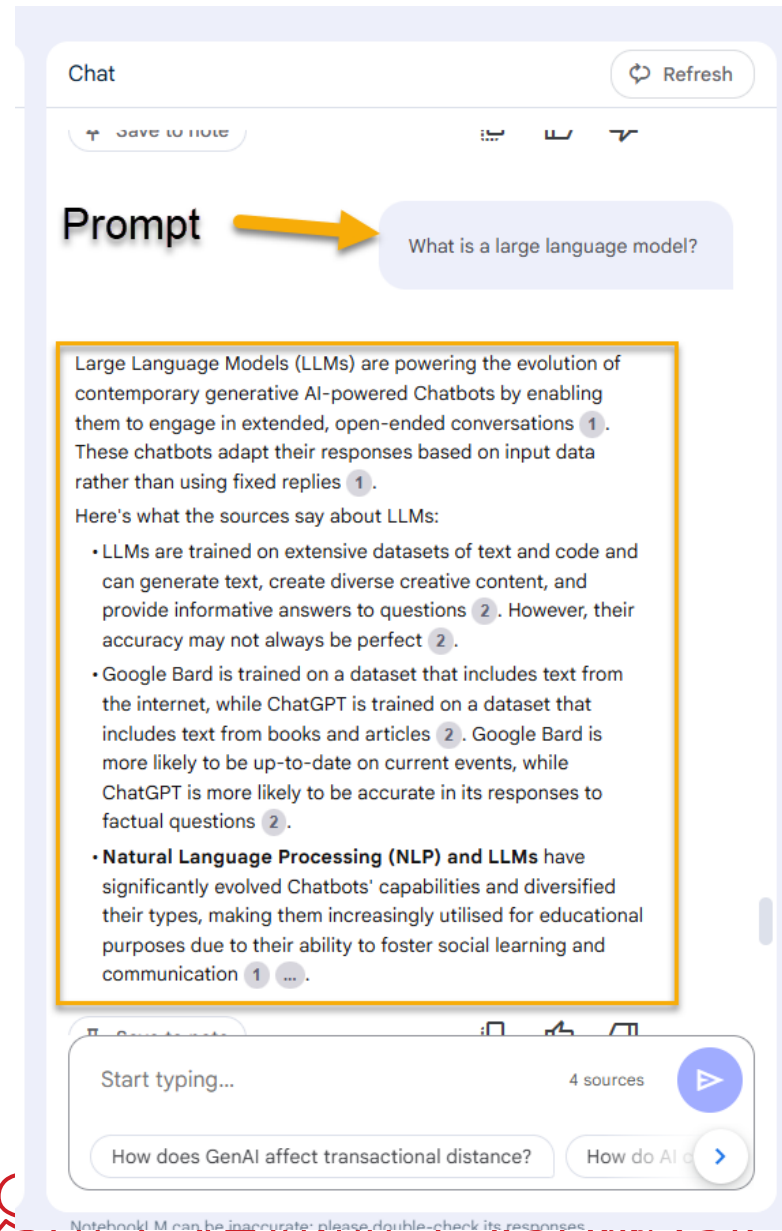
- Large Language Models (LLMs) are powering the evolution of contemporary generative AI-powered Chatbots by enabling them to engage in extended, open-ended conversations. These **chatbots adapt their responses based on input** data rather than using fixed replies.
- **LLMs are trained on extensive datasets of text and code.**
- **Example: Google Gemini is trained on a dataset that includes text from the internet.**
- **Example: ChatGPT is trained on a dataset that includes text from books and articles.**

Abstract Image of “LLM” by Microsoft Copilot



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NotebookLM Prompt & Conversation Window

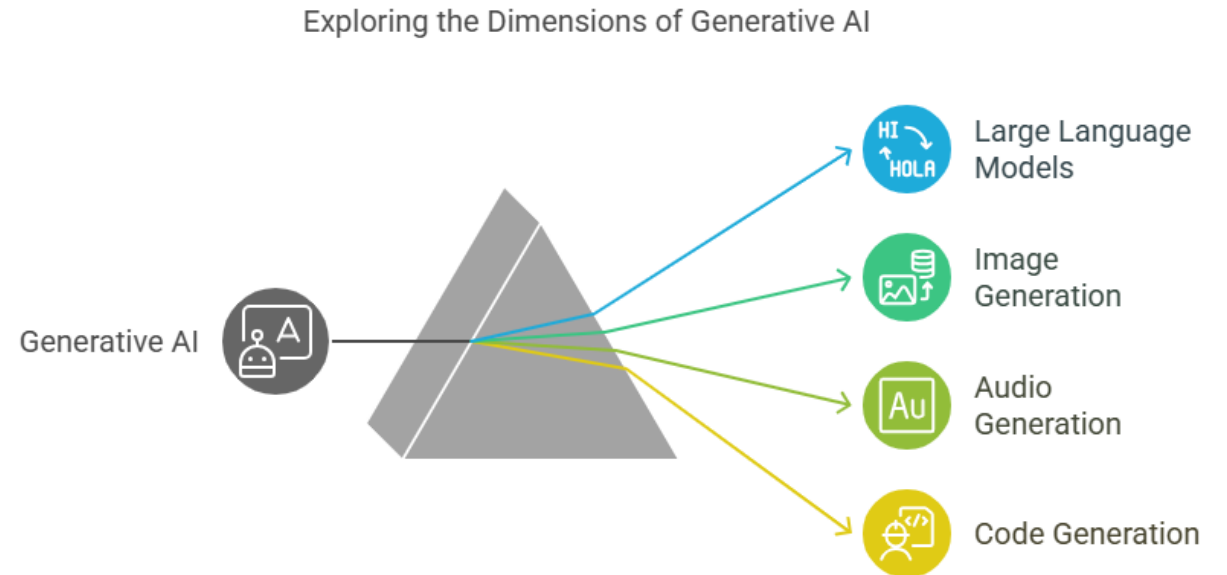


Generative AI vs. Large Language Model

Relationship between Generative AI and Large Language Models

- A large language model (LLM) is considered a subset of generative AI, meaning that **all LLMs are generative AI models, but not all generative AI models are LLMs**; essentially, LLMs specialize in generating and understanding human language, while generative AI encompasses a broader category of models that can create various types of content, including images, audio, and code, not just text.

Infographic generated by Napkin.ai



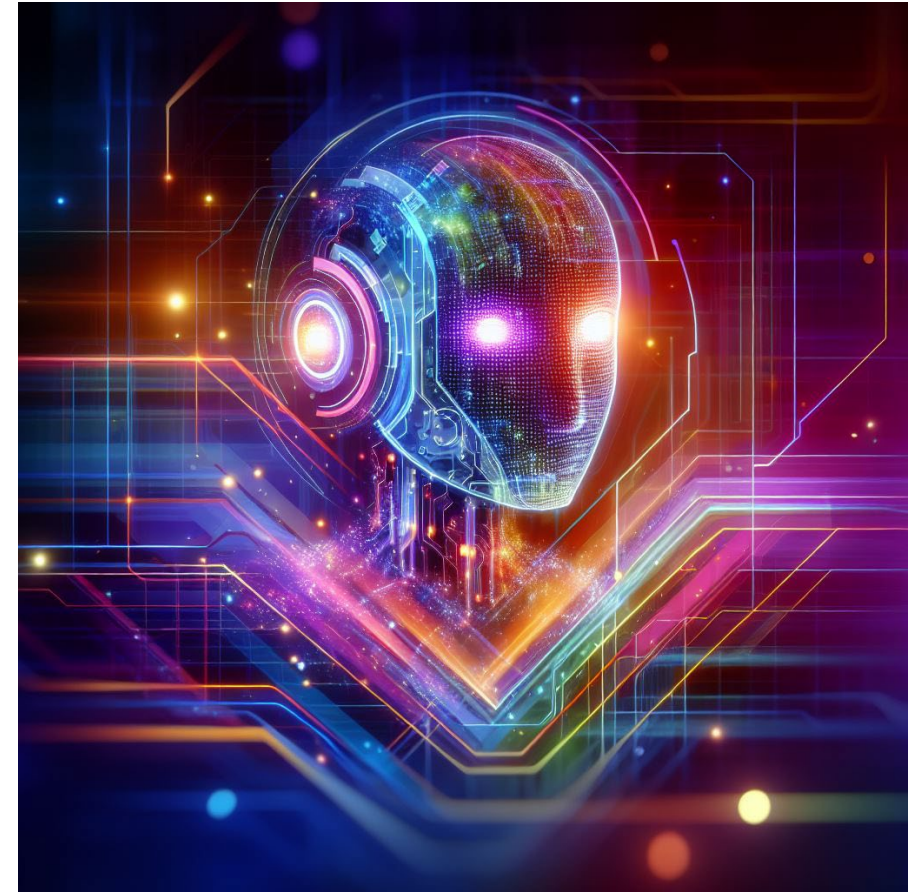
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Chatbot Defined

What is a chatbot?

- A chatbot is a computer program that simulates human conversation with an end user. Not all chatbots are equipped with artificial intelligence (AI), but modern chatbots increasingly use conversational AI techniques such as natural language processing (NLP) to understand user questions and automate responses to them. – [IBM, *What is a chatbot?*](#)

Chatbot image generated by Copilot



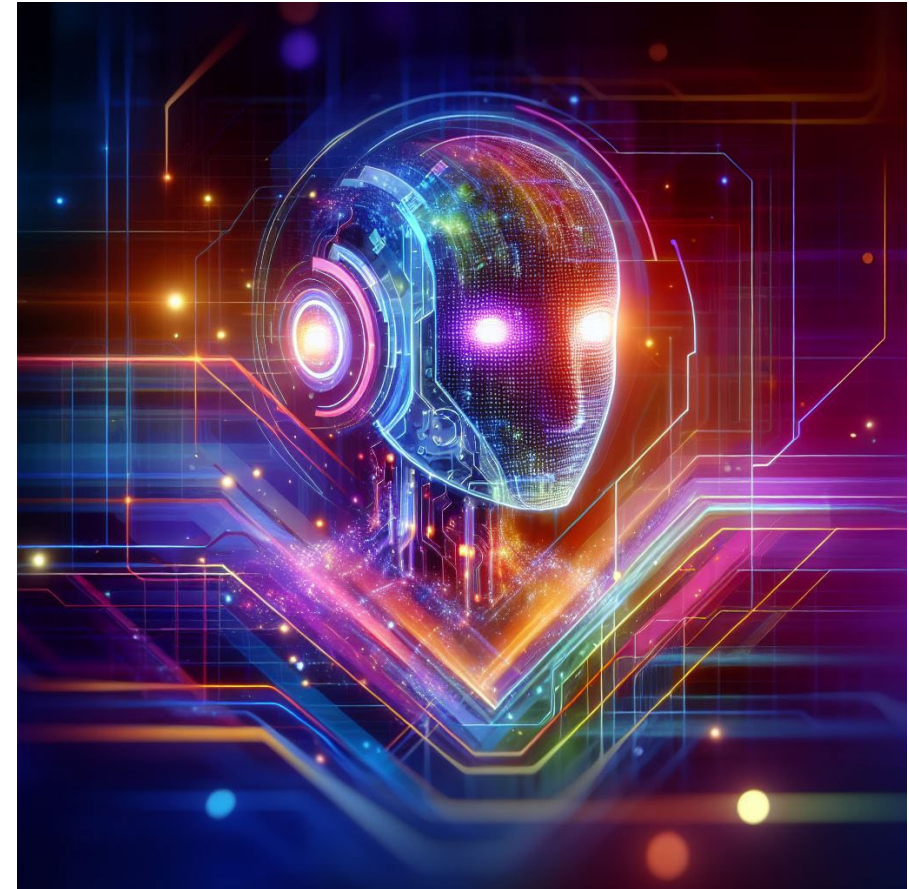
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Chatbot Examples

Chatbot image generated by Copilot

Popular Chatbots

- ChatGPT
- Microsoft Copilot
- Perplexity
- Claude
- Google Gemini
- - [Best AI Chatbots](#)



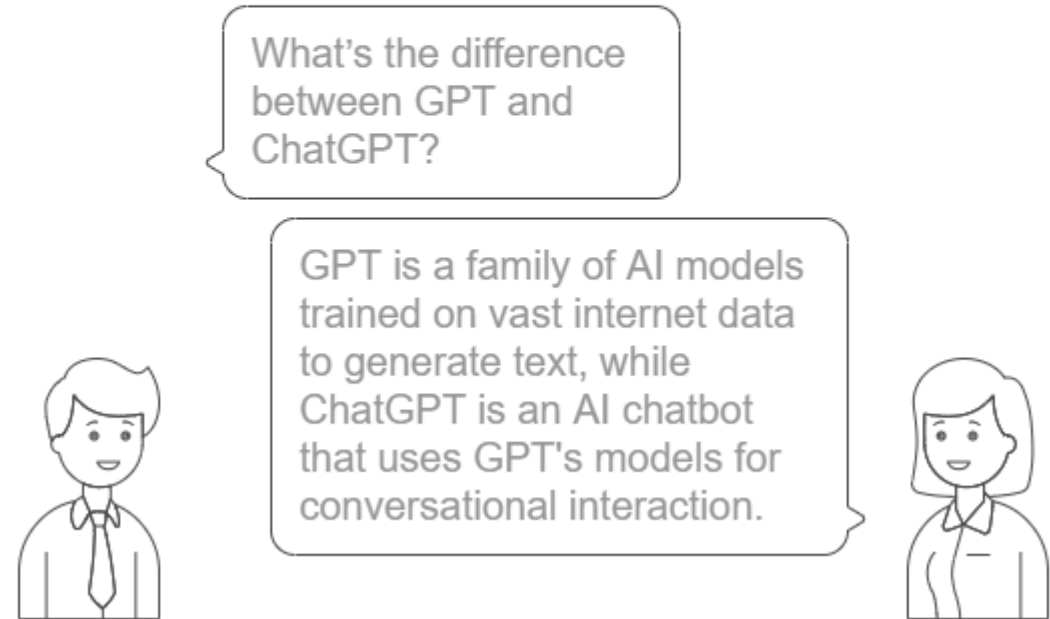
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Chatbot Examples

What's the difference between GPT and ChatGPT?

- GPT is the family of AI models
- ChatGPT is a **Chatbot App** powered by the GPT AI models.
 - [ChatGPT vs. GPT: What's the difference? By Elena Alston \(May 22, 2024\)](#)

Difference Between GPT and ChatGPT



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Prompt: List and detail 10 Strategies Using AI chatbots in higher education

Answer from Perplexity (Pro) using the Sources/Inputs

1. Personalized Learning Assistant
2. 24/7 Academic Support
3. Interactive Course Material Review
4. Automated Assignment Feedback
5. Language Support for International Students
6. Virtual Research Assistant
7. Exam Preparation Support
8. Collaborative Learning Facilitation
9. Adaptive Learning Paths
10. Real-time Course Feedback Collection

1. [List and Details from Perplexity](#)

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Perplexity Pro Prompt & Conversation Window

The screenshot displays the Perplexity Pro interface. On the left is a sidebar with navigation options: Home, Discover, Spaces, and Library. The main content area shows a conversation window for user 'christophe27785'. The prompt is 'List and detail 10 teaching strategies using AI chatbots in higher education'. Below the prompt, the 'Pro Search' results are shown, listing 26 sources. Three sources are highlighted: 'AI Chatbot for Higher Education, Transformin...' by intellectyx, 'The Impact of Generative AI Educational Chatbots...' by naspa, and 'AI Chatbots in Education - Ithaka S+R' by sr.ithaka. The answer section, titled 'Answer', provides a list of 10 innovative teaching strategies. The first three are: 1. Personalized Learning Assistance, 2. 24/7 Academic Support, and 3. Interactive Course Material Review. At the bottom, there is a 'Pro' button and an 'Ask follow-up' button. Yellow arrows point from the labels 'Prompt', 'Resources', 'Answers', and 'Ask Follow-Up Question' to their respective elements in the interface.

Prompt → List and detail 10 teaching strategies using AI chatbots in higher education

Resources →

- AI Chatbot for Higher Education, Transformin...
intellectyx
- The Impact of Generative AI Educational Chatbots...
naspa
- AI Chatbots in Education - Ithaka S+R
sr.ithaka
- +23 sources

Answers →

Answer

Here are 10 innovative teaching strategies using AI chatbots in higher education:

- 1. Personalized Learning Assistance**
AI chatbots can provide customized learning experiences by analyzing individual student data and offering tailored recommendations ¹ ². This strategy allows students to receive personalized guidance on their academic journey, addressing specific knowledge gaps and learning preferences.
- 2. 24/7 Academic Support**
Implementing chatbots that are available round-the-clock ensures students have access to immediate assistance whenever they need it ². This constant availability helps students overcome challenges outside of regular office hours, enhancing their learning experience.
- 3. Interactive Course Material Review**
Chatbots can be programmed to engage students in interactive discussions about course materials, helping reinforce key concepts ar. ↓ Identify areas that require further

Ask Follow-Up Question →

Pro Ask follow-up

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Prompt: Can you review these sources and provide a summary of the teaching strategies teachers can use to teach students using chatbots?

Answer from Claude using the Sources/Inputs

1. Key Roles for Chatbots in Education

1. Pedagogical Roles – teaching assistants, personalized tutors, assessment partners, and co-researchers
2. Support Technology – Virtual assistants providing automated support to faculty and students
3. Social Learning Facilitators – AI-powered conversational agents that simulate social interaction.

2. Effective Teaching Strategies

1. Personalized Learning Facilitation – individual student pace, real-time responses
2. Promoting Dialogic Learning – structured assignments, scenarios, conversational agents
3. Enhancing Reasoning and Knowledge Retention – prompts that require students to explain their thinking
4. Implement Ethical Frameworks – teach students responsible, ethical usage of AI and chatbot
5. Blended Support – assistant to human teaching

3. [Complete Generated Response from Claude](#)

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Claude Prompt & Conversation Window

The screenshot displays the Claude AI interface with the following components:

- Sources:** Two PDF documents are shown: "View of Benefits, Challenges, and Metho.." and "Are We Facing an Algorithmic Renaissance or Apocalypse...".
- Prompt:** A user prompt asks: "Can you review these sources and provide a summary of the teaching strategies teachers can use to teach students using chatbots?".
- Answers:** The AI response includes a summary and a list of teaching strategies:
 - Teaching Strategies for Using Chatbots in Education**
 - Key Roles for Chatbots in Education**
 - From the research, chatbots can be employed in several strategic ways:
 - 1. Pedagogical Roles:** Teachers can use chatbots as teaching assistants, personalized tutors, assessment partners, and co-researchers (Wollny et al., 2021; Ansari et al., 2023; Tili et al., 2023).
 - 2. Support Technology:** Chatbots serve as virtual assistants, providing automated, personalized support to both teachers and students, freeing up human resources for more complex tasks.
 - 3. Social Learning Facilitators:** AI-powered conversational agents can simulate social interactions, creating additional avenues for learning through dialogue.
- Ask follow-up questions:** A text input field at the bottom contains "Reply to Claude..." and "Claude 3.5 Sonnet Choose style".

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Exploring the pedagogical uses of AI chatbots – Stanford University Teaching Commons

Example Educational Use Cases for Chatbots

1. AI as Mentor
2. AI as Tutor
3. AI as Coach
4. AI as Teammate
5. AI as Student
6. AI as Simulator
7. AI as Tool

1. [Exploring the pedagogical uses of AI chatbots by Stanford University Teaching Commons](#)

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Creating a Customize Chatbot

Let's get started!

Creating a Customized Chatbot with ChatGPT – Before We Begin

Important Information

1. JSU is a Microsoft University – we have access to Copilot, but not Copilot Studio. Copilot Studio allows the creation of “agents” (or chatbots). - *I have asked IT if JSU is planning on purchasing Copilot Studio but have not yet received a response.*
2. To use ChatGPT **customized chatbots**, users **must** create an account with ChatGPT.
 1. **Be cautious about “requiring” students to use a customized chatbot (GPT). Students may not want to create a ChatGPT account to use it.**
3. Customized ChatGPT chatbots are called “GPTs.”
4. To create customized GPTs, you must upgrade to the Plus Plan - \$20/month.
5. Chatbots should be created to aid you (faculty), not replace you.

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Creating a Customized Chatbot with ChatGPT

Steps

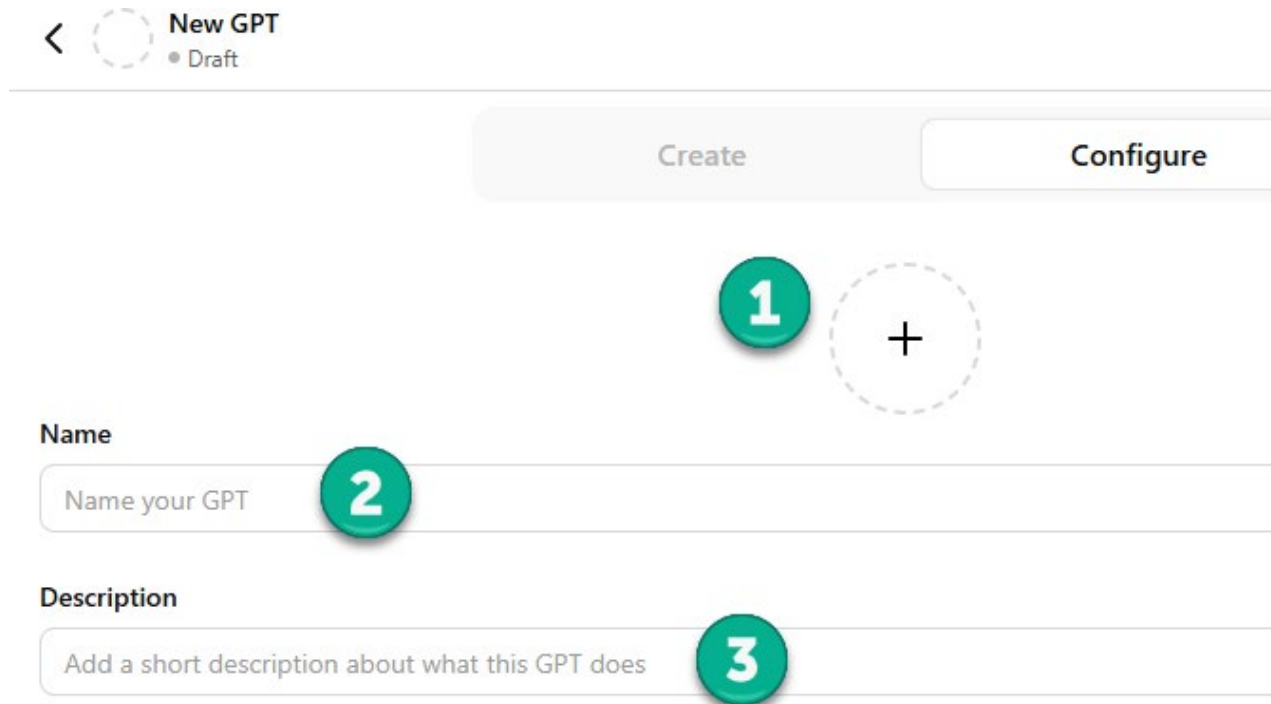
1. Go to <https://openai.com/chatgpt/pricing/>.
2. Select "Get Plus."
3. Insert payment information and set up your account. You can set up a free account first. **(Do not pay for Plus unless you plan on creating your own customized GPTs.)**
4. Click on your user icon [1], then My GPTs [2].
5. Click on "Create a GPT" [3].



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Creating a Customized Chatbot with ChatGPT

Steps



The screenshot shows the 'New GPT' interface in ChatGPT. At the top left, there is a back arrow, a dashed circle icon, and the text 'New GPT' with a 'Draft' status. Below this are two buttons: 'Create' and 'Configure'. In the center, there is a green circle with the number '1' next to a dashed circle containing a plus sign. Below that is a text input field labeled 'Name' with the placeholder text 'Name your GPT' and a green circle with the number '2' next to it. At the bottom is another text input field labeled 'Description' with the placeholder text 'Add a short description about what this GPT does' and a green circle with the number '3' next to it.

1. Add chatbot image or use DALL-E to generate one. [1]
2. Name your GPT. [2]
3. Give your GPT a description. [3]

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Creating a Customized Chatbot with ChatGPT

Steps

Instructions **4**

What does this GPT do? How does it behave? What should it avoid doing?

1. Give instructions to your chatbot. This is where you tell it exactly how to behave. [4]
2. For Example: **“You are a professor of history in an online History 101 course. You are answering questions related to the course syllabi. You are focused on answering only questions about the course syllabi, and nothing else. Respond to questions in a professional, yet warm tone.”**

Creating a Customized Chatbot with ChatGPT

Steps

Knowledge

If you upload files under Knowledge, conversations will be enabled

Upload files

5


1. Upload your files [5].
2. The files are the knowledge base source documents. These documents serve as the foundational knowledge for your chatbot (GPT).
3. 20 file limit
4. Accepts PDFs and Word Documents.
5. **Example: If you want to create a customized chatbot that helps students learn the five-paragraph essay writing process, upload documents that provide the type of information that would assist students in the essay writing process.**

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Creating a Customized Chatbot with ChatGPT

Steps

Capabilities

- Web Search
- Canvas
- DALL-E Image Generation
- Code Interpreter & Data Analysis 



1. Select the GPT's capabilities [6].
2. Web Search – can your GPT search the web to enhance the responses?
3. [Canvas](#) - can your GPT open a separate window to assist on writing and coding projects?
4. DALL-E Image Generation – can your GPT generate AI images/pictures?
5. Code Interpreter & Data Analysis – can your GPT run code to analyze data, work with files you have uploaded, do math, etc.?

Creating a Customized Chatbot with ChatGPT

Steps

Conversation starters

7

1. Add conversation starters [7].
2. You can add many conversation starters (discussion prompts), but only four (4) will appear on the GPT screen.
3. Select four (4) common prompts that you believe students will ask the most often.

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Creating a Customized Chatbot with ChatGPT

Steps



1. Click on the Create button [8].
2. You will also see options to share your GPT.



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Creating a Customized Chatbot with ChatGPT - Example


Example – Literature Review Assistant

- Design Configuration

- GPT name [1] – this will appear after creation
- GPT Image by DALL-E [2]
- GPT Name box [3]
- GPT Description [4]
- GPT Instructions [5]

<  Literature Review Assistant **1**
• Live •  Anyone with a link

Create Configure

 **2**

Name
Literature Review Assistant **3**

Description
Help students learn how to write a literature review **4**

Instructions
You are a college professor teaching higher education students how to write literature reviews and annotated bibliographies. Students in higher education who are new to writing literature reviews and annotated bibliographies will ask you for help and you will provide advice, guidance, and resources for students who ask you for help. **5**

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Creating a Customized Chatbot with ChatGPT - Example

Example – Literature Review Assistant

- Design Configuration
 - Conversation Starters [6]

Conversation starters

6

I'm new to writing a literature review. Where do I begin?

I'm new to writing an annotated bibliography. Where do I begin?

How do I find quality articles?

What are the parts of a literature review?

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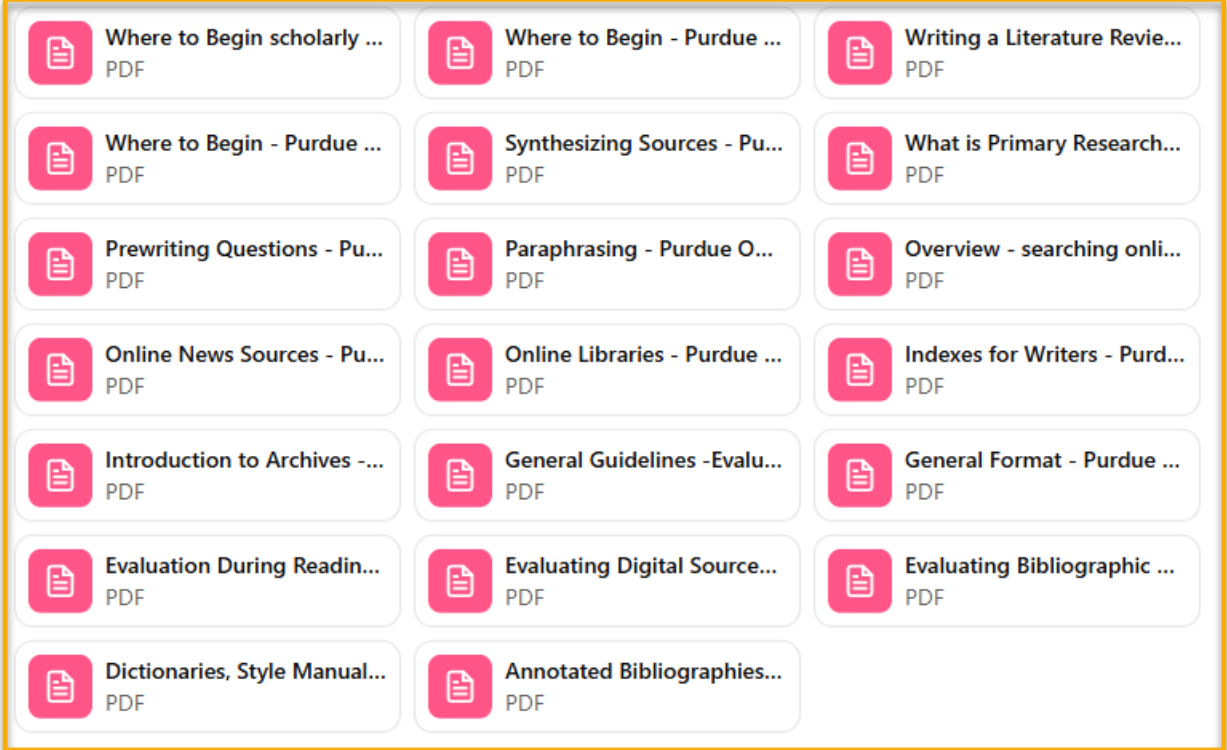
Creating a Customized Chatbot with ChatGPT - Example





















Example – Literature Review Assistant

- Design Configuration
 - Knowledge base [7]
 - There are 20 uploaded sources – all PDFS
 - All sources are from the Owl at Purdue Website; html pages related to literature reviews and annotated bibliographies were downloaded (printed) as PDF files and uploaded to this GPT.

Knowledge **7**

If you upload files under Knowledge, conversations with your GPT may include file contents. Files can be downloaded when Code enabled




 Where to Begin scholarly ... PDF	 Where to Begin - Purdue ... PDF	 Writing a Literature Revie... PDF
 Where to Begin - Purdue ... PDF	 Synthesizing Sources - Pu... PDF	 What is Primary Research... PDF
 Prewriting Questions - Pu... PDF	 Paraphrasing - Purdue O... PDF	 Overview - searching onli... PDF
 Online News Sources - Pu... PDF	 Online Libraries - Purdue ... PDF	 Indexes for Writers - Purd... PDF
 Introduction to Archives - ... PDF	 General Guidelines - Evalu... PDF	 General Format - Purdue ... PDF
 Evaluation During Readin... PDF	 Evaluating Digital Source... PDF	 Evaluating Bibliographic ... PDF
 Dictionaries, Style Manual... PDF	 Annotated Bibliographies... PDF	

Creating a Customized Chatbot with ChatGPT - Example

Example – Literature Review Assistant

- Design Configuration
 - Capabilities [8]
 - All four were selected for this GPT.

Capabilities

- Web Search
- Canvas
- DALL·E Image Generation
- Code Interpreter & Data Analysis 

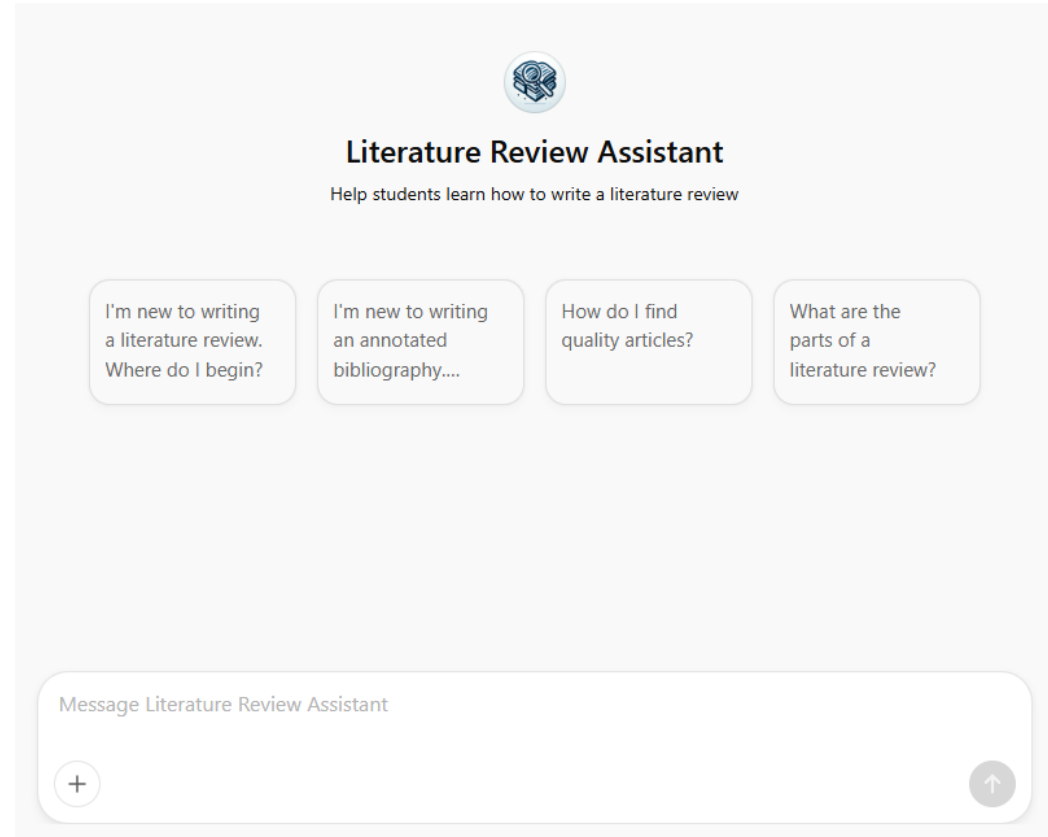


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Creating a Customized Chatbot with ChatGPT - Example

Example – Literature Review Assistant

- GPT Preview – what users will see if they use the Literature Review Assistant GPT



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Creating a Customized Chatbot with ChatGPT - Example

Example – Literature Review Assistant

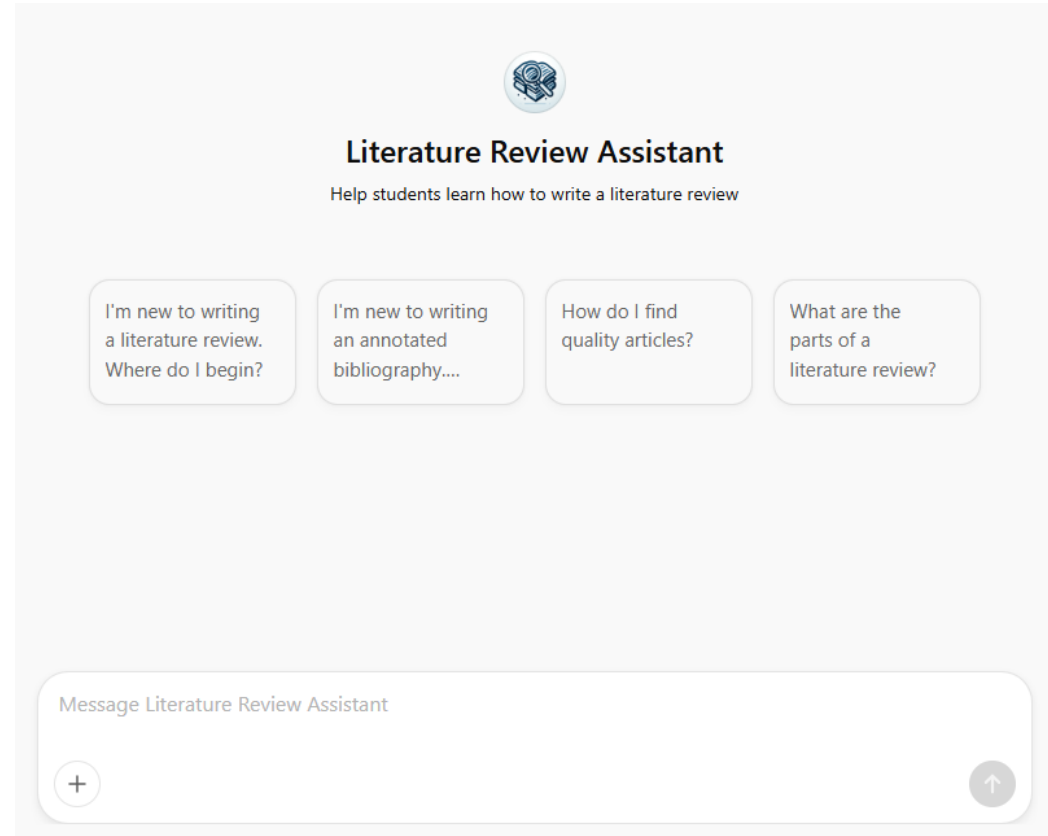
- Testing – after the GPT is created, test it by asking it questions.
- This is how you improve your GPT.
- Asking questions reveals potential areas of weakness or incorrect information. You can adjust the responses by changing your source documents (knowledge base) and then testing it again.
- **TEST, TEST, TEST, and TEST AGAIN!!!**

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Creating a Customized Chatbot with ChatGPT - Example

Example – Literature Review Assistant

- Let's look at the [Literature Review Assistant GPT](#)
- [Source Documents I used for the GPT – You can have them for free!](#)



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Creating a Customized Chatbot with ChatGPT - Example

Example – Literature Review Assistant

- Let's Practice by Creating One
- We'll create another Literature Review Assistant

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Creating a Customized Chatbot with ChatGPT - Example

Another Example – COI+ Pedagogy Course Syllabus Assistant

- [COI+ Pedagogy Course Syllabus Assistant](#)

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AI Tools Used in this Workshop/Presentation

- [ChatGPT](#)
- [Microsoft Copilot](#)
- [Claude](#)
- [Perplexity](#)
- [NotebookLM](#)
- [Napkin](#)

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Sources/Research/Input

- Bozkurt, A., & Sharma, R. C. (2024). Are we facing an algorithmic renaissance or apocalypse? Generative AI, ChatBots, and emerging human-machine interaction in the educational landscape. *Asian Journal of Distance Education*, 19(1), i-xii. <https://doi.org/10.5281/zenodo.10791959>
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Thank you for attending today's session!

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Hours: Monday-Friday, 8:00 am to 12:00 pm, 1:00 pm to 4:30 pm

