

Large Language Models for (autonomous) University Students Learning English?



Josef Schmied
English Language & Linguistics
Chemnitz University of Technology
https://www.tu-chemnitz.de/phil/english/sections/ling/presentations_js.php
josef.schmied@phil.tu-chemnitz.de
<http://tinyurl.com/Josef-Schmied>

1. Introduction: Ask Google's Gemini, ex-Bard

2. Building Vocabulary:

- **Fill-in-the-blanks:** The LLM can provide you with **close exercises** where you fill in missing words in a sentence. This reinforces memorization and context clues.
- **Synonym and Antonym Practice:** Ask the LLM for synonyms or antonyms of new words you encounter. This helps expand your vocabulary and understand nuances.
- **Matching Definitions:** The LLM can give you definitions and ask you to match them with the correct words. This strengthens your understanding of word meaning.

3. Grammar Practice:

- **Sentence Completion:** The LLM can provide you with sentence starters or prompts, and you can complete them with grammatically correct structures. This helps practice forming different sentence types.
- **Error Correction:** Write short passages and ask the LLM to identify and correct **grammatical errors**. This improves your ability to **self-edit**.
- **Grammar Explanation:** Ask the LLM to **explain specific grammar rules** you find challenging. This provides clear explanations and **aids understanding**.

4. Reading Comprehension:

- **Read Aloud:** The LLM can read text passages aloud for you. This helps with pronunciation and listening comprehension.
- **Summarization:** After reading a passage, ask the LLM to summarize the key points. This improves your reading comprehension and summarization skills.
- **Question Answering:** The LLM can create quizzes based on reading materials, testing your understanding of the text.

1. Introduction: Ask ChatGPT, who?! can do anything

ChatGPT

Sure, here are some examples of things you can tell me to do:

1. Generate a poem about nature.
2. Summarize the plot of "To Kill a Mockingbird" by Harper Lee.
3. Provide a list of the top 10 tourist attractions in Paris.
4. Explain the concept of quantum entanglement.
5. Create a simple recipe for chocolate chip cookies.
6. Generate a random 5-digit number.
7. Translate the phrase "Hello, how are you?" into Spanish.
8. Summarize the key points of a TED Talk on artificial intelligence.
9. Describe the process of photosynthesis in plants.
10. Provide a brief biography of Albert Einstein.

Which task would you like to start with?



1. Introduction: Ask Google's Gemini, ex-Bard

Tips to maximize your learning:

- **Focus on Specific Areas:** Identify your weaknesses (vocabulary, grammar) and tailor your practice sessions accordingly.
- **Set Realistic Goals:** Start with achievable tasks and gradually increase the difficulty as you progress.
- **Speak Out Loud:** Whenever possible, speak your answers out loud to improve speaking fluency.
- **Review and Revise:** Regularly go back and review the concepts you learned to solidify your knowledge.

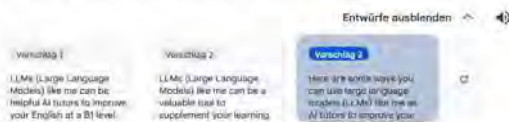
Additional Resources:

- **Language learning apps:** Many apps like Duolingo, Memrise, and Babbel can be used alongside LLMs for a well-rounded learning experience.
- **Online grammar resources:** Websites like <https://www.grammarly.com/> offer explanations and exercises on various grammar topics.

Combining LLM practice with other resources and consistent effort, you can effectively improve your English communication skills towards a B1+ level.

1. Introduction: Ask Google's Gemini, ex-Bard

How can I use LLMs as AI tutors to improve my English at B1 level?



Here are some ways you can use large language models (LLMs) like me as AI tutors to improve your English at a B1 level:

1. Conversation Practice:

- **Basic Conversations:** Engage in everyday conversations with the LLM on familiar topics like greetings, weather, hobbies, or daily routines. This helps you practice forming grammatically correct sentences and using basic vocabulary.
- **Question and Answer:** Ask the LLM questions about yourself, your surroundings, or grammar rules. This will improve your question-forming skills and comprehension.
- **Role-Playing:** Simulate scenarios like ordering food, asking for directions, or making complaints. This helps apply your English in practical situations.

1. Introduction: Ask Perplexity

How can I use LLMs as AI Tutors to improve my English at C1 level?



Large Language Models (LLMs) like ChatGPT can be useful AI tutors to improve your English skills at the C1 level in several ways:

Conversation Practice

You can engage in open-ended conversations with LLMs on a wide range of topics to practice your speaking and writing abilities. The LLM can provide feedback on your grammar, vocabulary, and sentence structure in real-time.

Explanations and Clarifications

LLMs can provide detailed explanations and clarifications on complex grammar rules, idiomatic expressions, and nuances of the English language that you may be struggling with at the C1 level.

Personalized Feedback

LLMs can analyze your writing samples or transcripts of your spoken English and provide personalized feedback on areas that need improvement, such as word choice, phrasing, and tone.

Access to Learning Materials

LLMs can suggest and provide access to a wide range of learning materials, such as articles, books, podcasts, and videos, tailored to your proficiency level and interests. However, it's important to note that while LLMs can be valuable **supplementary tools**, they should not be relied upon as the **sole resource** for language learning. **Engaging with real-world authentic materials**, and seeking feedback from human **tutors or language exchange partners**, is still crucial for developing true fluency and mastering the nuances of the language.

Bill Gates says A.I. could transform education: It 'will be like a great high school teacher' who always gives useful feedback

<https://www.cnn.com/2023/08/15/bill-gates-ai-tutors-will-be-like-a-great-high-school-teacher.html>



Bill Gates, co-chairman of the Bill and Melinda Gates Foundation, during the E2023 event in Austin, Texas, US, on Monday, June 12, 2023. (Shutterstock / Bloomberg / Getty Images)

Bill Gates has a vision for how artificial intelligence could transform education — by mimicking your favorite high school English teacher. Specifically, AI chatbots will soon be able to offer helpful feedback on essays, including how to write with more clarity and make well-reasoned arguments, Gates said on his “Unconfuse Me” podcast, in a recent episode featuring Khan Academy CEO Sal Khan.

It would be a huge step for global education, because today’s software programs are “not that great” at teaching reading or writing skills, the billionaire Microsoft co-founder added.

“Very few students get feedback [from software programs] on an essay that this could be clearer, you really slipped this piece and the reasoning,” Gates said. “I do think the AI will be like a great high school teacher who really marks your essay, and you go back and think, ‘OK, I need to step up there.’”

Gates stopped short of saying AI could — or should — ever replace human teachers. Rather, chatbots could assist overworked teachers and help “close the learning gap” for disadvantaged students around the world, he said.

What Are Large Language Models?

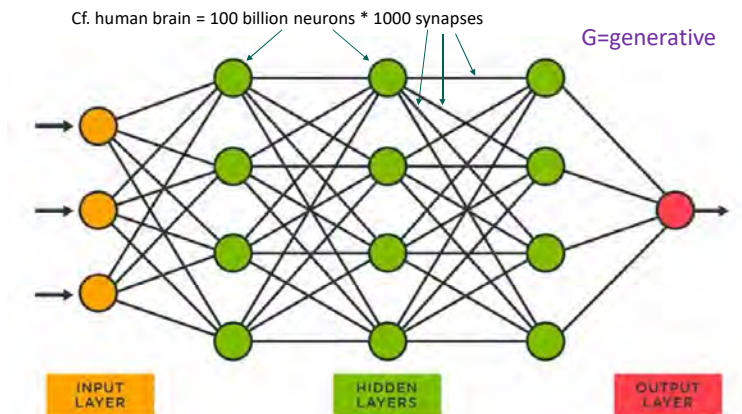
An LLM is a machine learning model that processes and generates human language from training on massive volumes of data. It uses a deep learning algorithm to learn the patterns and nuances of language and provide human-like responses to a wide variety of queries and prompts. LLMs can also learn new skills such as creative writing or sentiment analysis.

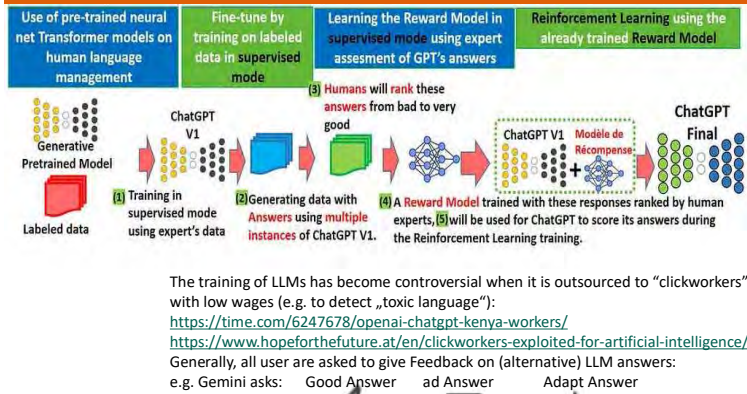
The “large” in its name refers to the size of the datasets on which it’s trained. The goal of an LLM at its core is to infer what comes next in a sequence of texts. ChatGPT is a conversational agent built on top of an LLM that can generate text in a way that’s extremely similar to humans. When it comes to expanding the search experience, Coveo is testing **generative AI** capabilities that surface answers directly within search results.

Conclusion 1:
 Huge Press coverage of developing online business
 CON: serious AI language tutors only offer short trial runs
 PRO: the free general (“generative” “pre-trained”) LLMs (like ChatGPT3.5) are still the easiest and most used systems for (autonomous) learners



	„Artificial Intelligence“			
social media				„Office“
chatbots		Large Language Models		
Teacher			Learner	autonomous Learner
Lesson Planning	Skills Practice	Sample Texts	Exercises Solutions	interactive synchr. conversation
Course-Curriculum-	„Rules“, etc.			





The training of LLMs has become controversial when it is outsourced to "clickworkers" with low wages (e.g. to detect „toxic language“):
<https://time.com/6247678/openai-chatgpt-kenya-workers/>
<https://www.hopeforthefuture.at/en/clickworkers-exploited-for-artificial-intelligence/>
 Generally, all user are asked to give Feedback on (alternative) LLM answers:
 e.g. Gemini asks: Good Answer ad Answer Adapt Answer

P=pre-trained



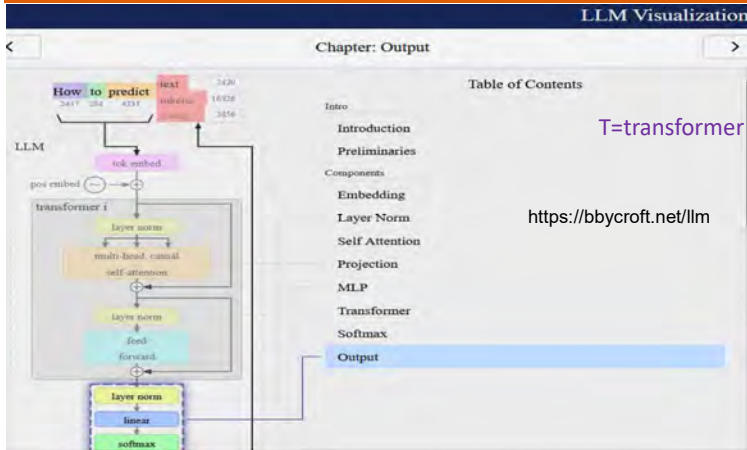
The screenshot shows the COCA website interface. The search results for the word "alcohol" are displayed, including various grammatical categories and related words.

alcohol (NOUN) +2300

TOPICS (more)
 drinking, drug, drink, liquor, substance, cocaine, abuse, smoking, addiction, marijuana, heroin, smoking, consumption, drink, beer, drunk, treatment, excessive, use, harmful

COLLOCATES (more)
 NOUN: drug, use, abuse, consumption, tobacco, problem, blood, level
 VERB: drink, consume, rub, avoid, abuse, smell, smoke, associate
 ADJ: fetal, excessive, illegal, heavy, moderate, illicit, smoking, related
 ADV: eg. ie, prenatally, voluntarily, negatively, excessively, moderately, capita

RELATED WORDS
 alcoholic, alcoholism, alcohol-related, alcohol-free, alcohol-based, blood-alcohol



T=transformer

<https://bbycroft.net/llm>

The screenshot shows the Readwonders website interface. The search results for "irregular English verbs" are displayed, including a list of articles and a "Conclusion 2:" box.

Conclusion 2:
 All LLMs use a complex neural network, whose hidden layers perform differently each time (linguistic principles like mutual information of collocates included)
 PRO: results provide a wide spectrum of natural-sounding (English) options
 CON: since even identical prompts generate different results, LLM usage cannot be "proven" easily

The screenshot shows the English-Corpora.org website. The page displays information about Mutual Information (MI) and provides a table of collocates.

In our corpora, Mutual Information is calculated as follows:
 $MI = \log \left(\frac{AB}{A \cdot B} \cdot \frac{corpus}{span} \right) / \log(2)$
 Suppose we are calculating the MI for the collocate *color near purple* in BNC:
 A = frequency of node word (e.g. *purple*): 3,246
 B = frequency of collocate (e.g. *color*): 13,2
 AB = frequency of collocates near the node word (e.g. *color near purple*): 22
 sizeCorpus = size of corpus (# words; in this case the BNC): 96,263,399
 span = span of words (e.g. 3 to left and 3 to right of node words): 6
 $\log(2)$ is literally the natural log of the number 2: 0.6931

BNCweb

HELP	ID	WORD	FREQ	ALL	MI	MI
1	03	LOOSESTRIFE	7	6	87.50	13.46
2	03	BERBERIS	7	19	36.84	12.21
3	03	FYBARK	5	14	26.71	12.11
4	03	SANDPIPPERS	3	34	26.47	11.75
5	03	COLOR	22	112	19.64	11.30
6	03	CRIMSON	13	372	3.49	8.81
7	03	MAUIVE	7	213	3.25	8.74
8	03	BRUISE	4	184	3.26	8.71
9	03	HAZE	8	319	2.36	8.25
10	03	ROSES	8	281	1.72	7.79
11	03	PINK	43	3103	1.99	7.44
12	03	HEATHER	13	1005	1.29	7.38
13	03	PATCH	19	1598	1.19	7.26
14	03	FRIDGE	9	957	1.02	7.25
15	03	FOLIAGE	2	766	0.99	7.00

The screenshot shows an AI exercise proposal for evaluating synonyms of "fast". The exercise asks the user to create a gap-filling exercise to test usage of synonyms of "fast".

ChatGPT
 Sure! Here's a gap-filling exercise to test usage of synonyms of "fast":

Fill in the blanks with the most appropriate synonym of "fast" from the provided options:

- The _____ runner broke the marathon record with a time of two hours and twenty minutes.
- We need to find a _____ solution to this problem.
- The cheetah is known for its _____ speed, capable short bursts.
- She has a _____ mind and can come up with creative solutions on the spot.
- The company experienced _____ growth, doubling its revenue in just six months.
- Please provide a _____ summary of the article.

Explanation:
 1. The swift runner broke the marathon record with a time of two hours and twenty minutes.
 2. We need to find an expeditious solution to this problem. Explanation: "Swift" emphasizes the runner's agility and efficient movement.
 3. The cheetah is known for its rapid speed, capable of reaching up to 60 miles per hour in short bursts. Explanation: "Expeditious" emphasizes the need for a prompt and efficient solution.
 4. She has a quick mind and can come up with creative solutions on the spot. Explanation: "Quick" emphasizes the speed and agility of her thinking process.
 5. The company experienced rapid growth, doubling its revenue in just six months. Explanation: "Rapid" emphasizes the speed and continuous increase in the company's revenue.
 6. Please provide a concise summary of the article for the meeting tomorrow. Explanation: "Concise" means brief and to the point, but it's not a direct synonym of "fast" as it emphasizes brevity rather than speed.

ChatGPT

Certainly! Here are several synonyms for "fast" along with explanations of their differences:

- Quick:** This synonym emphasizes speed and efficiency in completing a task or action. It often implies a rapid response or movement without delay. For example, "She has a quick wit" suggests that she is mentally sharp and responds rapidly in conversations.
- Rapid:** Similar to "quick," "rapid" also denotes a high speed or rate of movement. However, "rapid" tends to suggest a swiftness that is sustained over a period of time. For instance, "The company experienced rapid growth" indicates that the growth occurred swiftly and continuously.
- Swift:** "Swift" conveys a sense of speed and agility, often implying graceful or effortless movement. It is commonly used to describe actions or motions that are smooth and efficient. For example, "The swift runner crossed the finish line first" suggests that the runner moved quickly and smoothly.
- Speedy:** This synonym emphasizes the characteristic of being fast or quick, often in comparison to a standard or expectation. It suggests that something is accomplished or achieved in a short amount of time. For instance, "He provided a speedy resolution to the problem" implies that he resolved the problem quickly, perhaps faster than anticipated.
- Fleet:** "Fleet" refers to a group of vehicles or vessels moving together, but it can also be used to describe something that moves swiftly or with agility. It often implies a sense of nimbleness or quickness in motion. For example, "The fleet-footed deer darted through the forest" suggests that the deer moved swiftly and gracefully.
- Expeditious:** This synonym emphasizes the promptness and efficiency with which something is done. It conveys a sense of urgency and effectiveness in completing a task or achieving a goal. For instance, "The committee made an expeditious decision" implies that the decision was made promptly and efficiently.

Each of these synonyms for "fast" carries its own nuances and connotations, so choosing the most appropriate word depends on the specific context and desired emphasis.

????

?

Absolutely! Let's simplify it for a B1-level learner:

- Actions Happening Now:** When we want to talk about actions that are happening right now, we use the continuous form. Like, "I am studying English."
 - Temporary Actions:** If something is happening temporarily, like a situation or an action that won't last, we also use the continuous form. For example, "She is staying with her grandparents this week."
 - Future Plans:** We can use the continuous form to talk about future plans or arrangements that have already been decided. Like, "We are going to the beach tomorrow."
 - Changes or Developments:** When we want to talk about changes or developments that are happening gradually over time, we use the continuous form. For example, "The weather is getting warmer."
 - Actions Around a Specific Time:** If we want to talk about actions that are happening at a specific time, we use the continuous form. For instance, "She is always interrupting me at 7 o'clock."
 - Polite Offers or Requests:** Some actions or requests are made in the continuous form to sound more polite. For example, "I am just wondering if you could help me with this."
 - Actions Annoying or Surprising:** When we want to talk about actions or situations that are annoying or surprising because they are happening now, we use the continuous form. Like, "He is always interrupting me!"
- So, when we use the continuous form, we're talking about actions or situations that are happening right now, temporary plans, changes, or actions around a specific time. It's a way to show that something is ongoing or in progress.

Conclusion 3:
Prompts should be most specific (include time, place, or requests. For example, "I am just wondering if you could help me with this.")

THESAURUS

<https://www.ldoceonline.com/dictionary/fast>

- fast** moving or able to move quickly
The cheetah is the fastest animal in the world.
a fast car
- quick** moving fast or doing something in a short time
He was much quicker than I was over the first 100 metres.
'Do I have time for a quick shower?'
- high-speed** [only before noun] designed to travel or operate very quickly
a high-speed train
high-speed Internet access
- rapid** especially written happening in a short period of time – used about changes, increases, improvements etc.
a rapid increase in the population
the rapid expansion of the firm's business in the Middle East
a rapid decline in profits
- swift** written moving quickly or happening after only a short time
The horses ran along the track at a swift trot.
He received a swift response to his letter.
- brisk** quick and energetic
a brisk walk in the countryside
His manner was very brisk.
- speedy** [only before noun] happening after only a short time
Everyone wishes you a speedy recovery.
a speedy resolution to the problem
- hurried** done more quickly than usual, because you do not have much time
She ate a hurried breakfast in the cafe before catching her train.
We made a hurried departure.
- hasty** deciding or doing something very quickly, especially when this has bad results.
It was a hasty decision, which he later regretted.
Let's not be too hasty.

Title: A Day in the Park

As the sun rises over the quiet town, Sarah and her dog Max embark on their daily morning routine. They are strolling through the park, enjoying the crisp morning air and the sounds of nature. Max is happily sniffing at every bush and tree, while Sarah is chatting with fellow dog owners along the way. They are laughing and sharing tips on dog training. The park is alive with activity.

Suddenly, Sarah notices a group of children playing imaginary defenders with ease. She is smiling and watching them play.

As the morning progresses, the park becomes more lively. Sarah and her friends are tossing frisbees. Sarah has a sense of community if fosters.

At noon, Sarah and Max take a break. Sarah is preparing a sandwich and watching the children play. Max is lying beside her, panting happily, his tail wagging in rhythm with the gentle breeze.

As the afternoon sun reaches its peak, Sarah and Max reluctantly begin to make their way home. They are walking slowly, savoring the last moments of their time in the park. Sarah is reminiscing about the day's adventures, already looking forward to tomorrow's stroll. Max is trotting beside her, his leash dangling loosely in her hand. Together, they are enjoying the beauty of the present moment, grateful for each other's company and the simple pleasures of life.

Conclusion 4:
The output is usually quick and impressive, different systems offer more options than even experienced learners can think of
PRO: LLMs offer fluent native-like English texts, including standard explanations, model texts and exercises
CON: some "traditional" online resources offer better language descriptions for advanced learners

Write a 300 word story that illustrates non-progressive usages of English continuous forms

In English grammar, the continuous form, also known as the progressive form, is used to indicate actions that are ongoing or in progress at a particular time. The continuous form is constructed using a form of the verb "to be" (am, is, are) followed by the present participle (the "-ing" form) of the main verb. Here's an overview of the functions of the English continuous form:

- Continuous Action in the Present:** The continuous form is used to describe actions that are happening at the moment of speaking or around the current time. Example: "She is always interrupting me when I'm talking." (=progressive)
 - Continuous Action in the Past:** The continuous form can also describe actions that were ongoing in the past at a specific moment or during a specific period. Example: "I was studying all night yesterday." (=progressive)
 - Future Plans and Arrangements:** The continuous form is sometimes used to talk about future plans or arrangements, especially when those plans are fixed or have been made in advance. Example: "We are meeting at 7:00 tomorrow."
 - Temporary Situations:** The continuous form is used to describe situations or states that are expected to change in the future. Example: "He is staying with us until he finds a new apartment." (=collocate or sentiment?)
 - Repetitive Actions with "Always":** When combined with "always," the continuous form can describe actions that are habitual or repeated, often with a sense of annoyance or frustration. Example: "She is always interrupting me when I'm talking."
 - Politeness in Offers and Requests:** The continuous form can be used to make offers or requests sound more polite and less direct. Example: "I was wondering if you could help me with this."
 - Describing Changes or Developments:** The continuous form can be used to describe changes or developments that are happening gradually over time. Example: "The climate is getting warmer every year."
 - Background Information in Narratives:** In storytelling or narrative contexts, the continuous form can provide background information or set the scene for other events. Example: "It was raining heavily when I left the house."
 - Emphasizing Duration:** The continuous form can emphasize the duration of an action or situation, especially when paired with time expressions. Example: "He has been working on this project for months."
- These functions of the continuous form help convey different nuances of meaning and context in English sentences, allowing speakers to express various shades of meaning.
- ALTERNATIVE: better than 5?
Expressions of Annoyance or Criticism: It's used to express annoyance or criticism about repeated or ongoing actions.
Example: "You're always interrupting me when I'm speaking!"

"The fast developments of AI opens up new possibilities for learning and to use foreign languages."

Correction: "The rapid development of AI opens up new possibilities for learning and using foreign languages."
Explanation: "Developments" should be singular to match the singular subject "development."
"Opens" should be changed to "open" to match the plural subject "developments."
"To use" should be changed to "using" to maintain parallel structure with "learning."

"We apply these tools to various types of English texts, such as travelogues, book reviews, summaries, etc., and discuss the results generated in AI."

Correction: We will apply these tools to various types of English texts, such as travelogues, book reviews, summaries, etc., and discuss the results generated by AI."
Explanation: "Apply" should be changed to "will apply" for future tense consistency.
"Book review" should be changed to "book reviews" to match the plural form.
"Generated in AI" should be changed to "generated by AI" for clarity and accuracy.

"This course is suitable to anyone who want to create foreign-language texts, especially on an advanced level, either for personal or professional purposes."

Correction: "This course is suitable for anyone who wants to create foreign-language texts, especially at an advanced level, either for personal or professional purposes."
Explanation: "To" should be changed to "for" to convey the intended meaning.
"Want" should be changed to "wants" to match the singular subject "anyone."

Can you improve the following text to make it more specific academic



Certainly! Here's the improved version of the text with a more specific academic tone:

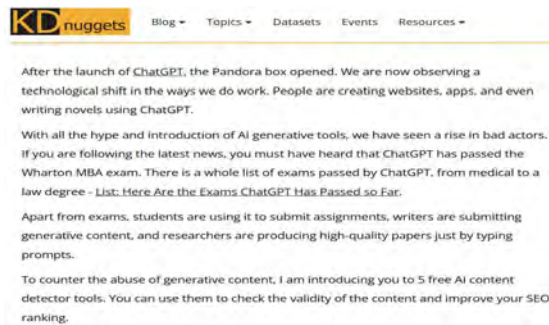
"The rapid advancement of artificial intelligence (AI) technology has heralded a new era in language acquisition and utilization. Emerging tools such as ChatGPT, Bard, Perplexity, and DeepL offer unprecedented opportunities for linguistic exploration. While these resources are presently accessible without cost, their effective integration into personal or professional contexts necessitates proficiency acquired through dedicated learning."

"In this instructional program, we will elucidate the fundamental principles underlying prevalent AI tools, colloquially referred to as 'stochastic parrots'. Through practical application, participants will engage with various genres of English literature, including travelogues, literary critiques, and abstracts, leveraging AI-generated outputs for critical examination. Emphasizing iterative refinement over original composition and comparative analysis in lieu of direct translation, the curriculum is tailored to individuals seeking to refine their multilingual textual composition skills, particularly at an advanced level, to serve both personal and professional objectives."



In the end, the AI user decides – and is responsible!

- Copyright and other issues unresolved!
- <https://noyb.eu/en/chatgpt-provides-false-information-about-people-and-openai-cant-correct-it>
- In academic writing and publishing all aids and resources used must be specified clearly!



<https://www.kdnuggets.com/2023/02/5-free-tools-detecting-chatgpt-gpt3-gpt2.html>

