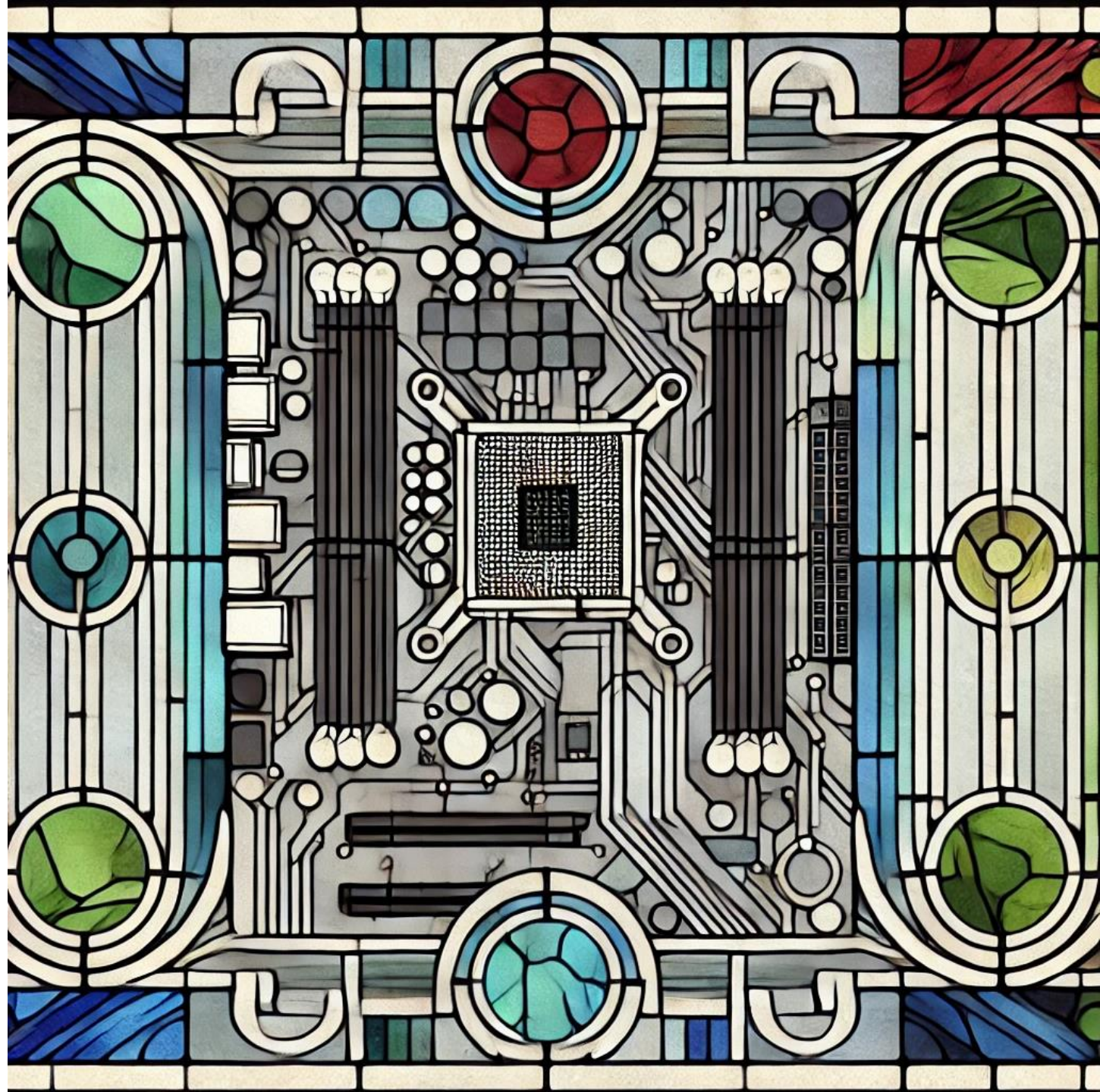

GenAI and Ethics for PhD Researchers

Alasdair B R Stewart

5th November

SGSSS Student Induction



Online Materials

- Scan the QR code to access the online materials for this session.
- These materials are 'living documentation' that I will continue developing.
- All feedback and suggestions welcome – alasdair.stewart@glasgow.ac.uk
- URL: [QR code and URL will be available on slides used on the day]



Note

I have setup Custom GPTs to help illustrate concepts and use cases.

To use them, all you need is a **free** ChatGPT account.

Creating custom GPTs requires a paid account, **but** at heart **they are merely a convenient way to save prompts.**

Each can be replicated through the opening prompt used at the start of a new chat.

Instructions used for each custom GPT is available within the online materials.

There are browser extensions for saving frequently used prompts.

WARNING: The inconsistency of genAI models means these custom GPTs do not always follow their instructions.



Accessible Python

By Alasdair Stewart &
Making Python accessible for beginner programmers.

Education
Category

5
Conversations

Conversation Starters

Explain Python lists with examples.

How do I write a function in Python?

What is a 'for' loop and how do I use it?

Can you help me understand Python data types?

Capabilities

- ✓ Browsing
- ✓ Code Interpreter & Data Analysis

Important

GenAI is a rapidly evolving area, including academic guidelines on ethical and legitimate uses of genAI.

Always check for the latest guidance from your university and funder.

You do not need to pay for AI tools – and your university will never expect you to pay for anything required in your programme / courses.

Competition between companies means latest models and core features are available for free – subscriptions merely buy higher usage limits and some non-essential additional features.





Critical GenAI Literacy - Key Messages

- GenAI is simultaneously over-hyped & more useful than often portrayed.
- A central problem is the assumptions & intentions informing the design & deployment of AI.
- AI fallacies such as 'Terminator scenarios' and 'Tech-solutionism' detract from ethical issues.
- On-going debates about ethical and legitimate uses for genAI.
- Within academia, particular focus on questions of what constitutes 'authorship'.
- Critical & pragmatic considerations required for crafting prompts – and whether to use genAI.

Overview

Prompt crafting:

- Sound Boards
- Learning Aids
- Files, Data, Web Browsing



Critical GenAI Literacy



Ethical Risks From GenAI



GenAI and 'authorship'



Prompt Crafting

Critical GenAI Literacy

Critical genAI literacy important skill to understand genAI development, impacts, and ethical / legitimate use-cases.

Assumptions and intentions behind genAI development and deployment.

Social, political, and economic impacts of GenAI.

Questions of fairness, justice, and equality.

Learning to use genAI critically, ethically, effectively, and **creatively**.

Challenging narratives pushed by the AI hype-machine and online grifters.



A (simplified) overview of LLM training

Vast amounts of data gathered from open web (without permission and including copyright and illegal content).

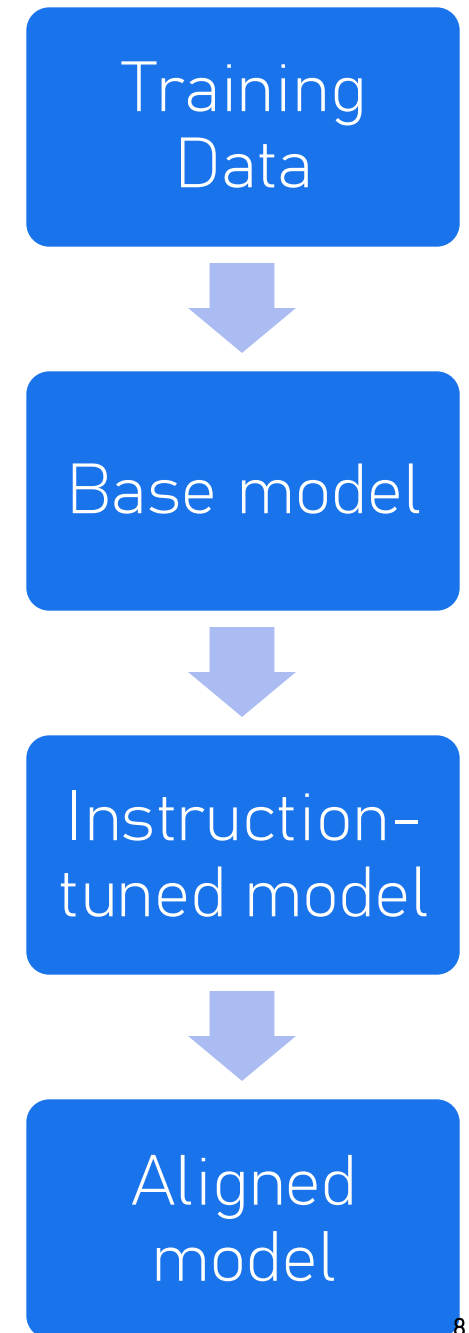
Base model trained on this data, this model can generate text but not necessarily and consistently in back-and-forth conversation style.

Example prompts/responses used to fine-tune base model into an 'instruction' (aka 'chat') model.

Further, 'fine-tuning' of instruction model to reduce likelihood of responses containing offensive and illegal information etc.

Humans involved in creating, collecting, labelling, reviewing, etc – it is not 'data -> magic algorithm -> AI'.

Important design choices and decisions are made that impact the behaviour and responses from the genAI model.





AI Fallacies

God Perspective: Assumptions that AI with the right data and training is less 'bias' than humans and that data+reason=Truth.

Terminator Scenario: AI doomsday scenarios often used to detract from the here and now issues genAI is creating.

Tech-Solutionism: Notion that AI will solve complex problems, including those it creates – e.g. despite increasing energy consumption AI will somehow technomagically provide a solution to climate change.

Mechanical Turk: AI narratives that reify AI and obscure role humans play in creating data, training process, etc. Also, cases where 'AI solutions' turned out to just be humans...

Anthropomorphism: GenAI models are trained to produce plausible human-like text based on probable next word prediction. Whilst impressive, significant limitations become apparent the more you experiment with genAI models.

Ethical and Practical Risks from GenAI

- Whose data is it anyway?
- Exploitation of workers involved in genAI training.
- GenAI replacing human workers and worsening working conditions.
- Supporting or replacing learning?
- Contributing to spread of disinformation?
- False impressions of genAI capabilities
- **Development focus on "autonomous agents" that can take actions on user behalf / replace human labour**
- Reproduces and amplifies bias and stereotypes
- Hallucinations / 'bullshitting'
- **Unreliable and inconsistent**
- Sterile standardised explanations
- Descriptive, lacks "critical thinking" and genuine "synthesis"
- General and broad responses
- Obsequious and servile
- Privacy concerns

Chess Engines

Chess engines were early example of the potential of artificial intelligence – including potential of AI to outperform humans.

Deep Blue famously defeated the world champion, Kasparov, in 1997.

Strength over human players continues to grow:

- Stockfish ELO – 3643
- Magnus Carlsen ELO – 2831

And yet, despite initial debates about the 'end of chess'...



Chess Engines have become an embedded **tool** within chess, arguably increasing its popularity.

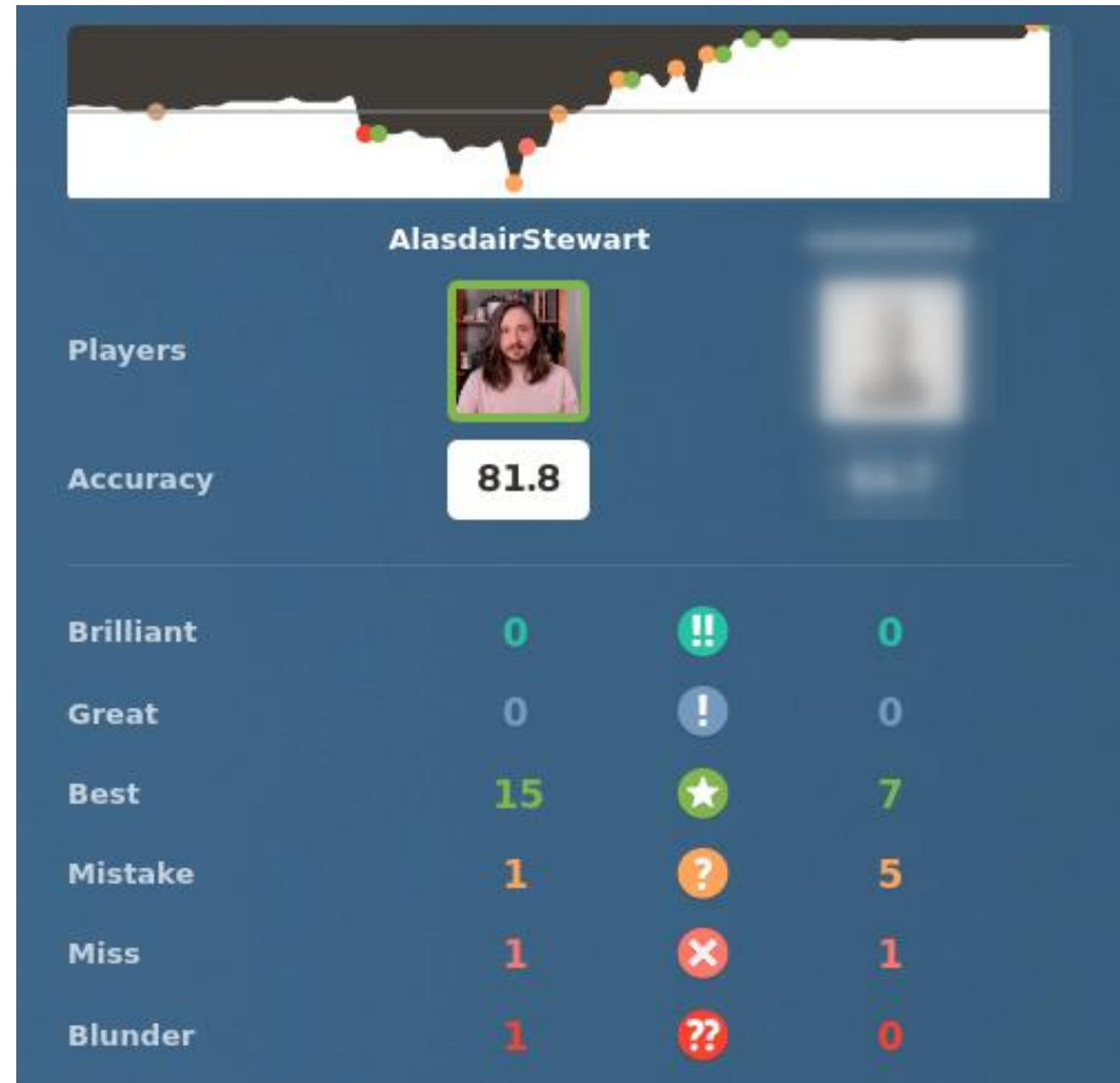
Chess Engines used for:

- Game reviews
- Aiding commentary
- Analysis and prep
- **Catching cheaters**

Rather than replacing trainers, trainers use chess engines as a **tool** in creating materials, aiding players review games, etc.

Considering chess engines as 'tools' shifts focus from 'can AI outperform a human' to 'how can AI aid humans'.

Required creation of additional software that enables these use cases – with genAI we can also use prompting.



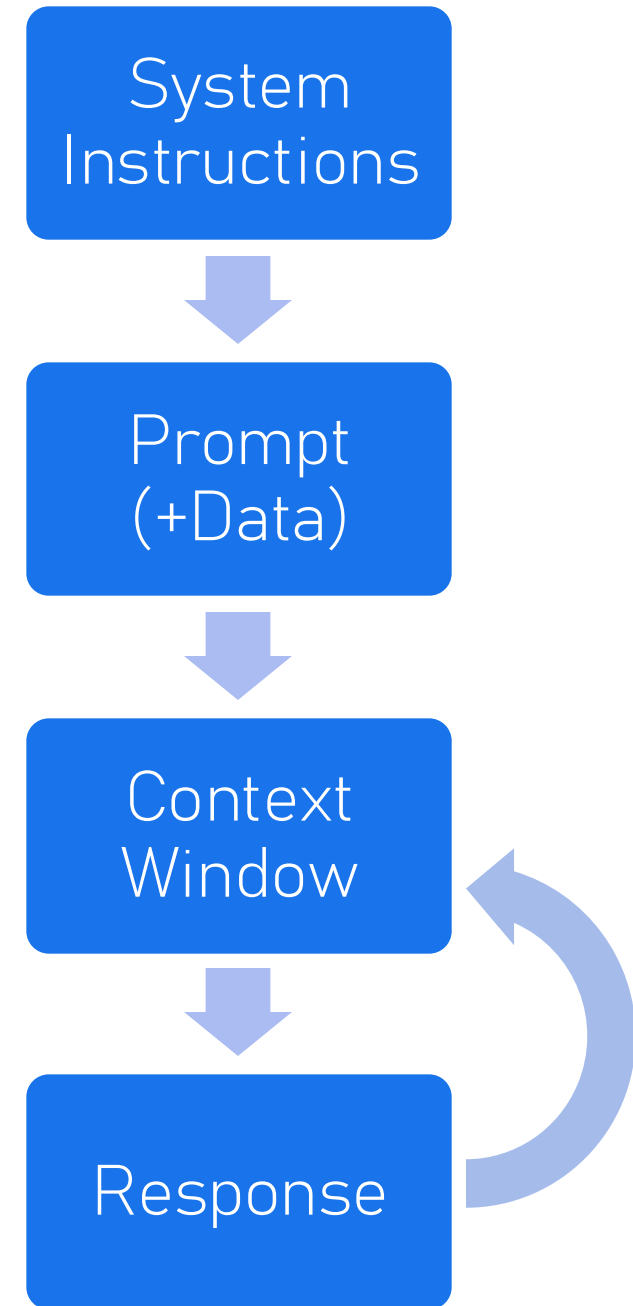
A (simplified) overview of genAI chat loop

System instructions are a prompt that is processed first, this is pre-setup when using consumer facing chat interfaces such as ChatGPT, Gemini, Claude, Copilot, etc.

System instructions are used for mix of behaviour, style, tone, context, information on features and functions (e.g. web-browsing), etc.

User prompts and any data are then processed and added to the 'context window' that the genAI generates its response using, which in turn is added to the 'context window'.

The context window is limited in size, which is one reason why genAI chat bots can start to forget previous parts of the discussion, lose track of focus, be lazy in what info they glean from PDFs, etc.





Prompting 101

"Better input, better output"

"Prompt engineering" is better thought of as "prompt crafting", there are rough guidelines can follow, but a lot relies on experimentation and iteration.

Three key aspects to consider -

- **Role:** Role for the genAI. "You are a ..."
- **Context:** Background information, clarifying details, etc.
- **Output:** Information to include and format for responses.

May need to tweak phrasing and structure of prompts for different AI models. Most AI companies provide a 'prompting guide' for their model.

Prompt crafting often involves finding the words and phrasing to use to prevent the usual default behaviours.

GenAI, Academic Integrity, & "Authorship"

Reminder – Always check any guidelines from your university and/or funder.

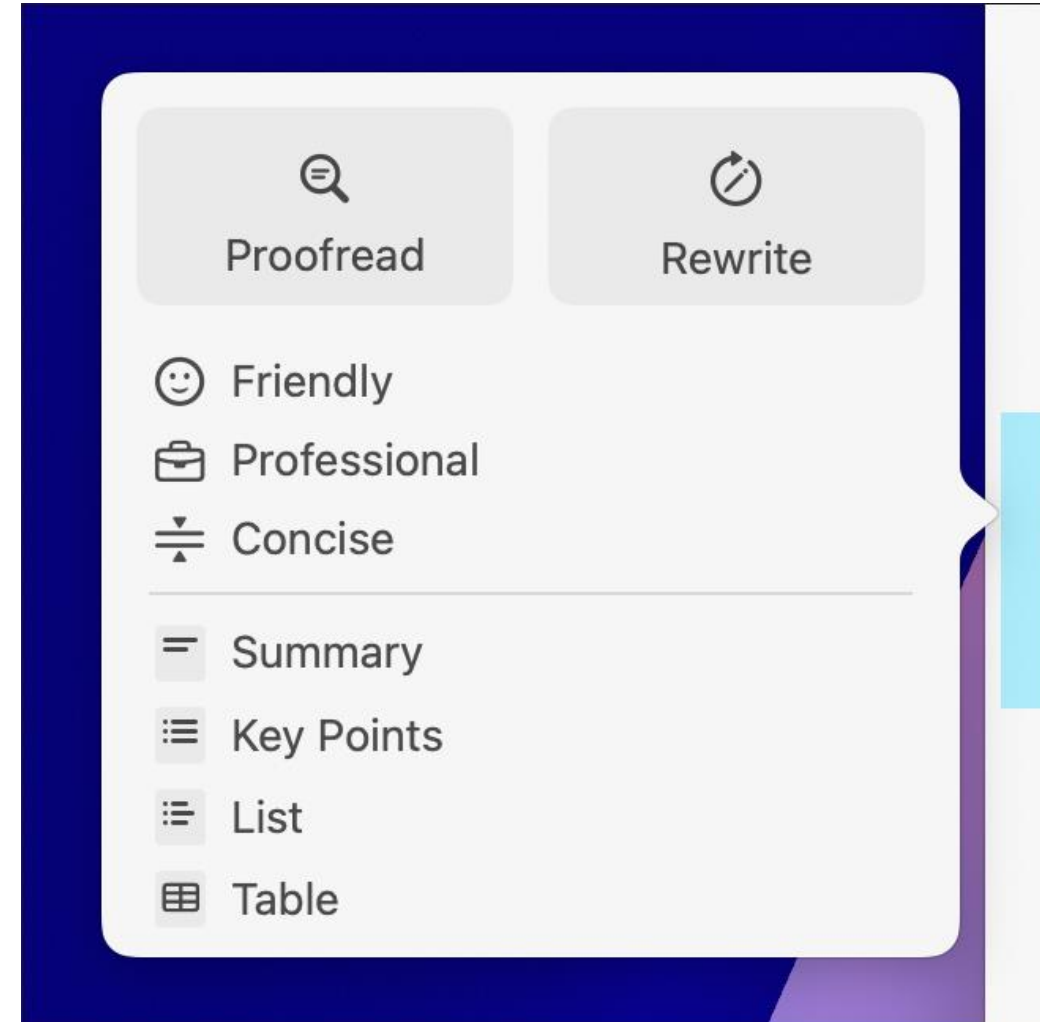
In general, emerging genAI guidelines emphasise:

- Work must remain your 'own effort'.
- Acknowledge any use of genAI.
- **GenAI for 'proof-reading' is discouraged.**
- Be aware of genAI limitations and issues.

Growing issue of genAI becoming unavoidable, with way it is embedded into software not necessarily compliant with academic guidelines.

GenAI models over-eager to rewrite, making opinionated changes and providing short glib feedback.

How then to maintain authorship and editorial control when using genAI?





Example writing feedback prompt

Assess the following paragraph. I require assistance on ensuring it has an appropriate topic sentence and removing any tangential information to ensure conciseness:

A major issue with current genAI models is a design focus on doing tasks for you, which they seem to have been 'over-trained' on. You can see the same issue in the ways Apple, Google, and Microsoft are implementing AI into writing and messaging apps - where you can prompt it to write 'draft' content or 'refine' big chunks of what you have written. There is no feedback or back and forth, writing and editorial choices are delegated to the genAI. This results in everything reading in the same generic genAI style and the extent genAI will gladly and over-eagerly revise text can introduce whole range of issues. Even where all the initial work is your own, if you delete proof-reading and copy-editing solely to genAI it can result in a changes meanings and even citations no longer supporting the points they were cited for as the genAI had misinterpreted the original text and decided to elaborate and add in more info that was not in the cited sources.

— Default ChatGPT



The paragraph could benefit from a clearer topic sentence and more focused content. Here's a revision to tighten the focus and remove tangential details:

A key issue with current genAI models is their tendency to prioritize task completion over collaborative feedback, particularly in writing and editing. Companies like Apple, Google, and Microsoft implement genAI to draft or refine large portions of text, but this often leads to generic, uniform outputs. Moreover, delegating proofreading and editing to genAI can introduce errors, such as altering meanings or misaligning citations with the text, as the model misinterprets original content and adds unsupported information.

This version strengthens the topic sentence, making the core issue clear, and removes some extraneous details for conciseness. How does that feel for you? Anything you'd like to tweak?

Writing Aid (Custom GPT)



To address your request, let's start by evaluating the **topic sentence** and **conciseness** of the paragraph:

1. Topic Sentence:

The current topic sentence—"A major issue with current genAI models is a design focus on doing tasks for you, which they seem to have been 'over-trained' on."—does provide a clear introduction to the paragraph's general focus on problems with generative AI (genAI) design. However, the sentence could be more precise and better frame the specific issues discussed, such as the lack of feedback and the risks of relying on genAI for writing tasks. This refinement would help direct the reader more effectively toward the paragraph's argument.

2. Tangential Information:

There are a few areas in the paragraph where the information strays from the core argument, particularly toward the end where it discusses issues like genAI altering citations. This could be considered tangential, as it diverges from the initial focus on genAI's design flaws and stylistic impact. You can likely trim some of this detail to keep the paragraph concise and centered on the key point.

First, let's address the topic sentence.

1. Issue:

The topic sentence mentions genAI's design flaw of over-performing tasks, but it doesn't clearly set up the broader discussion that follows, especially about the consequences in writing and editing.

2. Why it's a problem:

An effective topic sentence introduces the central argument of the paragraph and hints at how the paragraph will develop it. The current sentence touches on a design issue, but it doesn't emphasize the key concern: genAI's negative impact on writing quality and editorial processes. In academic writing, a well-crafted topic sentence will allow readers to anticipate the rest of the paragraph's content, improving clarity.

Possible Corrections:

Here are four ways to rewrite the topic sentence for greater clarity and alignment with the paragraph's content:

- **Option 1:** "Generative AI models, designed to automate tasks, undermine the collaborative process of writing and editing by over-performing these functions."
 - *Explanation:* This version focuses on the overarching issue of genAI taking over writing tasks and hints at the lack of collaboration, which is explored later.
- **Option 2:** "The over-reliance on generative AI for writing tasks introduces several risks, including the elimination of meaningful feedback during the drafting process."
 - *Explanation:* This sentence introduces the concept of risk and feedback loss, giving a clearer idea of what the paragraph will discuss.
- **Option 3:** "By automating writing tasks without user involvement, generative AI models create significant challenges in maintaining editorial quality and integrity."
 - *Explanation:* This frames the issue as one of automation leading to a loss of quality, which ties into the issues raised about style and revision later on.
- **Option 4:** "Current generative AI systems, trained to perform tasks autonomously, raise concerns about the decline in writing quality and editorial oversight."
 - *Explanation:* This version introduces both the design flaw and the negative consequence of style uniformity and loss of oversight.

Now, could you try to revise the topic sentence based on the feedback? Let me know how you update it, and then we'll move on to addressing tangential information for conciseness.

Academic Exercises in Style (Custom GPT)

GenAI when provided simple prompts is limited in its feedback and examples.

Learning relevant terms – such as "topic sentence" - is vital for receiving more tailored and specific feedback and examples.

IMPORTANT:

1. Never copy/paste genAI responses!
2. GenAI writing is nowhere near as good as it first appears, it writes in a very specific style, including with words and sentence structures it regularly uses.
3. Even when prompting it to write in different styles and tones, aspects of its specific style remains.

Provide as many variations of "Your letter delighted me greatly." as possible.



Certainly! Here's a collection of variations on "Your letter delighted me greatly," exploring a variety of styles, rhetorical devices, and expressive techniques.

1. Synonym Substitution

Your letter pleased me immensely.

2. Formal Tone

The receipt of your letter brought me considerable joy.

3. Hyperbolic Expression

Your letter filled me with boundless delight!

4. Litotes

I was not at all displeased by your letter.

5. Understatement

Your letter was... not unpleasant.

6. Polysyndeton

Your letter came, and I read it, and I smiled, and I felt joy.



Sounding Boards - Prompt Crafting & Discussion

Prompt for feedback rather than rewrites/auto-corrections:

- Seems to work best using phrases such as "Provide feedback, rather than ..."
- With longer prompts may have to repeat what not to do multiple times, and use caps (NEVER...).

Prompt for multiple suggestions and explanations:

- Further aids in preventing "Here's a revised version of your text..." responses.
- Provides *examples* and information to aid you in making your own edits.

Prompt with details on the type and form of feedback and examples to provide:

- A little knowledge goes far in crafting prompts that provide better responses.
- Specifying the structure and form of the response further aids in more (though not guaranteed) consistency in following instructions.

GenAI and Learning

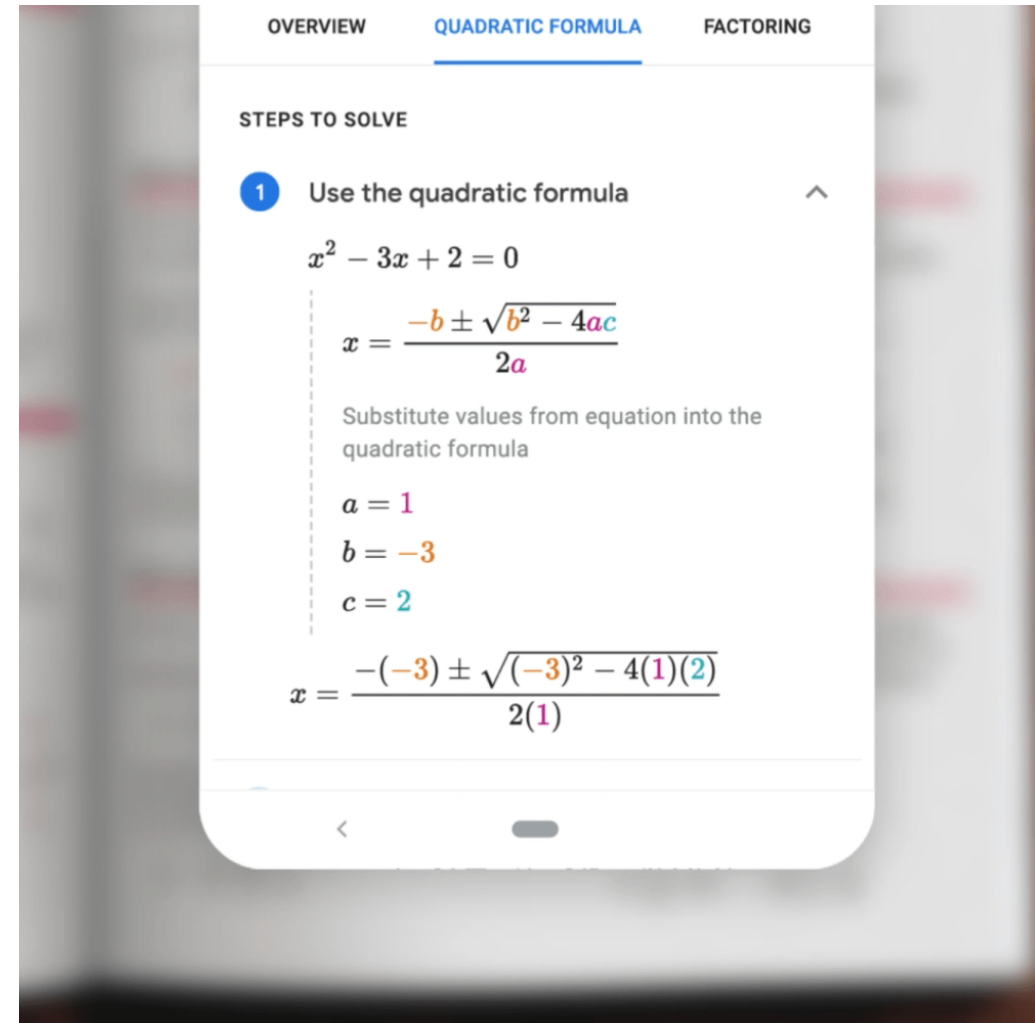
GenAI is over-eager to just directly provide answers / solutions, rather than truly aid users' learning.

Sadly, and concerningly, see this a lot with apps that claim to support learning / 'homeworker helpers'.

When prompting on topics open to debate / interpretation, it often only provides sterile standardised interpretations – **particularly with social theory**.

GenAI is useful for elaborating, summarising, rephrasing, providing additional examples, etc

However, it is incapable of 'critical thinking' and most of its explanations remain relatively shallow – being overly broad and general.



Default ChatGPT

RStudio is giving me an error "object is not found"



That "object is not found" error in R usually means that R is trying to reference an object (like a variable, data frame, or function) that hasn't been defined yet, or has been misspelled. Here are a few things you can check to troubleshoot:

1. **Check for Typo:** Ensure you spelled the object name exactly as it was created. R is case-sensitive, so `dataframe` and `Dataframe` would be considered two different objects.
2. **Check Object Creation:** Make sure the object was created earlier in your script or environment. If you skipped or commented out the line that creates the object, it won't exist.
3. **Check Your Environment:** If you're working in a new R session, the object might not exist in your environment anymore. You can check the environment tab in RStudio or run `ls()` to see all objects currently available.
4. **Make Sure You've Loaded the Required Packages:** If your object is created as part of a package (like a dataset from `dplyr` or `ggplot2`), make sure the relevant library is loaded (`library(dplyr)` or `library(ggplot2)` , for example).
5. **Ensure You're Using the Correct Workspace/Namespace:** If you're working with different scripts or environments, double-check that the object you're referencing is actually available in the current session.

If none of those fix it, let me know what specific object you're trying to use, and I can help you troubleshoot further!

RStudio Cloud Helper (Custom GPT)

RStudio is giving me an error "object is not found"



The error message `"object is not found"` means that R is trying to access an object (like a variable or dataframe) that hasn't been created or loaded into your environment yet. This usually occurs if the object name is misspelled, hasn't been assigned properly, or if the object is in another part of your script but hasn't been executed yet.

Here are steps you can take to resolve this:

1. Check for Typos

- Make sure the object name in your code is spelled exactly the same as where you created it.
- R is case-sensitive, so `dataframe` is different from `DataFrame` or `dataFrame`.

2. Verify the Object Exists

- Look at the **Environment** panel in RStudio (top right of your screen) to see if the object is listed there. If it's not present, it hasn't been created yet, or it may be created under a different name.
- If you don't see it, check the line where you created or imported the object to ensure there are no errors or missing steps.

3. Run the Code Where the Object is Created

- Make sure that you've run all the code that creates or loads the object. Sometimes, R only sees objects after you've executed the relevant code blocks. Try re-running the section of your RMarkdown file that creates the object by selecting it and pressing `Ctrl + Enter` (Windows) or `Cmd + Enter` (Mac).

4. Check Your Data Loading (if relevant)

- If the object comes from a file (e.g., you're loading a CSV with `read_csv`), ensure the file path is correct and that you've successfully loaded the data. If there's an error in the `read_csv` function or any other function you're using to load data, the object won't exist.

Here's an example:

If you wanted to load a CSV file:

```
r
```

Copy code

```
# Example code to load a dataset
my_data <- read_csv("data/my_file.csv")
```

If you later tried using `mydata` (instead of `my_data`), you'd get the "object not found" error because `mydata` hasn't been defined.

Did you know?

If you are working with RMarkdown, always ensure that objects are defined in earlier chunks before being called. You can also use the **knit** button to run all the chunks in sequence and ensure everything is defined correctly.

You might also find it useful to periodically check the **Environment** panel to see what objects are available to use.

Theory Navigator (Custom GPT)

Screenshots of single response to prompt "Explain the work of Foucault".



Michel Foucault (1926–1984) was a French philosopher and historian whose work spans a broad array of topics—power, knowledge, subjectivity, medicine, sexuality, prisons, madness, and more. His thought is notoriously difficult to pin down, as he often shifted his focus and never settled into a single “method” or philosophical school. He is usually associated with post-structuralism and postmodernism, although he didn’t necessarily identify with these labels himself. Rather than offering universal theories or “grand narratives,” Foucault was more interested in the micro-level practices, institutions, and discourses that shape human experience and identity.

Let’s look at some of the main areas of Foucault’s work, emphasizing the historical and intellectual context in which he developed his ideas, the diversity of interpretations of his work, and how it continues to be influential and contested in the social sciences and humanities.

1. Archaeology of Knowledge and Discourse Analysis

In his early work, Foucault was primarily concerned with the ways knowledge is structured and controlled in different historical periods. His book *The Archaeology of Knowledge* (1969) is central to this phase, where he introduced “archaeology” as a method for analyzing the history of ideas. Foucault was skeptical of traditional intellectual history, which tends to trace the development of ideas as though they were created by individual “great thinkers” working in isolation. Instead, he argued that knowledge is shaped by broader systems of thought, which he called “discourses”—these are frameworks that determine what can be thought, said, or known within a particular field at a particular time.

For Foucault, discourses are not simply collections of words; they are practices that define what counts as truth and who has the authority to speak. By examining shifts in discourse over time, he sought to reveal the “rules” that govern what is possible to know or even imagine. For example, in *The Birth of the Clinic* (1963), Foucault traced how modern medical discourse emerged, shaping how we conceptualize health, disease, and the body.



Key Works: *The History of Sexuality, Volume 1* (1976)

In *The History of Sexuality*, Foucault challenged the idea that modern society has “repressed” sexuality. Instead, he argued that the discourse around sexuality has actually proliferated since the 18th century, with authorities (medical, legal, educational) producing ever more knowledge about sexuality and “normal” sexual behavior. This is part of what he called “biopower,” a form of power that organizes society through the management of bodies and desires, producing categories like “homosexual,” “heterosexual,” and others.

Further Exploration: How Foucault’s ideas on biopolitics relate to contemporary debates on health, bioethics, and bodily autonomy.

4. Subjectivity and the Care of the Self

In his final years, Foucault’s focus turned towards the formation of subjectivity and ethics. He became interested in how individuals shape themselves through practices of the self, drawing on ancient Greek and Roman texts to explore modes of self-care and self-discipline that existed prior to Christian or modern notions of morality. This shift marked a new approach, where he asked how people become ethical subjects in different historical contexts, not through rules imposed on them, but through practices they undertake willingly.

Foucault’s late interest in “ethics” was in part a response to critics who argued that his earlier work on power offered no space for agency or resistance. By focusing on the “care of the self,” he opened up a line of thinking about how people might develop autonomy within power relations. Rather than providing a normative guide to what ethics “should” be, Foucault was interested in the ways people have historically constituted themselves as moral subjects.

Further Exploration: How Foucault’s ideas on ethics compare with existentialist or virtue ethics, or how they resonate with contemporary identity politics and self-care movements.

Key Concept: Episteme

One of Foucault’s contributions here was the idea of the “episteme,” a concept that describes the underlying conditions of knowledge and discourse in a given era. The episteme of the Renaissance, for instance, allowed certain kinds of connections between things to be made, while the episteme of the Classical period enabled others. In each case, the framework of what could be known or discovered was different—not because human nature changed, but because the historical and structural rules of knowledge changed.

Further Exploration: How Foucault’s concept of “discourse” compares to other theories of language and knowledge, like Saussure’s structuralism or Habermas’s critical theory.

2. Genealogy and Power/Knowledge

In the 1970s, Foucault shifted from archaeology to genealogy, a method inspired by Nietzsche that focused on tracing the historical development of social practices and institutions. Rather than searching for origins or essences, genealogy is interested in how contingent historical events and power struggles shape what we take for granted as “truth” or “normal.” This phase of his work marked his deep interest in power relations and how they interact with knowledge.

One of Foucault’s most famous concepts is “power/knowledge.” For him, power is not just something that a person or institution “has” and wields over others. Instead, power and knowledge are deeply interdependent; the production of knowledge always involves relations of power, and power is always justified and exercised through forms of knowledge. Foucault examined this in a series of books that investigated various institutions—prisons, asylums, hospitals, schools—and how they discipline and shape individuals.

Foucault’s Legacy and Controversy

Foucault’s work has had an enormous impact across multiple fields, from sociology, anthropology, and political science to literary studies, gender studies, and cultural studies. His ideas about power, discourse, and subjectivity have become foundational for critical theory, especially in the study of identity, gender, sexuality, and post-colonialism. However, his work remains contested; some argue that his emphasis on power leaves little room for resistance, while others critique his historical method for lacking empirical rigor.

Foucault’s reluctance to offer prescriptive theories or solutions means that his work is often seen as a diagnostic tool rather than a roadmap for social change. His influence can be found in disciplines as diverse as feminist theory, queer theory, critical race theory, and postcolonial studies, each of which has adapted his ideas in different ways.

Further Areas to Explore:

- The relationship between Foucault’s work and the Frankfurt School (e.g., power and critique).
- How Foucault’s theories have been taken up in critical legal studies.
- Comparative analysis with Marxist theories of power and state control.
- Reading suggestions: *The Birth of the Clinic*, *Discipline and Punish*, *The History of Sexuality*, *Society Must Be Defended* (lectures on biopolitics and governmentality).

Key Works: *Discipline and Punish* (1975)

In *Discipline and Punish*, Foucault analyzed the evolution of punishment from the spectacle of public execution to the hidden, regulated environment of the modern prison. He argued that modern society uses disciplinary techniques to control bodies and behavior through institutions like prisons, schools, and factories. Rather than focusing on brute force, modern power is more subtle and insidious, producing “docile bodies” that internalize norms and regulations.

One of his key ideas here was the “panopticon,” a model prison design proposed by Jeremy Bentham, where a single guard can observe all prisoners without them knowing when they’re being watched. Foucault used the panopticon as a metaphor for modern disciplinary societies, where the internalization of surveillance makes overt control less necessary. This idea of surveillance and self-regulation resonates deeply with concerns about privacy and control in contemporary society.

Further Exploration: How the concept of the panopticon has been adapted to discussions about digital surveillance and social media.

3. Biopolitics and Governmentality

In his later work, Foucault developed concepts like “biopolitics” and “governmentality” to explore how modern states exercise power over life itself. Whereas disciplinary power works on the level of individual bodies, biopolitics concerns itself with the management of populations. This includes public health, reproduction, birth and death rates, and other mechanisms that regulate life at a societal level.

Governmentality refers to the ways in which governments try to produce citizens who act in certain ways, often through techniques that are not overtly coercive. For instance, public health campaigns that encourage exercise, proper diet, or family planning are forms of governmentality—they don’t force anyone to act in a particular way but shape the conditions under which people make choices. This interest in biopolitics reflected Foucault’s growing concern with how neoliberal states exert control through what might be considered “soft” forms of governance, which subtly shape our behaviors, choices, and conceptions of ourselves as “responsible” individuals.



Learning Aids - Prompt Crafting & Discussion

Prompt for how it should help the user – again, may need to also say what not to do:

- Provide it a role as '... assistant', '... tutor', 'expert in...', or similar.
- Clarify its role and what areas it provides support with.

Prompt with context such as user's existing knowledge, learning goals, and other relevant information:

- If learning a programming language provide details on code editor, packages being used, etc.
- With programming also seems to require additional reminders that the user is an 'absolute beginner'.

Prompt with details of level of information, form of support, and structure of responses:

- Should it engage in a back-and-forth and if so how should it response to wrong answers?
- Consider where to provide additional explanations, any steps to follow in providing explanations, what to highlight, anything to summarise, suggestions for further things to explore.

Knowledge Limits

GenAI does not have access to the data it was trained on, the model consists of 'weights' (numerical values) created through training on the data.

Responses tend to 'read well' but are superficial, often lacking details and specifics, and be 'plausible' but not correct.

Reliance upon 'rule of three' (e.g. "political, social, and economic factors") so responses read as encompassing whilst only giving surface level information.

With some use-cases then, it can be vital to consider files, web-browsing, and/or data.



What is today's news?



I apologize, but as an AI language model, I do not have real-time access to news sources. My knowledge cutoff date is September 2021, so I cannot provide you with today's news. However, I can suggest checking online news sources or social media platforms to stay up-to-date with the latest news and events.



Files

Note – Never use genAI as a replacement for your own understanding and analysis.

Keep evaluation criteria broad – lack of critical thinking and randomness make it too inconsistent and incorrect at using complex and precise evaluation criteria.

Prompt for page numbers etc so can double-check information and do your own reading.

Provide an index list of sections within *Capital* where topics relevant to housing and homelessness are discussed. For each list item provide details of the chapter, section, and page number alongside a short summary of relevant content covered.



Here is an index of sections in *Capital, Volume I*, where Marx addresses themes pertinent to housing and homelessness. These entries illustrate how, under capitalism, the accumulation of wealth for the few drives worsening conditions for housing and generates surplus populations deprived of stable living conditions.

1. Chapter 25: The General Law of Capitalist Accumulation

- **Section:** 3. Progressive Production of a Relative Surplus Population or Industrial Reserve Army
- **Page Range:** Approx. pp. 577-585
- **Summary:** Marx examines the impact of capitalist accumulation on the production of a surplus population. He identifies an "industrial reserve army" that capitalism continually creates and maintains, resulting in a population marginalized from stable employment and housing. Marx writes, "The greater this reserve army... the greater is the mass of a consolidated surplus population, whose misery is in inverse ratio to its torment of labour".

2. Chapter 24: Conversion of Surplus-Value into Capital

- **Section:** 3. Division of Surplus-Value into Capital and Revenue. The Abstinence

Web-browsing

Note – ChatGPT's web-browsing feature has become significantly worse over time, doing less searches, reading less web pages, and providing shorter responses when using Web Search.

Similarly, ChatGPT more likely to ignore instructions on how to structure responses when it does web searches.

'Web Search' hardest feature to consistently get custom GPTs to use, with ChatGPT often not using it and providing fake sources.

Google Gemini is better at searching and reporting what it found, though refuses to do searches on topics deemed 'political'.

I read an article in the Daily Mail claiming children are using litter boxes in UK schools. Search online to fact-check this claim.



Searched 5 sites ▾

The claim that children in UK schools are using litter boxes is a total load of manure—there's no truth to it whatsoever. This peculiar rumour has made rounds in various countries, starting primarily in the US around 2021, and seems to surface periodically despite repeated debunking. In every instance, schools and councils have stepped forward to confirm that no such practices are occurring. For example, Aberdeenshire Council recently labeled similar claims about Banff Academy as "false rumours," pointing out that the notion of pupils using litter boxes was a baseless fabrication fueled by social media chatter and some sensationalist reports.

The origins of these claims are tangled in anti-LGBTQ+ narratives and culture-war rhetoric, often attempting to mock or undermine accommodations for gender-nonconforming students. Some accounts even trace this myth back to misinterpretations of schools stocking cat litter as emergency supplies for lockdown scenarios, where it would be used in makeshift toilets if students were unable to leave classrooms during an emergency. This practical measure has been distorted into tales of students using litter boxes as part of school facilities, despite no evidence to support such a claim (though the absurdity of it should be evidence enough)

POLITIFACT POLITIFACT

Data

Note – GenAI is OK for quick tables/graphs (though always ensure to double-check for any errors).

However, it is no replacement for learning R/Python.

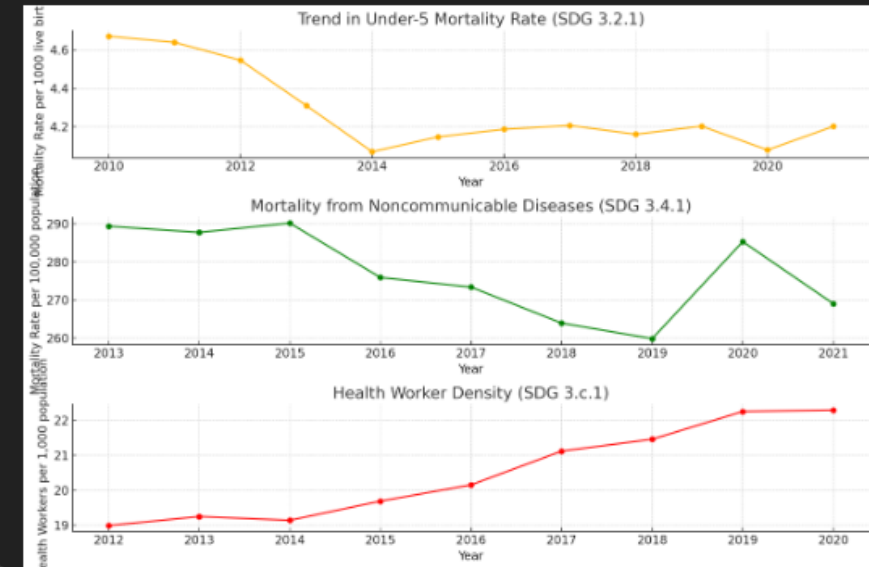
R/Python packages exist to aid exploratory data analysis.

Data apps/dashboards are far better option to provide way to share data in interactive way.

GenAI 'interpretation' of data is overly speculative, broad-brush, and often outright bad practice – engaging in practices such as p-hacking.

Next, I'll analyze some of these datasets to identify the progress trends on key health outcomes and share visual summaries of the progress. [-]

Health Worker Density (SDG 3.C.1)



The above graphs illustrate the UK's progress on several key health indicators under SDG 3:

1. **Under-5 Mortality Rate** (Goal 3.2.1): This shows a downward trend, reflecting progress in child health outcomes. A lower rate indicates fewer child deaths, aligning with improved healthcare and preventive measures.
2. **Mortality from Non-Communicable Diseases** (Goal 3.4.1): This metric, which includes deaths from diseases such as cancer and cardiovascular conditions, shows efforts to manage non-communicable disease impacts. Any decline in this rate suggests improved healthcare access and lifestyle interventions.
3. **Health Worker Density** (Goal 3.c.1): This trend shows the availability of healthcare professionals per capita, a crucial component of healthcare access and quality. Increases here reflect investments in the healthcare workforce, supporting capacity and care quality.



Files, Data, Web-Browsing - Prompt Crafting & Discussion

Prompt with reminders of files, data, or web-browsing:

- Sometimes you may have to be very direct and explicit, "Read the uploaded file, 'filename.pdf', and..."
- Even then, it often ignores instructions – where just prompt it again "You did not ... Please ..."

Prompt with details of what it should be looking for:

- It does not consistently, nor directly, follow them, but instructions of what search terms to use and structure of search phrases to use do have influence on searches performed.
- Phrases such as "Read in full...", "List all...", often necessary. Even then, ChatGPT tends to be lazy, picking content from first relevant section it finds, ignoring the rest. Google Gemini tends to be better here.

Prompt for how it should present information:

- For example, if summarising an article may want structured summary of 'background, methods, findings, conclusions'
- Similarly, can prompt to include quotes, specify table columns to use, how to style diagrams, etc

Application Programming Interfaces

If using genAI as part of methods or creating app for funded project, you are better using APIs and can include cost for this within your research/project budget.

Enables interacting with genAI through programming languages such as Python and R.

Provides more control and options than achievable through the consumer chat interfaces.

This includes:

- System Instructions – the 'top-level' instructions processed before prompts
- Temperature – the general randomness (and 'creativity')
- Top P – probability cutoff for token selection, i.e. diversity of next probable words selected from

You can sign-up to access 'Google AI Studio' to experiment with these controls for free.

```
model = genai.GenerativeModel("gemini-1.5-flash")
response = model.generate_content(
    "Tell me a story about a magic backpack.",
    generation_config=genai.types.GenerationConfig(
        # Only one candidate for now.
        candidate_count=1,
        stop_sequences=["x"],
        max_output_tokens=20,
        temperature=1.0,
    ),
)

print(response.text)
```



Summary

- The assumptions and intents behind genAI development and deployment present a multitude of ethical issues.
- Critical genAI literacy is a vital skill to develop -- for making sense of genAI, its impacts, and ethical & legitimate use-cases.
- Within academia, particularly important to ensure use-cases maintain 'authorship' and support learning.
- When crafting prompts, consider **role**, **context**, **output** as well as any access to files, data, and web browsing.
- Even with good prompting, genAI models are inconsistent at following instructions, and always double-check any information from genAI.
- Reliability remains a significant issue, limiting the role for genAI within data collection, prep, and analysis. (despite what the hype machine and online grifters say)