



GPT-4 EVERYONE

**Increase Productivity
and Ignite Creativity with ChatGPT**

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1: A NEW AI ERA – AN INTRO TO LANGUAGE MODELS

Ever dreamed of having a personal assistant that could write like Hemingway, crunch numbers like Einstein, and help you perfect your grandma's secret lasagna recipe? (Ok I take that one back, her lasagna is perfect). Well go ahead and wake up! In the past decade, we've seen astonishing advancements in artificial intelligence (AI) and natural language processing (NLP) models. These cutting-edge tools are just now starting to transform entire industries and have opened doors to a world of possibilities that used to be the stuff of science fiction.

My goal in this handbook is to jump start your usage of new AI tools so that you can get, and stay, ahead of the curve. At the time of writing ChatGPT, made by OpenAI, is the state-of-the-art tool and thus will be our major focus. However, the skills you'll learn here will be transferable to other text-based AI tools as they currently all share a similar architecture. We'll cover that more in a second but first a bit of background. I've worked in biostatistics and bioinformatics at the University of Texas Southwestern Medical Center for several years and have found I have a passion for teaching. While finishing up my master's degree in data science, I've had the opportunity to really dig into the complicated workings behind these up-and-coming AI tools. Luckily, for people who just want to use ChatGPT in their everyday tasks, intricate details are less important.

What matters is knowing how to use the tool to its maximum potential, and that certainly doesn't require any background in coding or computer science. I want to help you take advantage of this rapidly advancing technology and teach you the necessary skills to improve your personal, professional, and

creative endeavors. First let's take a lightning quick look at what's going on under the hood to demystify models like ChatGPT, and then we'll dive right into the good stuff like getting them to write that email you've been putting off!

Natural language processing

Large NLP models like ChatGPT are designed to understand and generate human-like text (hence the term "natural language" in NLP). I use the terms AI tool, large language model, or just model, interchangeably and for our purposes they will refer to the same thing: An extremely complicated computer program built with massive amounts of text data and designed to generate a text response to your text input. If you've never tried ChatGPT, now might be a fun time to go play around with it, ask it what its favorite color is! These models are built with an architecture referred to as a "neural network". This is a type of computer program and mathematical model that's inspired by the structure and function of our brain.

Neural networks

Neural networks consist of interconnected layers of nodes, or artificial neurons. Each node in a layer does a bit of math with a set of "numbers" on its input and then sends the output downstream to nodes in the next layer. Models could be hundreds of layers deep, with the nodes in the first layer doing math directly on your input and nodes in the last layer providing the output that makes up the model's response. The math and computer science behind these models is super complex, far beyond the scope of this text. For a gentle introduction, I'd recommend 3Blue1Brown's YouTube series on neural networks. All we really need to know is that they take your input text, apply an ungodly amount of math to it, and return an output text based on your input.

But how does the model know which specific "numbers" to use in all that math? This is where training comes in. During training, researchers feed naïve models, meaning they would just output random letters and numbers for any given input, vast amounts of text data. Emphasis on vast, we're talking countless books, all of Wikipedia, terabytes of blog posts scraped from the web, and more. The models analyze the text, learning patterns and

relationships between words and phrases, and gradually refine their understanding of language.

One common way of training is to give the model a sentence with a word blanked out and have it try to predict the missing word. If it gets it wrong, the model automatically makes tiny adjustments to the numbers the nodes in its layers use for calculations. The adjustments are made such that the next time the model sees a similar sentence it is more likely to give the correct answer. After doing this billions of times, the model begins to act similar to a super sophisticated autocomplete. Given a sentence it can not only fill in the blanks but can reliably generate the most logical/probable sentence or paragraph to follow. Now the model is considered trained and ready for use.

How do they sound so human?

To make models sound better to us simple humans, their creators will sometimes incorporate human feedback into the training process. This would consist of a human asking questions and rating responses generated from the model (say 1 for bad response 10 for amazing), followed by the model adjusting its “math numbers” such that future responses look more like highly rated ones. ChatGPT was the result of incorporating human feedback to make OpenAI’s base language model, GPT-3, work better as a chat bot.

Training these sophisticated models is no small feat. For example, ChatGPT took thousands of powerful graphics cards and several months to train. And as anyone who has played around with it knows, this was time well spent. ChatGPT’s responses can sound human enough to truly spook one into questioning whether an inkling of consciousness resides on those hard drives. But remember, they sound human because we trained them on human generated text!

In a way, these models are a beautiful reflection of humanity; they are incredibly capable and can outperform anyone alive today at some specific tasks, but this was only possible through the collected written works of billions of us over thousands of years.

Rapid evolution

Now that I've sufficiently hyped up these new models, let's see how they have evolved over the past ten years. In the early 2010s, AI language models had limited capabilities and were mainly used for simple tasks, like classifying movie reviews as positive or negative. A most striking indicator of progress is in their number of parameters. Parameters are the components of a neural network that the model learns during the training process. This is the set of "numbers" mentioned earlier that are used in all the calculations. In 2018, GPT-1 had around 117 million parameters. Fast forward to 2021, and GPT-3 boasts a staggering 175 billion parameters. Gee wiz!

Current limitations

Though these models are mind boggling, it's important to remember that they are not perfect. For example, they can sometimes just make stuff up, a phenomenon deemed "AI hallucination", and can often be quite stubborn. One funny example was a conversation posted online where a chatbot refused to believe that Avatar 2 was in theaters and repeatedly tried to gaslight the user into agreement. One explanation for this mistake, which is an important note, is that many models, including ChatGPT, don't have access to very recent information. They are trained on data that cuts off at a specific date, say June 8th 2021, so you won't be able to ask it anything specific about events taken place since. This may be a temporary problem and by the time you are reading this it may no longer be true. Tremendous effort is going in to making these models "live" and always up to date.

AI hallucinations have become less frequent in new models, but they are still a possibility, so stay vigilant for anything fishy sounding. Finally, current AI tools have limited long term memory, so if you've been chatting with one and have provided many lengthy prompts in a single session, it will start to forget what you told it at the beginning. Again, this issue may only be temporary as researchers are constantly improving memory capacity. For now, consider language models like ChatGPT as fantastic tools that still need a human in the driver seat. Make sure to double check anything that sounds off, and as always never take legal or medical advice from an AI.

Important notes

The major focus in this guide is ChatGPT, which for now (foreshadowing implied) is a purely language-based model. As mentioned earlier, many more large language models will be released in the coming months and years. For the near future, it appears that all large language models will share similar neural network architecture and training processes. So, while this guide is tailored for ChatGPT, the concepts and methods should be transferable. There will likely be minor tool specific tweaks and guidelines, so it will be good practice to do some research when trying something new.

Also, you might have heard of image-based models like Midjourney and DALL-E 2. These models are also massive neural networks, but they are trained on images and image captions. Thus, you can provide them a prompt and generate whatever artwork you desire. DALL-E 2 did a pretty good oil painting of my cat! Throughout this guide we will sprinkle in image-based models and how they can complement text-based models like ChatGPT. They are generally simple to use and only require a thoughtfully written text prompt.

Before we dive in there are a couple important notes about ChatGPT.

1. Terms of service: According to OpenAI's terms of use, you own the commercial rights to the output it produces! Important caveat here, you can't use the output to develop a competing chat bot. Considering most of us don't have hundreds of professional grade graphics cards I don't foresee that being an issue.
 - Also, ChatGPT does create original content and it shouldn't blatantly plagiarize. However, sometimes the output may feel a bit unoriginal. If you paste the output into a search engine and find existing text with too many similarities, the best course of action is to either add more details/ modify your prompt or manually edit the output to be more original.
2. Privacy: Open AI does use your input to help train its models. If you are concerned about privacy while using it for something personal, for example helping you write a resume, simply change a couple key facts like your name, name of your university, or email address. However,

considering that the model was trained using public web scraped data, it might have already seen you.

3. Play Nice: Don't use it to produce anything illegal or harmful. Not only is the model getting better and better at refusing these requests, but you will also get banned. You don't want to be banned from one of the most useful tools of our time. Rule of thumb, don't type in anything you wouldn't want your mom to see. Additionally, please don't use it to cheat at school. You are just cheating yourself. I have an entire chapter dedicated to using AI to help you learn in a productive way!
4. Free vs paid and different versions: At the time of writing there is a free version of ChatGPT based on GPT-3 and a paid version based on GPT-4. (recently released and is a "base" language model, essentially a better version of GPT-3). Both versions of ChatGPT are built on top of their respective base language model and as discussed earlier are optimized with human feedback.
 - If you are finding the free version to be extremely helpful, consider upgrading to a pro account that gives you access to the model during high traffic times and greatly improved capabilities. For example, currently the GPT-4 version running on a pro account can generate 25,000 words and the free version based on GPT-3 only 3,000. These numbers will all soon be outdated, but I suspect OpenAI will always have the best model behind a paywall.
5. Other models: Always check the terms and services of any model. For example, researchers at Stanford released a model called Alpaca, which was trained for only \$600 and performs surprisingly well! Big asterisk though, they built this tool using a different publicly available model called LLaMA that does not allow commercial use. As mentioned, the concepts and prompts in this guide should work for other models. However, exactly what works best on each model might be slightly different so some tweaking may be necessary.

Luckily, some tools like the chatbot in available in Bing, are powered by OpenAI under the hood so tips here should translate very well. If you happen to go to any Appstore you might see hundreds of apps listed claiming to be powered by "Chat GPT". At the time of writing most of these apps are just middlemen who take your prompt, send it over, and send you back your response. So generally, you are better off just going straight to OpenAI's website yourself. In the future we will likely see some great apps come out that add optimizations on top of ChatGPT, but in the current gold rush there's a lot of gravel to sift through.

Now that we've covered the basics, let's buckle up and dive into the fascinating realm of AI language models. In the next chapter we will discuss prompt engineering which will introduce diverse methods of instructing ChatGPT and help you optimize your results. The subsequent chapters introduce a wide variety of AI language model use cases. Within these chapters you'll get acquainted with some fun fictional characters and learn about multiple ways they used AI, with many examples followed by a prompt that you can copy and paste right into ChatGPT. Let's get started!

2: PROMPT ENGINEERING- THE KEY TO REMARKABLE RESULTS

Imagine a person, say Jimmy, who was born with genetics leaving him predisposed to being hilarious. When his friends just blankly ask him to tell a funny story, he can tell one that gets a chuckle, but he's never going to sell out Radio City Music Hall. With such a vague request he just doesn't have any good material to work with. Now imagine that he had a strange interaction with a man selling peaches and cell phone repair kits on the side of the road. What a weird combo.

When his friends ask "Hey can you tell us that funny story about the peaches and cell phones guy?" he retells the story like an all-time great late time host and his friends are left crying from laughter. This is prompt engineering, modifying your prompt with details and specific instructions designed to optimize the response. With this skill, you'll find that ChatGPT provides substantially better results.

Oop! Before the fun stuff a quick note on text structure: For the rest of the guide, the actual human text input to ChatGPT will follow "Prompt:", text returned by ChatGPT will follow "Response:", both in italics and separated from the main text by a little box. Finally, parts of prompts to be filled with additional text pasted directly into the chat, say a news article you want a summary of, will appear inside square brackets: [copy and paste news article here]. All right with that out of the way, let's walk through some short stories about a guy named Jimmy, and see how prompt engineering can change things dramatically.

2.1 The tale of Jimmy

Prompt: *Write a one paragraph story about a guy named Jimmy*

Response: *Jimmy was a man of routine. Every morning, he woke up at precisely 6:00 a.m. and went for a run around his neighborhood. Then he would come back home, make himself a cup of coffee, and settle into his favorite armchair to read the news. Jimmy worked as an accountant at a small firm downtown, where he spent*

his days crunching numbers and balancing budgets. But in the evenings, he indulged in his favorite hobby - woodworking. He spent hours in his garage, crafting beautiful pieces of furniture and intricate wooden puzzles. Despite his quiet and unassuming nature, Jimmy's work was admired by many, and he had a small but dedicated following of fans who eagerly awaited his next creation.

It's ok, but I think we can do better. We can give it more details about the type of story, our main character, and a writing style we want it to imitate. One thing I've noticed is ChatGPT loves pronouns and sometimes uses repetitive sentence order, so we'll suggest that it improve those.

Prompt: Write a one paragraph, slice of life story about a young man named Jimmy. Write in the style of Haruki Murakami. Make sure to not use too many pronouns and a diverse sentence length and structure (subject object verb)

Response: Jimmy sat alone in the dimly lit café, sipping his coffee as he watched the rain fall outside. He had always found solace in the sound of raindrops tapping against the pavement, a comforting rhythm that seemed to soothe his restless mind. He had just turned 21, and as he pondered the passing of time, he couldn't help but feel a sense of melancholy wash over him. He had always been something of a solitary soul, content to lose himself in books or music, but lately, he had begun to feel a growing sense of isolation that left him feeling disconnected from the world around him. As he stared out into the rainy night, he wondered what the future held for him, and whether he would ever find the sense of belonging he so desperately craved.

Quite a bit better! However, it is still using the word "He" a little too much, and it doesn't seem to be following our suggested sentence ordering. Let's try one more time and make our recommendations more explicit.

Prompt: Write a one paragraph, slice of life story about a young man named Jimmy. Write in the style of Haruki Murakami. Alternate between long and short sentences. Randomly vary the sentence structure between subject-object-verb and verb-object-subject. Do not use the word "he" or "him" in every sentence

Response: Rain poured down in sheets, as if the sky itself had cracked open, and Jimmy took refuge in the cozy warmth of the café. He felt his wet clothes cling to his skin and he shivered, the cold seeping into his bones. The smell of coffee and freshly baked pastries wafted through the air, mingling with the sound of jazz that floated from the speakers. A woman with bright red hair sat at a nearby table, scribbling away in a notebook, while a young couple whispered secret nothings to each other in the corner booth. Jimmy watched them all with a detached curiosity,

feeling as if he were on the outside looking in. He wondered what their stories were, and whether they too were searching for something they could not name.

This is starting to sound great! It looks like it still isn't following the recommendation to alternate between long and short sentences, so from here we would keep experimenting with that part of the prompt until we get something good. It can take some trial and error, but you will start to find trends in what works.

Quick note, large language models are not deterministic, meaning there isn't a set response they will give to a certain prompt every time. So, you could enter the same prompts as I have and get something totally different! Now that we've introduced the concept of prompt engineering let's note some basic prompt guidelines.

2.2 Most important: Be specific, clear, and detailed

- Make your prompts as specific and clear as possible. Ambiguous or vague prompts might lead to unclear or irrelevant answers and usually this is the easiest way to improve your response. Try to not be overly wordy in your requests; you don't necessarily have to say "Please" when you ask it to do a task, even though it does seem polite.
- But remember, the model was trained on human text and received human feedback, so you can still pose your prompts in a conversational manner. When I compared results using natural language vs boring instructions I didn't see any major increase or decrease in response quality. Throughout this guide I typically pose questions in a natural format as this simplifies and increases readability of long, complicated prompts (it's also just more fun).
- Add details and specifics:
 - Weak prompt: *What is the best diet?*
 - Good prompt: *What are the benefits of a Mediterranean diet compared to a ketogenic diet?*
- Natural language:
 - Boring prompt: *Best exercises for increasing core strength*
 - More fun prompt but comparable results: *Could you suggest the best exercises for increasing my core strength?*

2.3 Ask for specific output formats

- When seeking detailed information or instructions, ask for a specific format and provide details. This approach helps structure the AI's response and ensures that the most relevant information is returned.
- Step by step guide for structure and detail:

- Weak prompt: *How do I build a website?*
- Good prompt: *Step by step, how do I create a website from scratch? [type description of what you want your website to look like]*
- Other output formats:
 - Checklist: *Generate a list formatted as a checklist for my camping trip [describe camping location and length of trip]*
 - Table: *Could you generate a table of the top ten cities in the USA by population, include average temperature as a second column? (you can also ask for this as a CSV)*
 - Code: *Format your output to this prompt as python code such that it can be copied into an IDE [type description of desired code, or paste in code you need help with]*

2.4 Experiment with reformulations or ask for a redo

- If you are not satisfied with the initial response, don't hesitate to experiment with different wordings or reformulate your question. Slight variations in phrasing or perspective can lead to improved answers. Additionally, you may find that the output is exactly what you asked for, but you've changed your mind on what you want. Don't start over in a new chat, continue the conversation and ask for changes. Generally, try asking for modifications at least a couple times; if things start to go off the rails, then go ahead and start a fresh chat.
- Reformulate:
 - Ok prompt: *How can I improve my time management skills?*
 - Better prompt: *What are some effective time management techniques I can implement?*
- Changing desires:
 - Initial prompt: *Can you summarize this news article, make sure to cover key points? [paste news article]*
 - Prompt for a change: *That summary was too long. Could you instead provide a list of 5 key takeaways?*
- Redo because ChatGPT was wrong:
 - Initial prompt: *Can you help me with this error message I keep getting on my computer? [describe what you were trying to do initially then and paste in error message]*

- Prompt for redo: *It doesn't seem like your solution worked, could you suggest a different solution?* [optionally paste in new error message if it has changed]

2.5 Request feedback and ask for specific thought processes

- Encourage ChatGPT to think critically by asking it to break down its thought process or weigh the pros and cons of a given topic. This approach can help you obtain more nuanced and well-reasoned responses. Additionally, the AI is great at providing feedback so generally this is a very useful addition to your prompt.
- Weigh pros and cons for better analysis:
 - Ok prompt: *Here is news article, should I buy an electric car?* [paste news article]
 - Better prompt: *What are the advantages and disadvantages of owning an electric car? Use this article as a reference* [paste news article]
- Provide extra feedback and reasoning:
 - Ok prompt: *Check this paragraph for overly wordy sentences and suggest modifications.* [paste your paragraph]
 - Better prompt: *Check this paragraph for overly wordy sentences and suggest modifications with detailed reasoning for each modification. Also provide feedback on my readability at the college grade level with step-by-step reasoning that led to your conclusion. Here is the paragraph:* [paste your paragraph]

2.6 Provide themes or identity

- As in the example paragraph about Jimmy, you can tell ChatGPT to style text after just about anything. Seriously you can go wild with this one and it tends to do a fantastic job! Any person, place, time, theme, you can think of, AI can style it. Additionally, you can go one step further and assign it an identity if you want to have a conversation or continuously produce text of a specific style. With these themes/identities you can also take existing text and have it rework in a new style.
- Prompt to generate new text with existing style:
 - *Write a limerick about cheese in the style of J.R.R Tolkien*
- Prompt to re write with a different style:

- *Re write my song as if written by Michael Jackson: [paste your lyrics]*
- Prompt to assign identity for interesting output:
 - *Pretend you are a 19-year-old male living in Britain in 1939, how do you feel?*
 - *Act like an upper-level manager and provide feedback on this email. You are hot-headed and tend to take things personally. [paste your email]*
 - *Act like a biochemistry professor who likes to leave scathing peer reviews. Read my abstract for an upcoming conference and provide detailed feedback [paste abstract]*

2.7 Ask detailed follow up questions

- ChatGPT will keep track of your conversation up to a certain limit. Early versions will have shorter term memory than the latest version. Because it tracks the conversation, you can ask detailed follow up questions about the output multiple times in a row. After several back-and-forth messages you may notice that it forgets things said at the top of the chat, signaling that it has hit the limit. Luckily, you can expect the memory of ChatGPT to increase dramatically in the near future.
- Greater and greater depth:
 - Initial prompt: *What is the purpose of the mitochondria?*
 - Follow up: *Can you elaborate on the specific molecular mechanism the mitochondria uses to be the powerhouse of the cell?*
 - Follow up 2: *How does the mitochondria compare to a chloroplast?*
- Additional sources:
 - Initial prompt: *Can you summarize this news article in one paragraph? [paste your article]*
 - Follow up: *Can you suggest additional similar articles or topics I should read up on to help understand that article?*
 - Follow up 2: *What are the best ways to verify that these articles are credible?*
- Meandering conversation:
 - Initial prompt: *What are the best movies of the 90s?*
 - Follow up: *Which of these movies won an Oscar?*

- Follow up 2: *Can you tell me what that movie is about with no spoilers?*

2.8 Prompt starters by function

- Here's just a handful of introduction snippets to prompts that set the organization of the conversation to follow. Many of these are present in the example prompts in earlier guidelines, here they are grouped by function. Remember it's ok to have single prompts that are multiple paragraphs long, structured with your instructions at the top followed by text you want ChatGPT to work on.
- This list could be endless, with infinite things you could type into the chat box, but I thought I'd include this brief selection to help kick off your prompting journey.
 - Summarization prompts
 - *In one paragraph summarize...*
 - *Summarize key points of...*
 - *Generate a title for this article reflective of its contents...*
 - These starter prompts would typically be followed by a brief description of the text to be summarized, followed by the text itself
 - Explanation prompts:
 - *Provide real world examples for...*
 - *Explain this concept at a first-grade level...*
 - *Work through this step by step and explain your decisions...*
 - Typically followed by a description of the concept, text copied from a textbook or technical paper, or a hypothetical situation
 - Conversation prompts:
 - *Let's discuss and debate this topic...*
 - *Act like and respond as if you were....*
 - *In this conversation provide feedback on my...*
 - Typically followed by a description of the conversation topic, if debating or asking for feedback assign the AI a role
 - Generation prompts:
 - *Write a poem about this article...*
 - *Brainstorm multiple novel ideas for...*
 - *Provide a completely new perspective on...*

- Typically followed either by your text that you want it to expand on or a detailed description for the completely original text you desire
- Editorialization prompts:
 - *Check if this paragraph is readable at a first-grade level...*
 - *Grade my paper at a first year university level...*
 - *Re write my notes with full sentences...*
 - Typically followed by your text requiring editorialization, almost always request feedback or explanations from the AI (example below)
 - When you are done doing ... provide explanations for your suggestions/changes
- Sequential actions in the same prompt:
 - *First take this input text re write it with a more formal tone, then re-write it with a silly tone....*
 - *First explain with an analogy, then elaborate on details, finally suggest sources for more in depth knowledge about....*
 - *Write 3 distinct paragraphs. The first about a dog, the second about a cat, and the third about a goldfish. Finally, write a poem that contains elements of the previous 3 paragraphs.*
 - Typically followed by input text or detailed descriptions. Use natural language terms like first, next, finally, previous etc.
- Specific commands:
 - *Do not use these terms or phrases in your response...*
 - *When checking for grammar and spelling ignore these words...*
 - *Act as ... stay in character unless I specifically ask for feedback*
 - Modifiers like these can be combined with other prompts to give specific instructions

Chapter Sendoff

Mastering the art (for now it does seem more like an art than a science) of prompt engineering takes time and practice. But don't be discouraged, it can truly engage your creative side and feels sort of like learning a new language! At home, try purposefully giving ChatGPT vague or poorly worded prompts and take note of the output quality. Then use a technique from this chapter to see what changes. As you

experiment with different techniques you'll start picking up on patterns, maybe even subconsciously, and you'll see improvements over time.

Something to keep in mind is that the AI field is moving at lightspeed, so a certain prompting technique that worked the best last week may not be as good on a newly released model. This may sound intimidating but if you stay flexible, curious, and continuously explore you'll adapt alongside the models and remain ahead of the curve. Now that we've covered the basics of writing good prompts, let's start putting them into action!

3: AI STUDY BUDDY – A PARADIGM SHIFT IN EDUCATION

Rapid developments and wide availability of large language models have sparked concern about cheating in school. And rightfully so, having ChatGPT write your AP History essay is a horrible idea and one that, if you even get away with it, only damages your ability to learn in the long term.

However, AI tools will only improve and detecting them may get harder and harder, potentially leading to a paradigm shift in education. No more take home essays or homework? Maybe. Instead let's remain optimistic and find ways that ChatGPT can lead to our own personal paradigm shift in learning and studying efficiently.

3.1 Generating better explanations

Meet our first character! Bobby is a first-year college student and for her last midterm spent hours studying dusty old textbooks in the dreary library. She thinks she might be able to speed up her learning process by first understanding concepts at a foundational level before diving into the technicalities. Then maybe she can get her studies done at home and avoid that smelly carpet and fluorescent lighting.

Prompt: *Can you explain the difference between ionic and covalent bonds with an easy-to-understand analogy*

Response: *Sure! Let's use a simple analogy involving friendships to explain the difference between ionic and covalent bonds.*

Ionic Bond: Imagine two friends, Alice and Bob, who have different interests. Alice loves collecting stickers, while Bob prefers collecting coins. One day, they decide to exchange one of their items - Alice gives Bob a sticker, and Bob gives Alice a coin. After the exchange, they continue with their separate interests, feeling satisfied with their new possession. This exchange is similar to an ionic bond, where one atom (like Alice) donates an electron to another atom (like Bob), resulting in both atoms having a complete outer electron shell. The resulting charged atoms (ions) are then attracted to each other, forming an ionic bond.

Covalent Bond: Now, consider two other friends, Carol and Dave, who both love playing video games. They decide to play together as a team, sharing their skills and working together to achieve a common goal. In this case, Carol and Dave are sharing their interests, just like atoms in a covalent bond share their electrons. In a covalent bond, atoms come together and share one or more pairs of electrons to complete their outer electron shells, creating a strong bond between them.

Bobby reads through this analogy and the concept easily clicks! She continues to use this method and aces her midterm. Often, basic analogies like this can jump-start the brain into understanding complicated subjects. Make sure to include details about the concept at hand and the difficulty level of your desired analogy/explanation in your prompt.

3.2 Feedback when you aren't sure what you're doing wrong

Patrick, a German exchange student in the US, is still working on his English skills. He wants his writing to sound more natural so asks ChatGPT for some help.

Prompt: *Why does this sentence sound off? The man took off his brown large hat and sat down.*

Response: *The sentence sounds off because the order of the adjectives "brown" and "large" is not in the typical sequence English speakers use to describe objects. In English, adjectives usually follow a specific order: opinion, size, shape, age, color, origin, material, and purpose.*

A more natural-sounding sentence would be: "The man took off his large brown hat and sat down." In this sentence, the size adjective "large" comes before the color adjective "brown," following the conventional order of adjectives.

Sighing at the strange and often arbitrary rules of English, Patrick continues his studies. Large language models are great at picking up small things that we may not notice! If you get stuck on something strange, just ask ChatGPT what it thinks with a simple prompt like Pat.

3.3 Creative problem-solving and conversational feedback

In the previous two examples we saw how powerful ChatGPT can be for helping us understand and learn new topics. As search engines can also quickly find answers online, when using large language models make sure to take advantage of their creativity with words and ability to continue conversations. Ask follow up questions, for more detail, and new perspectives on what you are trying to learn. To work most effectively, use search engines for simple tasks and ChatGPT for more complicated ones.

An important note, since these tools were trained on language, they currently aren't great at actually computing math problems. They can help you understand math concepts, but for running arithmetic you are better off with a good ole fashion calculator. However, as always this may only be temporary. Keep your eye out for ChatGPT plugins that could allow the model to interact with an actual calculator or code interpreter.

3.4 On demand practice quizzes

Austin is prepping for his SAT and doesn't want to buy a bunch of massive paperback prep books. Luckily, he can generate great practice problems with a carefully crafted prompt.

Prompt: *Could you write an SAT reading practice problem with the text written at a postsecondary level. This should be a paired passage problem with two distinct but related texts. Create some difficult questions that require deep understanding of both texts, and analysis of how the two relate. I'll then attempt to answer the questions, and you can provide explanations for the correct answers*

Response:

Passage 1:

Over the past few decades, the rapid advancement of technology has revolutionized various aspects of human life. One particularly striking example of this transformation can be seen in the realm of communication. The widespread adoption of social media platforms has allowed individuals to connect with others on a global scale, fostering the exchange of ideas and the formation of new communities. Proponents of social media argue that these platforms have the potential to transcend geographical boundaries and facilitate international collaboration, ultimately promoting a more interconnected and understanding world.

Passage 2:

While the rise of social media has undoubtedly enabled greater communication across vast distances, critics contend that this development has not been without its drawbacks. Studies have shown that excessive use of social media can lead to increased feelings of loneliness and isolation among users. Furthermore, the anonymity offered by some platforms has fostered a culture of cyberbullying and harassment, exacerbating the negative impact of these platforms on mental health. Critics argue that while social media may provide the illusion of connection, it often fails to deliver the deep, meaningful relationships that are necessary for genuine human flourishing.

Questions:

1. Which of the following best describes the primary focus of Passage 1?

A) The advantages of social media in fostering global communication B) The negative effects of social media on mental health C) The role of technology in revolutionizing human life D) The increase in cyberbullying and harassment on social media platforms

2. Which of the following best describes the primary focus of Passage 2?

A) The drawbacks of social media in contributing to loneliness and cyberbullying B) The importance of social media in transcending geographical boundaries C) The benefits of social media in promoting international collaboration D) The potential of social media platforms to facilitate the exchange of ideas

3. Both passages discuss the impact of social media on society. How do the authors' perspectives differ?

A) Passage 1 highlights the benefits, while Passage 2 emphasizes the drawbacks. B) Passage 1 focuses on mental health, while Passage 2 discusses global communication. C) Both passages provide a balanced view of the advantages and disadvantages of social media. D) Passage 1 examines the role of technology in general, while Passage 2 specifically discusses social media platforms.

Please provide your answers, and I will then provide the explanations for the correct answers.

Austin's answer: I think the answer to question 1 is C

ChatGPT's kind response:

I appreciate your input, but the correct answer for question 1 is actually:

A) The advantages of social media in fostering global communication

Explanation: Passage 1 primarily focuses on the positive aspects of social media, highlighting its ability to connect individuals on a global scale, facilitate the exchange of ideas, and promote international collaboration. While the passage does mention the role of technology in revolutionizing human life, the primary focus is on the benefits of social media as a means of communication.

Feel free to answer questions 2 and 3, and I'll provide explanations for those as well.

Let's break down what made his prompt effective, as this is a complicated task. First, he provided the specific test, SAT, question type, reading paired passage, and difficulty level. The difficulty level was emphasized twice, both in the reading level of the text and difficulty of questions. He found that without double specification the resulting questions were far too simple.

The addition of *require deep understanding of both* texts further improved difficulty. Finally, at the end of the prompt he asked for feedback, which is vital for learning from mistakes. With a study buddy like this, Austin is headed for a perfect score!

Study guides for graduate schools can be extremely expensive, so whether you are taking the MCAT, GRE, or LSAT, ChatGPT has got your back!

3.5 Aid with essays and assignments

This is a tricky one, as you certainly don't want ChatGPT to do the hard work for you. To avoid this but still get productive assistance, try asking for an outline after providing a description of your project. This can help you get off the ground if you are having trouble figuring out where to start. Additionally, you could paste your completed essay into the program and ask it to check for grammar and clarity issues or to act as your professor/teacher and give you feedback.

Finally, a good strategy when doing research is to ask it to suggest good references, use a search engine to find said references, and then paste in the text and ask for a summary of key points.

3.6 Learning languages of all kinds

Woo a vacation to Spain! Rebecca is stoked. One thing though, she needs to brush up on her Spanish. Having a conversation with a Spanish speaker who could give her feedback in English would be great! She remembers how ChatGPT is great at English and wonders if it knows any other languages.

Prompt: *I want to practice a conversation in Spanish. Let's pretend you are a waiter and I am a customer. Ask me questions in Spanish and I will respond in Spanish. If I make a grammatical, spelling, conjugation, or vocabulary error in Spanish, respond "Oops!" and explain in English my mistake.*

Response: *¡Hola! Bienvenido a nuestro restaurante. ¿Le gustaría ver el menú?*

Rebecca's answer: *Si, me encanto gracias!*

Response: *Oops! There's a small mistake in your response. The correct way to say it would be "Sí, me encantaría, gracias!"*

Ahora que tiene el menú, ¿necesita tiempo para decidir o ya está listo para ordenar?

Got to make sure you conjugate those verbs in the right tense! Notice how Rebecca gives both the AI and herself a persona, this is a vital line in the prompt as it allows for the following dialogue to be conversational and lifelike. Additionally, it was important how she specified her feedback to be in English, as she's not yet confident she could fully comprehend feedback all written in Spanish.

It's starting to all come back and Rebecca continues to converse eagerly. After some practice she asks it what other languages it could help her learn: French, German, Italian, Mandarin, Japanese, Korean, Arabic, Hindi, Russian it replies. Now that's one cultured program!

We can also use ChatGPT to help with learning computer languages like Python. Try asking it to generate code in your preferred language when you are stuck, or copy and paste your code in and ask for aid with debugging, understanding, and optimization. See section 5.3 for an example and more info.

Chapter Sendoff

With these new skills I hope you can revolutionize your education. Try it out now by asking for a quiz on your favorite, most knowledgeable topic. See if you can outsmart it! Remember to be specific about both question and feedback format. Whether you are still in school, or graduated class of 62', have AI help you learn more efficiently, effectively, and cheaply!

4: EASY JOB HUNT— RESUMES, COVER LETTERS, AND BEYOND

Sometimes Job hunting can feel like a full-time job -exhausting! Application after application, endlessly.... Well, welcome to the future of job hunting, where AI can speed up your job hunt and even be your career coach! Coming up hot: how ChatGPT can help you craft the perfect resume and cover letter, tailor your applications, and even prepare for interviews.

4.1 Crafting the perfect resume

Emily, a recent college graduate, wants to create a standout resume for her job search in the green energy industry. By inputting her educational background, work experiences, and skills into ChatGPT, she can instantly generate a resume that highlights her achievements and emphasizes her relevant skills.

Prompt: *Can you help me write my resume: My name is Emily, I graduated from UT Austin in 2021 with a BS in mechanical engineering. My GPA was 3.8. I volunteered at the Austin animal shelter where I helped organize several adoption events. I additionally worked as a lifeguard at UT all 4 years. The Summer of my junior year I had an internship with BigOil in Houston. There, I worked with mechanical engineers on projects involving the design of offshore oil platforms. I'd like to pivot to green energy and I'll be applying to companies that build wind farms.*

Response:

[Header] Emily [Last Name] [Phone Number] | [Email Address] | [LinkedIn URL] | [City, State]

[Objective] Highly motivated and detail-oriented Mechanical Engineering graduate seeking a position in the renewable energy industry, with a focus on wind farm development. Demonstrated ability to apply strong problem-solving and teamwork skills to both academic and professional settings. Committed to making a positive impact on the environment through innovative engineering solutions.

[Education] Bachelor of Science in Mechanical Engineering, May 2021 The University of Texas at Austin GPA: 3.8

[Experience]

Intern, Mechanical Engineering - Offshore Platform Design BigOil, Houston, TX | Summer [Year, e.g. 2020]

- *Collaborated with a team of engineers on the design of offshore oil platforms, focusing on structural integrity and optimization*
- *Assisted in the development of project proposals, including cost estimation and risk analysis*
- *Gained hands-on experience with CAD software and 3D modeling techniques*
- *Presented progress reports to senior engineers and stakeholders, effectively communicating project status and any necessary adjustments*

Lifeguard The University of Texas at Austin, Austin, TX | [Years, e.g. 2017-2021]

- *Supervised and maintained the safety of pool patrons by enforcing rules and regulations*
- *Responded to emergency situations, providing first aid and CPR when necessary*
- *Assisted in pool maintenance, ensuring a clean and safe environment for all users*
- *Developed strong communication and teamwork skills through collaboration with other lifeguards and staff members*

[Volunteer Experience]

Volunteer Austin Animal Shelter, Austin, TX | [Years, e.g. 2019-2021]

- *Assisted in organizing and promoting adoption events, resulting in increased adoption rates and community awareness*
- *Provided care for shelter animals, including feeding, cleaning, and socializing*
- *Worked closely with staff and other volunteers to create a positive environment for both animals and visitors*

[Skills]

- *Strong knowledge of mechanical engineering principles and practices*
- *Proficient in CAD software, including SolidWorks and AutoCAD*
- *Excellent problem-solving and critical thinking abilities*
- *Effective communication and teamwork skills*
- *Familiarity with green energy technologies and industry trends*

[Certifications]

- *CPR and First Aid Certified*

[Awards]

- *[Any relevant awards or honors, if applicable]*

[References] Available upon request

The outline ChatGPT made for Emily is a great start! She'll need to hand adjust the formatting, add some details, and polish up some of the bullet points, but the heavy lifting is done. Remember, don't just take the output and immediately start applying

to jobs. Read it over carefully, it could have a statement about you that's just completely made up!

To increase resume generation quality, make sure you provide ample details of your work and education history, as well as a description of your desired new job. If you have a resume you already like, paste it in the chat with a request for feedback. ChatGPT is great at the tedious task of writing succinct bullet points with fun action verbs.

Also, remember if you don't want to provide personal information you can use a fake name, fake dates, and change details like the name of your university.

4.2 Compelling cover letters

Writing cover letters can be exhausting, especially if you are applying to 50+ jobs. Luckily ChatGPT comes to the rescue. Here, Emily simply copies and pastes the job description for a position she is interested in, and the AI crafts a persuasive cover letter by analyzing the job posting, identifying key requirements, and suggesting ways to demonstrate how her skills and experiences align with the position.

She can also ask ChatGPT to custom tailor her resume for each position once she has the job descriptions in hand. Note that in this example, Emily entered the cover letter prompt immediately after ChatGPT generated her resume. If you already have a completed resume, simply add the phrase *Here is my resume for reference in writing this cover letter* and paste in relevant resume text (all in one prompt).

Prompt: *Can you write me a cover letter for this job: Mechanical Engineer at Happy valley wind farm. We are a startup operating out of Denver Colorado and have a passion for green energy. We are looking for talented engineers who want to help us contribute to a carbon neutral future. Requirements: Engineering degree, Experience with CAD. Nice to Have's: Experience in the design process of large industrial equipment. Write the cover letter in a style that is not generic but still professional. [Here is where you would tell ChatGPT to use your resume for reference and paste in your resume]*

Response:
[Your Name] [Your Address] [City, State, ZIP Code] [Email Address] [Phone Number]
[Date]
[Recipient's Name] [Recipient's Job Title] Happy Valley Wind Farm [Company Address] Denver, CO, [ZIP Code]
Dear [Recipient's Name],

I am writing to express my enthusiasm for the Mechanical Engineer position at Happy Valley Wind Farm. As a recent mechanical engineering graduate with a strong background in CAD and hands-on experience in the design process of large industrial equipment, I am confident that my skills and passion for green energy make me an excellent candidate for this role. I am eager to contribute to your company's mission of creating a carbon-neutral future and to apply my engineering knowledge in the renewable energy sector.

During my time at The University of Texas at Austin, I achieved a GPA of 3.8 while gaining a solid understanding of mechanical engineering principles and practices. My coursework included projects that required proficiency in CAD software such as SolidWorks and AutoCAD, and I am confident in my ability to apply these skills to the design and optimization of wind farm components.

Furthermore, I have demonstrated my commitment to making a positive impact on the environment through my volunteer work at the Austin Animal Shelter. This experience has taught me the importance of collaboration and teamwork in achieving common goals, qualities that I believe would be invaluable when working with the Happy Valley Wind Farm team.

I am excited about the opportunity to contribute to the growth and success of Happy Valley Wind Farm and to be part of a company that is dedicated to creating a sustainable future. Thank you for considering my application. I would welcome the opportunity to further discuss my qualifications and how I can contribute to your team. Please do not hesitate to contact me at [Phone Number] or [Email Address] to schedule a conversation.

*Sincerely,
[Your Name]*

(I removed a middle paragraph to keep things short)

With this base cover letter finished, Emily only needs to quickly read it over and make a few edits. Emily cranks out cover letters at light speed! She makes sure to add the phrase *not generic but still professional* to guide the AI towards using her desired tone and word choice. Depending on what you are applying for you could ask for something artistically passionate, seriously scientific, or anything in between.

4.3 Job interview preparation

Great! Emily got an interview! She doesn't have too much experience and wants practice answering common interview questions. She asks ChatGPT to generate a list of potential questions based on the job description and then engage in a mock interview.

Prompt: Pretend you are the hiring manager for an entry level mechanical engineering position at a small wind farm company. You are 42 and have 20 years of experience in the wind farm industry. You are kind, but when you can tell someone is making stuff up you aren't afraid to call them out. You want to hire a new graduate for this position but want to make sure they know their stuff and that they are not arrogant. Let's have a mock interview where you ask me technical and behavioral questions. After my response to each question provide feedback

After this prompt, ChatGPT generated a bunch of good questions. However, it also generated sample answers to the questions, and feedback to those answers, all in one response! I've included the top quarter of the response below, followed by Emily's prompt to get the behavior she desired.

Partial Response: Sure, I can do that! Let's begin the mock interview.

Question 1: Can you tell me about a time when you had to troubleshoot a mechanical system? What steps did you take?

Question 2: What are the key factors that affect the efficiency of a wind turbine?

Question 3: Can you explain how the power output of a wind turbine is calculated?

Question 4: How do you handle working in a team with people who have different personalities and work styles than you?

Question 5: Can you describe a project or experience where you had to balance competing priorities and how you managed that?

Emily's Redirect prompt: That was great but I want to type in my responses to your questions and then you provide feedback. Don't write the answers for me

Response: Sure, that works too! Go ahead and type your responses to the questions and I will provide feedback.

Emily's answer for the first question: Question 1: When I was at BigOil we were working on a safety device for an offshore platform. We needed to test whether the device would fail after repeated exposure to saltwater. We designed several experiments where we exposed the device to water with different concentrations of salt so that we could estimate if there was a linear relationship between salt concentration and time to failure

Response: Feedback: Your answer demonstrates that you have some experience in designing experiments and testing the durability of mechanical devices, which is relevant to the job you are applying for. However, your response doesn't explain the steps you took to troubleshoot a mechanical system, as was asked in the question. It's important to make sure you are answering the question that was asked.

Awesome, now Emily is getting the desired practice interview. The feedback seems appropriate too, she could have gone into more detail about the specifics of steps

taken during troubleshooting. When assessing feedback on technical questions, apply your domain specific knowledge to make sure the AI is not hallucinating, and if something looks off go ahead and double check the answer with a different source.

In Emily's initial prompt she used the trick of providing ChatGPT with a persona. She gave it a ton of detail, as she once met the hiring manager and wanted to closely emulate what she expected the interview to feel like. She could try various personas to practice all kinds of scenarios, maybe the hiring manager stepped in a puddle that day was in a cranky mood!

To correct the error where the AI listed out example answers, the key to getting back on track was reiterating the desired output structure. Emily made sure to emphasize the correct order by structuring her prompt as "I do this *then* you do that". Finally in your initial prompt asking for a mock interview, it may be useful to provide the job description and your resume, similar to how we did that in the previous two examples.

4.5 Networking and personal branding

Networking is probably the number one skill needed to advance one's career. Emily is new to this, so she asks ChatGPT for strategies for enhancing her LinkedIn profile, crafting engaging social media content, and making meaningful connections with industry professionals. To refine her networking skills, she instructs it to act like a senior partner at an engineering consulting firm and practices selling her personal brand.

For many careers, it can be beneficial to have a personal website or blog where you can show off your projects. ChatGPT can help you design a website, set up web hosting, and offer feedback on your projects.

Chapter Sendoff

By leveraging AI's expertise in crafting resumes, cover letters, and more, you'll be well-equipped to navigate the job market and save time and energy spent on tedious tasks. As a take home project, see if you can get ChatGPT to interview you by prompting it to act as a recruiter for that job you've been eyeballing, making sure to provide ample background information. So, go ahead and let AI be your personal career coach on the path to professional success!

5: WORK SMART— BOOST PRODUCTIVITY AND INNOVATION

Imagine a super helpful coworker who never stood by your desk for too long recounting their weekend dinner party with the in-laws. Luckily such a coworker exists, and this one doesn't even have a family! Ok that's a little depressing I won't bring it up again. Anyway, welcome to the AI-enhanced workplace! In this chapter, we'll explore the exciting ways ChatGPT can revolutionize your work, from drafting documents and emails, helping you write code, and even developing business strategy. Discover how AI can become your go-to coworker!

5.1 Drafting documents and emails

Karen, a project manager at a boutique consulting firm, needs to write a detailed project proposal and numerous emails to coordinate with her team. She's in a rush so decides to try out ChatGPT. The AI helps Karen by generating a well-structured proposal outline, complete with suggested headings and key points. For emails, ChatGPT provides Karen with concise and professional templates tailored to each recipient and ready for her personal touch.

Prompt: *You are a project manager at a boutique consulting firm that provides business strategy to law firms. Write an outline with key points for our new project with Ryan and associates. This project consists of monitoring social media for tech startups in the area who may need attorneys for writing terms of service agreements. After the outline write 3 emails. One to Mike, our finance guy, asking him to run a cost analysis. One to Jack our social media manager asking him to prepare an outline for a social media strategy. And one to my boss Nina letting her know that we are getting this new project off the ground.*

Response: *Project Outline: Social Media Monitoring for Tech Startups Needing Attorneys*
I. Introduction

- Briefly introduce the project and its purpose: to monitor social media for tech startups in the area who may need attorneys for writing terms of service agreements.
- Highlight the importance of social media monitoring for identifying potential clients and staying ahead of the competition.

II. Scope of Work

- Define the scope of the project: monitoring social media platforms (such as Twitter, LinkedIn, and Facebook) for posts and conversations related to tech startups and their legal needs.
- Detail the specific keywords and phrases to monitor, such as "terms of service agreement", "startup legal advice", "lawyer for startups", etc.
- Establish a timeline for the monitoring period, including the frequency and duration of monitoring sessions.

III. Deliverables

- Identify the specific deliverables for the project, such as a list of potential clients and their contact information, analysis of trends in the market, and recommendations for social media strategies.
- Define the format and presentation of the deliverables, such as a report, spreadsheet, or presentation.

IV. Roles and Responsibilities

- Assign roles and responsibilities for the project, including project manager, finance, social media manager, and any additional team members.
- Detail the responsibilities of each role, such as managing the budget, conducting the social media monitoring, analyzing data, and presenting findings.

V. Budget and Timeline

- Provide a detailed budget for the project, including resources, personnel, and any other expenses.
- Define the timeline for the project, including key milestones and deadlines.

VI. Risk Management

- Identify potential risks and issues that may arise during the project, such as data privacy concerns or social media platform limitations.
- Define risk management strategies and contingency plans for addressing these issues.

Email to Mike, the Finance Guy:

Dear Mike,

I hope this email finds you well. I wanted to reach out to you to request a cost analysis for our new project with Ryan and Associates. The project involves monitoring social media for tech startups in the area who may need attorneys for writing terms of service agreements.

Can you please provide an estimate for the resources and expenses required for this project? It would be helpful to have a breakdown of the costs for each phase of the project.

Please let me know if you have any questions or need any further information. Thank you for your help.

Best regards, [Your Name]

Email to Jack, the Social Media Manager:

(I removed the last 2 emails since this response is quite lengthy, but they read similar to the email to Mike, very formal and to the point)

Karen is impressed! Although the emails sound a bit formal. Her workplace is relaxed and easy going, so she follows up with a request to write the emails with a more casual tone. Finally, before sending them out she edits the first and last lines with her typical greeting and sign off. Note that in the initial prompt Karen gave ChatGPT plenty of information to work with. If she had simply asked “write me an outline for a new social media monitoring project” the response would have been generic and not as helpful.

She also used the trick of asking for a persona that we’ve seen before, but this time the persona was herself! This helped ChatGPT create output that was more tailored to her situation. To keep the multiple parts of the output distinct, Karen made sure to instruct to write the emails *after* the outline, and made very clear distinctions between each email (each description 1 sentence long so it matched the request for 3).

Karen could draft all kinds of documents with ChatGPT. Social media posts, usage guides, presentation slides, responses to emails, reviews of others work- just about anything! A great trick she found was asking for multiple versions of documents at the same time, that way she can pick and choose the best parts from each.

5.2 Helping with Excel, IT, and other common workplace tools

Mike, the finance guy, is running into a problem in excel that he isn’t sure how to solve. He tried searching for an answer online but found that ChatGPT offered much better instructions.

Prompt: *How can I calculate the weighted average of a list of values in Excel, where the weights are in a separate list?*

Response:

To calculate the weighted average of a list of values in Excel, where the weights are given in a separate list, you can use the SUMPRODUCT function along with the SUM function. Here's a step-by-step guide:

1. Organize your data in Excel with the values in one column and the corresponding weights in another column. For example, you can have the values in column A (from A2 to A11) and the weights in column B (from B2 to B11).
2. Click on an empty cell where you want the weighted average to be displayed.
3. Enter the following formula: `=SUMPRODUCT(A2:A11, B2:B11) / SUM(B2:B11)`

Replace A2:A11 with the range of cells containing your values and B2:B11 with the range of cells containing the weights. Adjust the ranges as needed to match your data.

Press "Enter" to calculate the weighted average.

The formula uses the SUMPRODUCT function to calculate the sum of the products of each value and its corresponding weight. Then, it divides this sum by the total sum of the weights using the SUM function. The result is the weighted average of the values based on the given weights.

Remember to adjust the cell ranges in the formula to match your data, and make sure there are no errors in the input values or weights.

With ChatGPT's help, Mike finishes his work on the spreadsheets ahead of schedule. He opens up Outlook and emails the spreadsheet to his boss. As soon as he hits send his heart drops- he accidentally attached "Review.txt", a draft of a movie review he'd been working on in his downtime, instead of "Revenue.csv". Oops! He remembers that there might be a way to recall emails but isn't quite sure. ChatGPT to the rescue!

Prompt: How do I recall an email in outlook?

Response: You can recall an email in Outlook, but it's important to note that this feature only works if the recipient is also using Outlook and both of you are part of the same organization's email system. Here are the steps to recall an email in Outlook:

1. Go to your "Sent Items" folder in Outlook.
2. Open the email message you want to recall.
3. Click on the "Message" tab in the ribbon at the top of the screen.
4. Click on "Actions" in the "Move" group.
5. Select "Recall This Message".
6. Choose one of the two options available:
 - "Delete unread copies of this message": This option will delete the original message from the recipient's mailbox.

- *"Delete unread copies and replace with a new message": This option will replace the original message with a new one that you can edit and resend.*
7. *Select the appropriate option, then click "OK".*

If the message is successfully recalled, you will receive a notification from Outlook indicating that the recall was successful. If the recipient has already read the message, it may not be possible to recall it.

Note that the ability to recall a message is not foolproof and there are some limitations and conditions that apply. For example, if the recipient has already opened or read the message, or if the message was sent to a distribution list with many recipients, the recall feature may not work as intended.

Mike is able to recall the email and takes a deep breath in relief. That was a close one, he's pretty sure his boss hates that movie.

These examples are cool, but you might be thinking, couldn't he have just used a search engine? Well yes, however, this typically requires wading through dozens of ad infested, hard to read webpages. ChatGPT immediately gave clean useful output. Feel free to ask for help with any commonly used software you might encounter in the workplace, provided it's not an internal tool. The model was only trained on publicly available text so has no idea there is a world outside of that.

Another advantage of ChatGPT is the ability to ask follow up questions. If the solution it provides doesn't work, ask let the AI know and ask for an alternative solution. In the situation where it's solution changes something but doesn't fix the issue at hand, simply describe what happened and keep trouble shooting. Let's see this process in action when Mike tries to set up his fancy new dual monitors.

Prompt: *I'm trying to hook up my two monitors to my computer but only one screen seems to be working. What might be causing the issue?*

Response: *There could be several reasons why only one of your two monitors is working when connected to your computer. Here are some common issues and troubleshooting steps:*

1. *Check your cables and connections:*
 - *Ensure both monitors are properly connected to your computer.*
 - *Make sure the cables are in good condition and firmly connected to the appropriate ports.*
 - *Try swapping the cables between the monitors to see if the issue persists.*
2. *Verify the display settings:*
 - *In Windows, right-click on the desktop and select "Display settings" or "Screen resolution."*
 - *In macOS, open "System Preferences" and select "Displays."*

- Make sure both monitors are detected and properly configured. You may need to extend or mirror your display, depending on your preference.
3. Update your graphics drivers:
 - Outdated or incompatible graphics drivers can cause issues with multiple monitor setups. Ensure your graphics drivers are up to date by visiting the manufacturer's website or using the built-in update utility.
 4. Check the graphics card:
 - Make sure your graphics card supports multiple monitors and that you're using the appropriate ports.
 - If you have an integrated and dedicated graphics card, try connecting both monitors to the dedicated card or check your BIOS/UEFI settings to enable multiple displays.
 5. Test the monitors individually:
 - Disconnect one monitor and see if the other works. This can help you determine if the issue is with a specific monitor or your computer.
 6. Try a different adapter or port:
 - If you're using an adapter (e.g., HDMI to DisplayPort), it could be faulty. Try a different adapter or use a different port on your computer.
 7. Reset your monitors:
 - Unplug the monitors from power and wait for a few minutes before plugging them back in. This can help reset any potential issues with the monitors themselves.

If you've tried all of these steps and the issue persists, it's possible that there's a hardware issue with your computer or one of your monitors. You may want to consult a professional or contact the manufacturer for further assistance.

Mike's follow up: It looks like both monitors work individually, but when I plug them both into my laptop dongle one of them doesn't turn on. My dongle has two HDMI ports so I'm not sure what the issue is?

Response: If both monitors work individually but not when connected to your laptop through a dongle with two HDMI ports, the issue might be with the dongle itself or with the laptop's ability to support multiple displays through the dongle. Here are some troubleshooting steps you can try:

1. Check the dongle specifications:
 - Some dongles might have limitations when it comes to supporting multiple displays simultaneously. Check the user manual or the manufacturer's website to confirm whether your dongle supports dual-monitor setups.

(The first bullet was the solution I had in mind, it suggested 7 more solutions, but I cut it off here for sake of brevity)

Mike checks the box the dongle came in. It only supports 1 4k and 1 1080p display simultaneously, both of his displays are 4k. Mystery solved! Looks like he'll have to upgrade that dongle.

5.3 Writing, debugging, and understanding code

Honestly, this section requires an entire book, probably at least a dozen, written for it. Large language models have the potential to dramatically change the software development process. I'll include some simple examples that are applicable to a wide audience, but if you are a software engineer or data scientist, you'll want to search the internet for advice on your specific use case.

Mike has been learning to use python to help him at work. He's practicing writing functions and is trying to write one to calculate the factorial of a number. However, the code does not seem to be running at all and he doesn't understand the error he gets back. He copies and pastes the code into ChatGPT.

Prompt: *I'm trying to write a function to calculate the factorial of a number, but it's not working. Here's my code:*

```
def factorial(n):  
    if n == 0:  
        return 1  
    else:  
        result = n * factorial(n - 1)  
  
print(factorial(5))
```

Response: *I see the issue with your code. You're missing the return statement for the result variable in the else block. Without this statement, your function will not return any value when it's called, which is why you're not getting any output. To fix this, simply add the return statement as shown below: [Here the correct code is returned, and even formatted in a way that it can be copy and pasted directly back into a code editor]*

Mike chuckles, he thought the problem would be more complicated than a missing return statement. With this fixed he continues to practice and learn. If he were to ask ChatGPT to write code for an entire function or class, it would be key to ask for correct formatting, *written in python formatted to copy into an IDE*, so he can easily copy the code into an editor.

One day Mike comes across an issue at work, adding a prefix to hundreds of csv files in a directory, that he thinks he could use the command line to do more efficiently. He needs to get it done asap, and knows very little about using the command line, so he just asks ChatGPT to write a command for him.

Prompt: *Can you write the input I need for the command line to add the prefix "updated" to the file name of every csv file in this directory?*

Response: *Yes! Here's the input you can use for the command line to add the prefix "updated" to the file name of every CSV file in a directory: `for file in *.csv; do mv "\$file" "updated_\$file"; done`*

This command uses a for loop to iterate through every file in the directory with a ".csv" file extension. For each file, it renames the file by adding the prefix "updated_" to the beginning of the file name using the mv command.

To use this command, open your terminal and navigate to the directory where your CSV files are located. Then, copy and paste the input above into the terminal and press enter. This should rename all the CSV files in the directory by adding the prefix "updated_" to the beginning of their file names.

With this efficient one-liner, Mike is able to complete the task in seconds!

One impressive behavior is how the AI adds a brief explanation of the code and instructions to use it without being prompted to do so. If Mike were still confused, he could follow up with a request for a more detailed explanation. This is super helpful for helping people learn. If Mike simply asked ChatGPT to write all his code and never learned what the code was doing, he'd be in a heck of a lot of trouble the day a problem came up that ChatGPT simply couldn't handle. It's good practice to work and learn alongside AI and not rely completely on it for tasks you are unsure about.

As Mike writes increasingly complex code, ChatGPT struggles to keep up, often writing very basic skeletons that don't end up saving him much time. He discovers a helpful trick. Whenever he needs help writing a code chunk that interacts with other, already completed code chunks, he first describes the problem at a general level, then informs the AI that he will paste in X number of completed relevant code chunks followed by a code chunk that needs completion. This gives ChatGPT much more information to work with! The code will most likely not work the first time, but can be a great jumping off point.

The possibilities in coding are truly impressive. If you work with code for a living, definitely check out more in-depth resources on ChatGPT's capabilities.

5.4 Quick intro to image-based models and potential use

As mentioned in the introduction, image-based AI models like Midjourney and DALL-E 2 are also huge neural networks like ChatGPT. Instead of pure text, they are trained on images with text captions, such that they learn associations between words and their visual representation. To use them, you simply enter a prompt, like ChatGPT, and the model will generate output images. Thus, you can provide them a text prompt and they will use it to generate an image. In this guide, we are focusing on large language models, so we won't go super deep into image-based models. Rather, we'll focus on using ChatGPT to augment your usage of image models. As always, check your specific image model's terms of service before any commercialization of your output.

If you work in graphic design or any other creative role, these image-generation models could jumpstart brainstorming. They, like ChatGPT, are sensitive to prompts. Try asking ChatGPT to generate several prompts for a set of specifications, plug those into an image model, and accelerate your creative workflow! See section 9.1 for an example prompt. Try asking for images in various styles, (minimalist, modern, impressionist) and in different media (photography, cartoon, oil painting).

Chapter Sendoff

This chapter could go on and on with endless use cases. If you have a task and didn't see it here, most likely at least one person has posted about it on the internet. Although they are still brand new, it's a safe bet that large language models will revolutionize the workplace. As with all major technological advancements, concerns about AI replacing some jobs are valid. However, staying up to date and fluent with these tools is a great way to add security to your career. Hopefully with ChatGPT as your trusty coworker, you can lighten your workload while maintaining or even improving quality. See if you can prompt it to act like yourself and write that email you've been putting off!

6: THE AI KITCHEN AND GYM — EAT AND EXERCISE WITH EASE

Does ChatGPT know how to cook? In this chapter we'll first create personalized meal plans, delightful recipes, efficient grocery lists, and more. After we've got our nutrition taken care of, it's workout time. Meet your all-new AI gym buddy!

6.1 Personalized meal plans, shopping lists, and recipes

Meet Evan, a vegetarian who wants to increase his protein intake while avoiding soy. He struggles with finding new meal ideas and is tired of food blogs covered in ads. We've all seen them, the ones with the massive backstory and the recipe at the very bottom. He decides to try a new approach and inputs his preferences and dietary restrictions into ChatGPT.

Prompt: *I'm a vegetarian who needs to eat more protein, but I want to avoid soy. Could you make me a 5-day meal plan with recipes that are quick, tasty, and healthy?*

Response: *Certainly, here's a 5-day vegetarian meal plan that is high in protein and soy-free:*

Day 1:

- Breakfast: Greek yogurt with mixed berries and a sprinkle of chia seeds*
- Lunch: Chickpea salad with mixed greens, cherry tomatoes, cucumber, and avocado*
- Dinner: Lentil soup with whole grain bread*

Day 2:

- Breakfast: Scrambled eggs with spinach and feta cheese*
- Lunch: Quinoa and black bean bowl with roasted sweet potato, red onion, and avocado*
- Dinner: Grilled portobello mushroom with roasted vegetables and a side salad*

Day 3:

- *Breakfast: Smoothie bowl made with frozen banana, peanut butter, hemp seeds, and almond milk*
- *Lunch: Grilled cheese sandwich made with whole grain bread and sharp cheddar cheese, served with tomato soup*
- *Dinner: Zucchini noodles with tomato sauce and vegetarian meatballs*

Day 4:

- *Breakfast: Homemade granola with Greek yogurt and sliced banana*
- *Lunch: Tofu stir-fry with mixed vegetables and brown rice*
- *Dinner: Black bean and vegetable chili with cilantro and cornbread*

Day 5:

- *Breakfast: Breakfast burrito with scrambled eggs, black beans, salsa, and guacamole*
- *Lunch: Roasted vegetable and hummus wrap with whole grain tortilla*
- *Dinner: Baked sweet potato topped with black beans, salsa, and cheese, served with a side salad*

All of these meals are easy to make, nutritious, and high in protein. They feature a variety of plant-based protein sources, such as lentils, beans, tofu, and eggs. Incorporating these meals into your diet can help you meet your protein needs while avoiding soy.

When he sees a recipe that has cilantro in it, he asks ChatGPT to replace it with one that doesn't taste like soap. With everything looking good, Evan asks for a grocery list excluding items he already owns.

Follow up: *Can you replace the recipe with cilantro with a new dish!*

Follow up 2: *I have chickpeas, lemons, and rice. Can you make an organized shopping list for the other items in my meal plan?*

With his list in hand Evan is off to the store!

Evan's friend Mary, a professional scuba diver, is hungry and too tired to think of what to make for dinner. She has the following ingredients in her fridge and pantry: chicken breasts, quinoa, cherry tomatoes, feta cheese, spinach, and a few basic pantry staples. This looks like enough for a meal so she asks ChatGPT for a quick recipe:

Prompt: *Can you make me a quick and easy recipe using chicken, quinoa, cherry tomatoes, feta, and spinach*

Response: *Mediterranean Chicken Quinoa Bowl*

Ingredients:

- *2 chicken breasts*

- 1 cup quinoa
- 2 cups cherry tomatoes, halved
- 1 cup crumbled feta cheese
- 3 cups spinach
- Olive oil, salt, and pepper

Instructions:

1. Cook quinoa according to package instructions.
2. Season chicken breasts with salt and pepper. Heat a drizzle of olive oil in a skillet over medium heat and cook chicken until fully cooked, about 5-7 minutes per side. Let it rest for a few minutes before slicing.
3. In a large bowl, combine cooked quinoa, cherry tomatoes, feta cheese, and spinach. Drizzle with olive oil and season with salt and pepper.
4. Top quinoa mixture with sliced chicken and serve.

Sometimes the recipes might need a little curation, but generally they are a great starting point. Mary decides to sauté the spinach and cherry tomatoes instead of putting them in the bowl uncooked. You can modify your prompt to include difficulty level, cooking time, serving size, and specific ingredients you hate.

While cooking the chicken Mary tries to have some fun with ChatGPT.

Prompt: You are the professional chef of a Michelin star restaurant. Help me make the perfect chicken without burning it. If I mess up fire me on the spot

Response: Sure, I'd be happy to help you make the perfect chicken! Here are some tips:

1. Choose the right cut of chicken: Different cuts of chicken cook at different rates, so make sure you choose the right cut for the cooking method you plan to use. For example, boneless, skinless chicken breasts cook quickly on a grill or in a pan, while bone-in chicken thighs are better suited for slow roasting in the oven.
2. Use a meat thermometer: A meat thermometer is the most accurate way to ensure your chicken is cooked through without overcooking it. Insert the thermometer into the thickest part of the chicken, making sure not to touch any bone. Chicken is safe to eat when it reaches an internal temperature of 165°F (74°C).
3. Don't overcrowd the pan: When cooking chicken on the stovetop, be sure not to overcrowd the pan. Overcrowding can cause the chicken to steam instead of brown, which can lead to an uneven cook.
4. Let the chicken rest: After cooking, let the chicken rest for a few minutes before cutting into it. This allows the juices to redistribute throughout the meat, resulting in a juicier and more flavorful chicken.

5. *Season it well: Chicken can be bland if not seasoned properly. Be generous with salt and pepper, and consider adding herbs or spices to the chicken for added flavor. A simple marinade can also do wonders for the taste of the chicken.*
6. *Keep an eye on the heat: Chicken can burn quickly, so be sure to keep an eye on the heat while cooking. Adjust the heat as needed to prevent burning and ensure even cooking.*

By following these tips, you should be able to make a perfectly cooked chicken without burning it. Good luck!

Unfortunately, ChatGPT is very polite, shows no signs of frustration, and simply provides chicken cooking tips. Although slightly disappointed, Mary's chicken turns out great.

6.2 Customized workout plans for every goal

As a busy professional who also wants to make gains in the gym, Josh is having a hard time sticking to a routine. It also isn't helping that his gym has a fairly small selection of machines. He inputs his fitness goal, equipment availability, and scheduling into ChatGPT.

Prompt: *I want to gain muscle mass but only have access to a gym with a squat rack, bench, and free weights. Can you make me a 3 day per week lifting plan using that equipment and make suggestions about how much extra weight I should add to each lift every week*

Response: *Certainly, here's a 3 day per week lifting plan that you can use to gain muscle mass using a squat rack, bench, and free weights:*

Day 1 - Lower Body:

1. *Warm up with 5-10 minutes of cardio*
2. *Squats - 3 sets of 8-10 reps*
3. *Deadlifts - 3 sets of 8-10 reps*
4. *Lunges - 3 sets of 10 reps per leg*
5. *Leg curls - 3 sets of 10 reps*
6. *Calf raises - 3 sets of 12-15 reps*

Day 2 - Upper Body:

1. *Warm up with 5-10 minutes of cardio*
2. *Bench press - 3 sets of 8-10 reps*
3. *Bent-over rows - 3 sets of 8-10 reps*
4. *Overhead press - 3 sets of 8-10 reps*
5. *Bicep curls - 3 sets of 10 reps*
6. *Tricep extensions - 3 sets of 10 reps*

Day 3 - Full Body:

- 1. Warm up with 5-10 minutes of cardio*
- 2. Squats - 3 sets of 8-10 reps*
- 3. Deadlifts - 3 sets of 8-10 reps*
- 4. Bench press - 3 sets of 8-10 reps*
- 5. Bent-over rows - 3 sets of 8-10 reps*
- 6. Bicep curls - 3 sets of 10 reps*
- 7. Tricep extensions - 3 sets of 10 reps*

When it comes to adding weight to each lift, it's important to do so gradually to avoid injury and ensure that you're making progress. As a general rule of thumb, you should aim to increase the weight you're lifting by 5-10% each week. For example, if you're currently squatting 100 pounds for 3 sets of 8 reps, you could aim to squat 105-110 pounds the following week. It's also important to listen to your body and avoid adding too much weight too quickly, as this can lead to injury.

In addition to lifting weights, it's important to make sure you're eating enough protein and getting enough rest to support muscle growth. Aim to eat 1-1.5 grams of protein per pound of bodyweight, and make sure to get at least 7-8 hours of sleep each night. With consistency, dedication, and a well-rounded approach, you can achieve your muscle-building goals.

Notice in this response it includes Leg curls on day 1. Josh doesn't have a leg curl machine at his gym! Often it is hard for these language models to strictly stick to every rule you give in your prompt. This is why it is vitally important to curate the response you get back. Additionally, Josh may want to compare this workout to others available online or consult a personal trainer. Again, AI (at least for now) is a useful tool but still can't replace knowledgeable humans in many tasks.

6.3 Recovery and injury prevention

Josh has been making major gains! However, after a big leg day he has a bit too much soreness in his lower back.

Prompt: *I've been having some lower back pain after squats, do you know what I might be doing wrong?*

Response: *Lower back pain after squats is a common issue, and it can be caused by a number of factors. Here are some possible reasons why you may be experiencing lower back pain after squats:*

- 1. Poor form: Squats require proper form and technique to be performed safely and effectively. If your form is incorrect, you may be putting too much stress on your lower back, which can lead to pain. Common form mistakes include leaning too far forward, rounding your back, or letting your knees cave in.*

2. *Lack of mobility: If you have tight hip flexors, hamstrings, or glutes, you may be compensating by arching your lower back during squats. This can lead to lower back pain, especially if you're lifting heavy weights.*
3. *Weak core muscles: Squats require a strong core to maintain proper form and stabilize your spine. If your core muscles are weak, you may be putting too much strain on your lower back during squats.*
4. *Lifting too much weight: If you're lifting more weight than your body is ready for, you may be putting too much stress on your lower back. It's important to progress gradually and lift weights that are appropriate for your strength level.*

To address lower back pain after squats, try the following tips:

1. *Check your form: Make sure your form is correct by consulting with a qualified trainer or watching videos online. Focus on maintaining a neutral spine, keeping your knees in line with your toes, and engaging your core muscles.*
2. *Improve your mobility: Incorporate stretches and mobility exercises into your warm-up routine to address any tightness in your hip flexors, hamstrings, and glutes. This can help you maintain proper form during squats and reduce your risk of lower back pain.*
3. *Strengthen your core: Focus on exercises that strengthen your core muscles, such as planks, bird dogs, and Russian twists. A strong core can help you maintain proper form during squats and reduce your risk of lower back pain.*
4. *Reduce the weight: If you're experiencing lower back pain after squats, it may be a sign that you're lifting too much weight. Reduce the weight and focus on perfecting your form before gradually increasing the weight again.*

If your lower back pain persists, it's important to seek the advice of a qualified healthcare professional, such as a physical therapist, to rule out any underlying conditions or injuries.

With this list and a few videos, Josh thinks he's found the problem, he needs to warm up more! Can't just jump right in immediately after getting to the gym. Josh has been using ChatGPT to meal plan as well, so with nutrition and athletics covered, he rounds things out by asking the AI for some tips and book recommendations on mindfulness meditation.

Disclaimer! (also chapter sendoff)

As powerful and transformative as AI-enhanced athletics can be, it's essential to remember that language models are not a substitute for professional medical advice. If you're experiencing serious medical issues, pain, or symptoms that might indicate an underlying health concern, it's crucial to consult with a qualified healthcare

professional. They can provide you with a comprehensive evaluation, accurate diagnosis, and appropriate treatment plan. While AI can be a valuable tool in supporting your health and fitness journey, it is vital to prioritize your well-being and seek the guidance of trained medical experts when necessary. Stay safe and enjoy the benefits of AI-supported athletics, meal planning, and more with a balanced and responsible approach!

7: UNLEASHING YOUR INNER ARTIST – AI

AS A CREATIVE COMPANION

When a language model drafts a story, is it simply mimicking the millions of human authored texts it saw during training- its output only a mishmash of themes and words and a bit of randomness? Or is there emergent creativity? What even is “art”?

I’ll leave those questions as a take home assignment for the reader. For now, let’s just take a look at how language models like ChatGPT, along with image-based models, can become our creative companions. This is another chapter that could go on and on and on, with endless exciting use cases. Take what you see here and run wild!

Super quick, if you are reading chapters out of order you might find chapter 5 section 4 useful, as it provides a brief introduction to image-based models.

7.1 Generating diverse and creative prompts for image models

Mathew, an aspiring painter, is seeking inspiration for his next piece. He has an idea of what he wants and has been entering prompts into DALL-E-2, but the outputs haven’t impressed him. He shares his preferred color palette, subject matter, and style with ChatGPT and asks it to generate several DALL-E 2 prompts.

Prompt: *I need inspiration for a new painting. I want to use a bright and cheery pallet and paint in an impressionist style. I'd like to capture the diversity of modern life in my painting and am open to suggestions on how to do this. Can you generate several different prompts that I can enter into DALL-E 2?*

Response:

1. *"Illustrate a bustling city park filled with people of diverse backgrounds, painted in an impressionist style with a bright and cheery color palette."*
2. *"Create an impressionist painting of a lively urban farmers market, showcasing the diversity of modern life, using vibrant and warm colors."*
3. *"Design an impressionist scene of a multicultural neighborhood street party, capturing the essence of modern life with vivid and joyful colors."*

4. *"Paint an impressionist-style public transportation scene, emphasizing the diversity of passengers, using a bright and cheerful color scheme."*
5. *"Compose an impressionist depiction of a diverse group of people enjoying a sunny day at the beach, using a radiant and energetic color palette."*
6. *"Illustrate a vibrant café terrace scene in an impressionist style, highlighting a diverse crowd engaged in lively conversations, using warm and inviting colors."*
7. *"Create an impressionist painting of a modern art gallery opening, showcasing a diverse group of artists and art enthusiasts, using a bright and exuberant color palette."*

Adjust these prompts according to the specific guidelines and requirements of DALL-E 2.

The newly generated prompts are similar to what Mathew had been trying, but they each contain different and unique words, phrases, and ideas. He tries them in DALL-E 2 and eventually creates several painting mockups that inspire him. He brings out the brushes and canvas and gets to work.

Notably, this is the same process I used to create the cover of this book! It took several tries before I got something that looked good so don't give up too soon. A trick I found is to try both highly detailed and somewhat vague instructions with ChatGPT. This will produce a wide range of unique prompts to try in DALL-E 2.

In my case, a simple ChatGPT prompt, *Can you provide some prompts for DALL-E 2 that will generate a simplistic book cover for an AI handbook*, generated a similarly simple prompt for DALL-E 2, *A clean and modern book cover with an infographic style showing a human brain connected to stylized neural network pattern*. And that's how the cover came to be!

7.2 Musical lyrics

Having always dreamed of becoming a rockstar, Haven is determined to write the next big hit. However, he's having a hard time coming up with good lyrics for a song that expresses the angst he has towards AI. Haven fires up ChatGPT. He provides it with a basic chord progression (planning to make it more complex and interesting in the real song). For now, AI is not great at musical composition, but pretty clever at generating lyrics.

Prompt: *Can you use the chord progression (C-G-Am-F in the key of C major) to write a fun song about how hard it is to be a musician when AI can write lyrics*

Response:

Verse 1: (Chords: C-G-Am-F)

C G

Once upon a time, I had a way with words

Am F

A lyrical genius, or so I've heard

C G

But now there's something that's got me shook

Am F

An AI writing verses like an open book

Pre-Chorus: (Chords: Am-G)

Am G

I'm struggling to keep up the pace

Am G

In this ever-changing lyrical race

Chorus: (Chords: C-G-Am-F)

C G

They say the future is here and now

Am F

And I'm trying to cope with it somehow

C G

I'll keep on writing, I'll sing my songs

Am F

But it's hard to compete with the digital throngs

Verse 2: (Chords: C-G-Am-F)

C G

These AI minds are something to see

Am F

Crafting stories and rhymes with such ease

C G

But I won't let them steal my thunder

Am F

I'll find my voice, won't go under

(Repeat Pre-Chorus and Chorus)

Bridge: (Chords: Am-G-F-F)

Am G

I'll embrace the challenge, learn and grow

F F

Keep my creativity in constant flow

Am G

For the human touch, there's no substitute

F F

I'll let my heart guide the words I compute

(Repeat Chorus)

Outro: (Chords: C-G-Am-F)

C G
The world keeps spinning, times have changed
Am F
But my passion for music remains unswayed
C G
I'll keep on writing, my spirit unbroken
Am F
A symphony of words, forever outspoken

This song has some great lyrics but sounds like it was written for a comedy skit. Haven notices he included the word “fun” in his prompt. Oops. Regardless, Haven plays it through a couple times, changing up the bridge to something dramatic using Em, B7, A7, and G7 (seriously try this at home it sounds so funny, I tested it on a ukulele). He finds that some of the lyrics are really sticking out to him so incorporates them into his more serious and professional sounding song.

Here I'll note, I tried extensively to get ChatGPT to write interesting music for me in a tab format. While it is capable of understanding these instructions and properly formats its output, the music just sounds awful. I think for now it's best used for writing lyrics, when it comes to composition it can provide some aid like suggesting unique chord progressions, but it definitely can't hold a tune.

7.3 Making games

ChatGPT would be fantastic for anyone in need of backstory or dialogue for a roleplaying game. One awesome ability ChatGPT has is as a text-based adventure game. Marques was always a fan of old school text adventure games and thinks it would be fun to create custom ones for his favorite scenarios. He gives it a try.

Prompt: *Let's play a classic text-based adventure game like Zork. You will act as the narrator and must stay in character. This game should take place on a futuristic spacecraft in deep space. Start the game with me waking up from cryo sleep and finding myself alone. I'll give you commands as I move around the spaceship, trying to find out what happened to the rest of the crew. For each new location, provide a description, and populate it with various items. Let me have an inventory so I can pick up items. If I need to give you instructions outside of the game I'll respond within brackets [], otherwise I will stay in character. Let's begin!*

Response: *You awaken from cryo sleep, shivering as the frost dissipates from your body. The room is dimly lit, and you can hear the hum of the spacecraft's systems. As you gain your bearings, you realize that you are alone in the cryo chamber.*

The chamber is lined with rows of cryo pods, each containing a member of the crew. However, all the pods are now empty except for yours. The room is cold and sterile, with metallic walls and a single door leading out to the rest of the spacecraft.

There is a small storage locker against one wall, and you notice a discarded datapad on the floor nearby.

Your current inventory is empty.

What would you like to do?

This is so cool. Marques plays through the game, making note of what goes right and what goes wrong. With this, he can modify his future prompts to curate games to his liking. This is a fairly complicated prompt and requires a lot of elements to work. A few key points are assigning an identity and requesting the AI stay in character, supplying background and starting conditions, and detailing instructions on how the game should proceed.

A cool method is the last line where we make a system to provide instructions to the AI outside of the game. This technique could be used in any kind of conversation where you want the AI to stay in character, but also expect the need to give the AI, not the character it is playing, additional instructions.

7.4 Creative writing, and the creative process

When you need to generate creative text and don't want to spend all your time and energy, ChatGPT is there for you. In chapter 2, we saw how we could write an interesting paragraph about a guy named Jimmy using carefully crafted prompts in only minutes. This is fantastic if you need to whip something up real quick.

In the previous three use cases AI served as an inspiration and brainstorming tool, or as just a fun creative toy. But what about when you are genuinely interested in the task of creative writing and don't want an AI to do everything for you? For long format writing, ChatGPT can generate a scaffold that you can take and edit heavily to insert your own style.

This is actually how I wrote this book! For many, myself included, it is much easier to start with a poorly written, generic sounding outline than a cursor blinking ominously on a blank screen. It acts as a catalyst to jump-start the creative process; I was able to add much more voice, character, funnier jokes (you can be the judge of this), and better details than what ChatGPT gave me. Most of the text it generated was quite

uninspired and just felt... sanitized. But I'm not sure I'd have gotten off the ground without it.

However, if you want to be completely in control of the creative process and create from scratch, language models can still help! Here's a handful of helpful, non-creative ideas:

Spell checking, grammar, tone, and vocabulary: *Act like an editor for a website that is mostly visited by teenagers. Check this new article it for spelling and grammatical errors, and comment on whether the writing style, tone, and vocabulary are appropriate:*

Fact Checking: *Is it possible that my character had a katana in 9th century Japan*

Research: *Can you suggest some sources I can use to research cat breeds*

Nonspecific writing advice: *I want to write a science fiction book, step by step, what do I need to do to get published*

Chapter Sendoff

As a first project, maybe try asking ChatGPT to write the first paragraph of story in a certain style, then continue the text yourself. After you've written your own paragraph, paste it in and have the AI continue the story for an additional paragraph. Keep taking turns and see what you can co-create.

Whether you use AI to generate entire stories, inspire your paintings, brainstorm lyrics, or simply act like an excellent grammar checker, it can be an invaluable tool. Large language and image models have changed art forever, even as us humans still find art so hard to define. Use these unique tools as you seem fit and have fun!

8: MONETIZING YOUR SKILLS? — DON'T GET LOST IN THE HYPE

We all want to make money. So why not just ask ChatGPT how we can use it to make money? Start that side hustle and earn passive income! Welp, by this point, and the models have only been out for a couple of months mind you, millions upon millions of people have asked that exact question. And about 80% of those people followed up with a request to for more unique and original ideas. And about 10% of those people just copied the list and posted it on the internet or made it into a YouTube video with a catchy title like “10 GENIUS ways to make a \$1000 a day with Chat GTP”.

This chapter is a bit different from the others, and as you may have noticed, more opinionated. My plan is to offer some input on the most common suggestions for monetizing large language models, including reasons why the ideas are often bad but also how some could be useful. So let's do what comes natural and see what ChatGPT has to say. If you've read any articles online about making money with ChatGPT you might recognize some of these, perhaps word for word....

8.1 ChatGPT's questionable schemes

My question: *Can you provide a list of ways that I can utilize ChatGPT to make money? Provide details on monetization*

Response: *Idea 1: Content Creation: You can use ChatGPT to generate high-quality content for blog posts, articles, or social media. Offer your services as a content writer or social media manager, and use ChatGPT to help you create engaging and relevant content faster, allowing you to serve more clients.*

The number of blogs written by AI is likely to skyrocket. A single person could generate hundreds of articles a day about diverse topics and post them to multiple blogs that were also designed and named by AI.

If you have a really innovative idea about something you are passionate about, you should definitely use ChatGPT to help get you off the ground and speed up menial

tasks. However, with the sheer number of people trying this number 1 idea, it will probably take something pretty special to ever earn enough advertising income to cover the time spent working. As for offering your skills as a content writer or social media manager, ChatGPT could help you, but this is more akin to a career change not a side gig.

Response continued: *Idea 2: Copywriting: ChatGPT can help you generate persuasive copy for advertisements, emails, landing pages, and product descriptions. Offer copywriting services to businesses looking to improve their marketing efforts.*

Again, ChatGPT can easily produce vast quantities of text and is widely available. This idea is only feasible if a person already has a career in copywriting. The major flaw with this and idea 1 is that they propose you personally try to sell the very thing ChatGPT is bringing down the value of: written text. Yes, AI can be very, even extraordinarily, helpful for writing tasks. But trying to sell its raw output without intensive editing, curation, and personal creativity is like offering salt to the ocean.

Response continued: *Idea 3: Resume and Cover Letter Writing: Use ChatGPT to help job seekers create professional resumes and cover letters tailored to specific job openings. You can charge clients for these personalized services.*

If you have advanced industry knowledge and a keen eye, maybe combined with a large professional network, you could potentially use ChatGPT to speed up your resume and cover letter consulting side gig. But again, like in idea 2, this is only practical if you are already established.

Response continued: *Idea 4 Language Translation: While not perfect, ChatGPT can be used to assist with language translation tasks. Offer your services as a translator, and use the model to provide quick translations or first drafts, which you can then edit and refine.*

This market is deeply saturated, an internet search shows hundreds of AI powered translation tools and countless professional human translating services.

Ok just two more.

Response continued:

Idea 5: Tutoring and Study Materials: ChatGPT can generate educational content on various subjects. You can offer tutoring services or create study guides, lesson plans, or practice questions for students, and sell these resources online.

Idea 6: Idea Generation: Leverage ChatGPT to generate ideas for blog topics, video scripts, or product names. You can sell these ideas to clients or create content yourself and monetize it through advertising or affiliate marketing.

If you are highly proficient in a subject idea 5 could work, just make sure you do fact checking. As for idea 6, this is definitely applicable to people who already have mildly successful blogs, YouTube channels, small businesses etc. But if you are starting from scratch, ChatGPT is not going to do the hard work for you.

8.2 It gets worse

I scoured the web for other articles claiming quick riches and found some other awful advice including but not limited to:

- Creating a subscription service where you just charge people money to use ChatGPT (so just offer no extra value at a higher cost)
- Building software (absolutely a good way to make money, but only if you already know how to code)
- Getting people to click on your affiliate marketing links (You'll need an audience and platform first)
- Write children's books (you'll probably need a publisher and at least an illustrator. Image based models are nowhere near good enough to illustrate a children's book)
- Using it to trade stocks (no comment)

However, it seems like the most common method of all is:

- Crank out low effort content on how ChatGPT is your personal money printer

8.3 But we aren't completely out of luck

Jokes aside if you want to start a side hustle, ChatGPT can help you get started, but it's not magic. Personally, I think there are 3 simple, but not sexy, ways to use ChatGPT to increase your income.

The first I've already touched on, if you have or want to start a blog, YouTube channel, small business, are an expert in some field and can offer consulting or educational content, or are an aspiring writer/ artist of any kind, use it to jump start any task that requires writing. Use the tips and tricks in this guide to help you work more efficiently and increase your income via cutting down your time spent brainstorming, editing,

and drafting. Again, if you are starting from scratch, make sure you have a good plan for how you will stand out.

Second, use ChatGPT, like in chapter 4, to more effectively job hunt and increase your odds of landing well paid positions. In a similar sense you could increase your productivity at your current job and get a raise/promotion. Simple enough.

Third and finally, use it to develop your skills or help further your education. Definitely not the fastest method but one that could pay major dividends. If you are interested in software development I think ChatGPT could be particularly useful.

Chapter Sendoff

We've had a lot of fun here taking a look at some of the worst ideas for making money with ChatGPT. But overall, the main takeaway is that while ChatGPT can potentially help you boost your income, you are still the one in the driver's seat. As a take home exercise, if you haven't already, search the web and see how many blogs pop up and reiterate the same handful of suggestions. Don't try and count them all though you have work in the morning.

9: CONCLUSIONS & LOOKING AHEAD

Wow what a journey! We've sure covered a lot. I hope by now you feel caught up with the best ways to use AI models like ChatGPT and are excited to take advantage of this amazing new tech.

A couple quick closing reminders/thoughts

1. Remain flexible, these new models are changing rapidly and adding new features by the week. If it can't do something for you right now it might be able to in a couple months.
2. The most important part of writing prompts is simply supplying good details and specific instructions
3. Try using these tools to learn and grow, not to cheat on assignments or evade having to understand what you are doing.
4. One of their best functions is quickly generating text scaffolds/outlines to save you time and effort. Work in tandem and don't try to make it output a perfect product.
5. You can use ChatGPT to enhance your creativity, not replace it. Experiment wildly.
6. There are no free money printers. ChatGPT can help you advance your career, but you'll need to put in the effort.

Looking Ahead

As AI technology continues to evolve, we can expect even more groundbreaking tools and applications in the coming years. Here's just a glimpse at the horizon.

1. Multimodal AI: As AI models become more sophisticated in processing different data types, we'll see applications that can integrate text, photos, sound, and more. With ChatGPT, the ability to input a photo and ask for a response is just around the corner.
2. Real-time collaboration and automation: The ability for AI models to be up to date with real time information is quickly approaching. This will allow for more seamless collaboration. Additionally, we likely find more and more things automated and staffed by AI.
3. Improved personalization: AI could learn from your inputs and custom tailor your experience. Assurance of privacy would be important.
4. Speaking of privacy, AI ethics and regulations: As AI becomes more powerful and integrated into our lives, we'll need increased discussions and regulations surrounding AI ethics. It will be vital to ensure that these powerful tools are used responsibly and with consideration for privacy, fairness, and transparency.

Final sendoff

It's certainly an interesting time to be alive! I truly hope you found this guide both helpful and enjoyable to read. As a final send off I leave you with two limericks. One generated by ChatGPT with the prompt, *write a limerick as a closing message for my guide on using ChatGPT*, and one generated by me using my brain.

In the world of AI, so grand,
ChatGPT lends a helping hand.
Productivity gains,
Creativity rains,
With this wondrous tool close at hand.

Through these chapters I hope you have seen,
Language now the domain of machine.
And here at the end,
I hope you'll befriend,
ChatGPT for your daily routine.