



cosmic[®]

Welcome

- Matt Ballard – Training Manager
- Background in Economic Development
- Worked as a digital trainer for the past 8 years





The Digital Solutions People

Our Purpose:

To inspire and empower people, businesses and communities to confidently use digital by providing the insight, services and skills needed to thrive.



Generative AI and Prompt Engineering



What is AI?

- Artificial Intelligence, or AI, is like teaching computers to think and learn like humans.
- These smart computers can solve problems, make decisions, and get better over time.
- **Are you currently using AI?**

History of AI



AI in Everyday Life



 amazon alexa




Google Maps







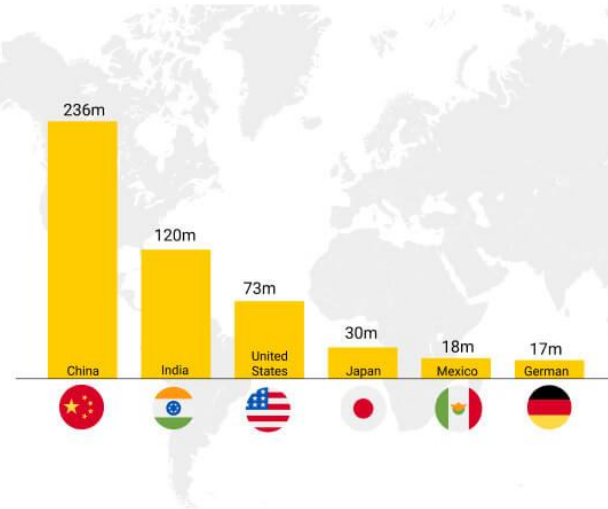
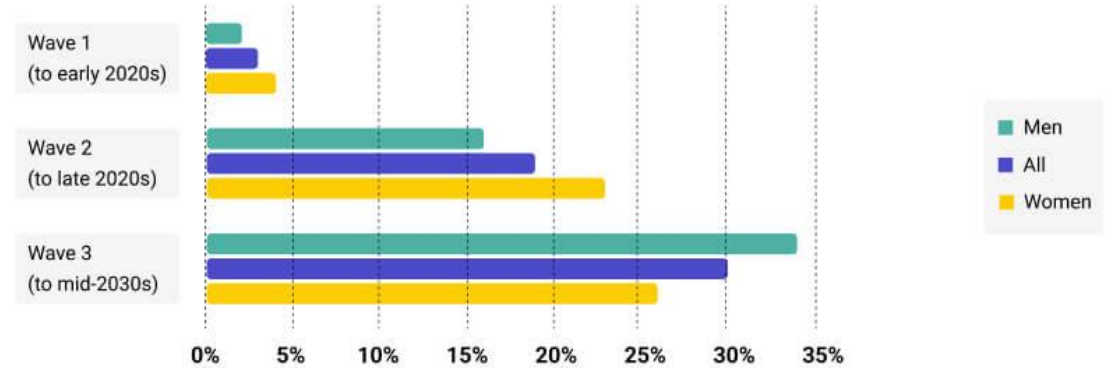
 cosmic



Impact on the Workforce

- 15% of the global workforce could be displaced by AI & Automation.
- New job creation could offset jobs lost to AI and automation.
- Demand for advanced technological and cognitive skills will grow.
- As with all previous human innovations (such as the steam engine, electricity, and the internet), an innovation that creates value no matter how feared it is, on the whole, is likely to have a positive impact on society.

% OF EXISTING JOBS AT POTENTIAL RISK OF AUTOMATION



BY 2030, AUTOMATION COULD ELIMINATE 73 MILLION JOBS IN THE U.S.

Number of jobs at risk of being displaced by automation by 2030



Impact of AI & Robotics in Manufacturing

- **Efficiency & Productivity:** 24/7 operations leading to higher output and faster production.
- **Quality & Precision:** Improved product consistency and reduced waste through data analysis and precision tasks.
- **Customisation & Flexibility:** Cost-effective production of customised products in response to consumer demands.
- **Job Transformation:** Shift towards skilled and technical roles, with new job creation in AI and robotics management.
- **Supply Chain Optimisation:** Enhanced demand prediction, inventory management, and logistics efficiency.
- **Safety Improvements:** Reduction in workplace injuries and accident prevention.
- **Environmental Impact:** Sustainable practices through optimised energy use and material recycling.
- **Challenges:** Workforce retraining, ethical considerations, and economic implications.



Impact of AI & Robotics in Agriculture

- **Precision Farming:** Utilisation of AI and robotics for optimised use of resources (water, fertilisers, pesticides), leading to higher crop yields and reduced environmental footprint.
- **Automated Harvesting:** Robotics addressing labour shortages by performing labour-intensive tasks such as picking fruits and vegetables, increasing efficiency and productivity.
- **Disease and Pest Detection:** AI-driven systems for early detection of plant diseases and pest infestations, enabling timely intervention and reducing crop losses.
- **Soil and Crop Health Monitoring:** Use of drones and AI for real-time monitoring of soil health and crop conditions, facilitating informed decision-making.
- **Livestock Management:** Robotics and AI applications for monitoring livestock health and behaviour, improving welfare and productivity.
- **Sustainable Practices:** AI aiding in the development of more sustainable farming practices, including precision irrigation and targeted fertilisation, conserving resources.
- **Challenges:** Addressing ethical and economic considerations, ensuring data privacy, and overcoming technological and adoption barriers..



Welcome to the AI Revolution

What we are seeing to today is comparable to:

- The Agricultural Revolution
- The Industrial Revolution
- The Invention of the Printing Press
- The Development of the Internet
- The Invention of Electricity



The speed of change brought about by AI is unprecedented when compared to these historical developments.



How AI has Changed my Working Life

- Confidence
- Creativity
- Advice & Problem Solving
- Efficiency – reports, summarisation
email & content development
- Data Analysis
- Tech Support (image recognition)
- Education



ChatGPT



What is Generative AI

Generative artificial intelligence (AI) describes algorithms that can be used to create **new content, including audio, code, images, text, simulations, and videos.**

- ChatGPT (generative pretrained transformer)
- MS Copilot
- Google Gemini
- Claude



What is ChatGPT?



Released on November 30, 2022.

ChatGPT can write text that sounds like a human wrote it, based on the information you give it (Prompting).

It learns from examples to get better at making its text responses more helpful and safe.

What it's good at:

- It can create text based on a wide range of topics, recognise and create images, analysis data and much more
- It doesn't need to search the internet to produce responses, but it can if you ask

What it struggles with:

- Sometimes, it might give information that sounds right but is wrong.
- It can be wordy or give more detail than needed.

Getting Better:

- It's regularly updated to work better and do new things like search the internet if you're using a certain plan.
- Efforts to make it safer and prevent it from giving harmful responses are ongoing

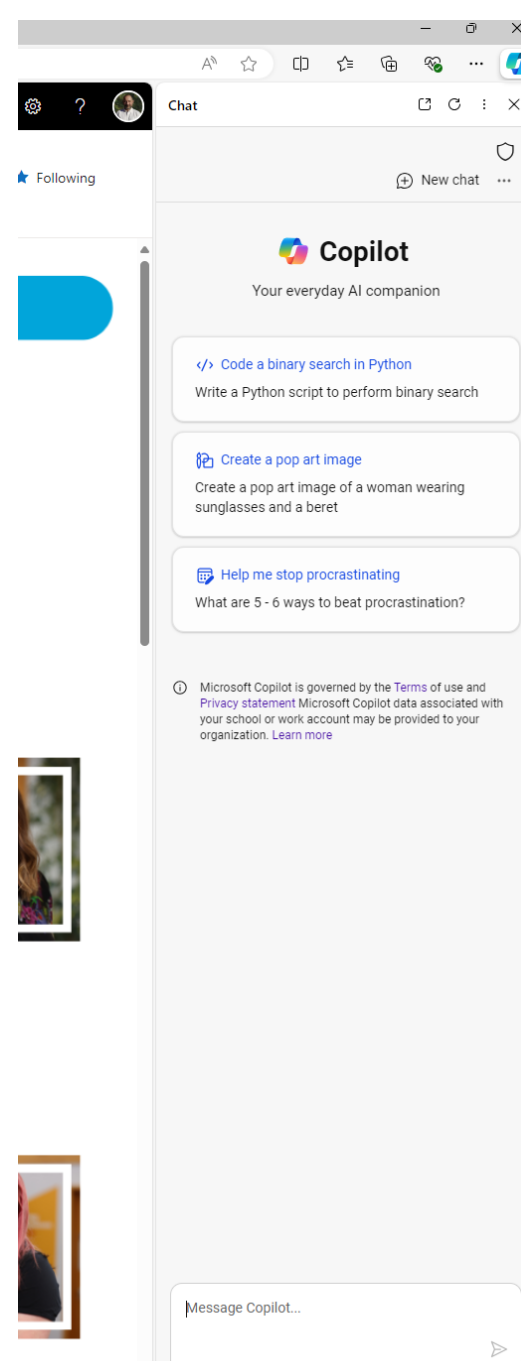


Access GPT 4 for free (ish)

- Copilot is the main way to access GPT 4 for free (ish)

Copilot for Microsoft 365 is an AI tool that helps users work faster and easier by automating tasks and offering help across Microsoft apps.

- Outlook - Writes email replies for you based on what the incoming email says.
- Word - Helps you start or finish documents by writing parts of it for you.
- Excel - Lets you ask questions about your data in plain language and gives you the answers.
- PowerPoint - Suggests designs for your slides based on your content.



ChatGPT Versions

ChatGPT offers free access to more comprehensive paid plans.

Free Version

- Access to GPT-4o mini and limited access to GPT-4o.
- Capabilities include basic data analysis, file uploads, and web browsing.
- Users can also create up to two images per day with DALL·E 3

Paid Versions

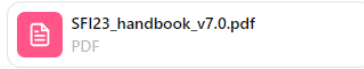
ChatGPT Plus

- Monthly subscription cost of approx. £20.
- Enhanced performance with full access to GPT-4, GPT-4o, and GPT-4o mini.
- Higher message limits & no downgrade to lower models when limits are reached.
- Advanced data analysis, full web browsing, and priority access to new features and updates



File Uploads

- Analyse, compare, or synthesise data from uploaded spreadsheets or text files, ideal for visualisation and comparison.
- Summarise or critique documents, maintaining original content integrity.
- Pull specific details or quotes from documents based on query topics.
- Accepts text files, spreadsheets, and presentations, images, with a multi-file upload capacity per session.



"Please provide a summary of the Sustainable Farming Incentive (SFI) Handbook for 2023, highlighting the key objectives, eligibility criteria, and incentives offered to promote sustainable farming practices."

The Sustainable Farming Incentive (SFI) Handbook for 2023 provides comprehensive information for UK farmers looking to engage in environmentally sustainable practices. Here's a summary of the key elements from the handbook:

Key Objectives

The SFI program aims to encourage farmers to adopt sustainable farming practices that enhance the environment. It supports actions that maintain and improve soil health, promote biodiversity, and manage nutrients and pests in environmentally friendly ways.


Eligibility Criteria

To be eligible for the SFI, applicants must be farmers or land managers in England. They must have control over the land for the duration of the agreement, which typically lasts three years. The land must also be eligible under the SFI criteria, which include various types of land such as arable, grassland, and moorland.

Incentives Offered

The SFI offers payments for specific environmental land management actions. These actions are categorized into several areas, including:

- **Soil Management:** Actions like soil assessments, creation of soil management plans, and testing of soil organic matter.
- **Moorland Management:** Includes assessments and record creation for moorland conservation.
- **Hedgerow and Boundary Management:** Actions to assess, manage, and maintain hedgerows and boundaries.
- **Pest Management:** Integrated pest management planning and actions to reduce reliance on chemical treatments.
- **Nutrient Management:** Includes assessing nutrient management and implementing environmentally friendly nutrient management plans.
- **Wildlife Support on Farmland:** Establishing habitats that support farmland birds and pollinators.

Each action has a defined payment rate based on the action's extent and complexity. These payments are structured to support the initial , ongoing maintenance, and overall management of the environmental benefits provided by the participants.



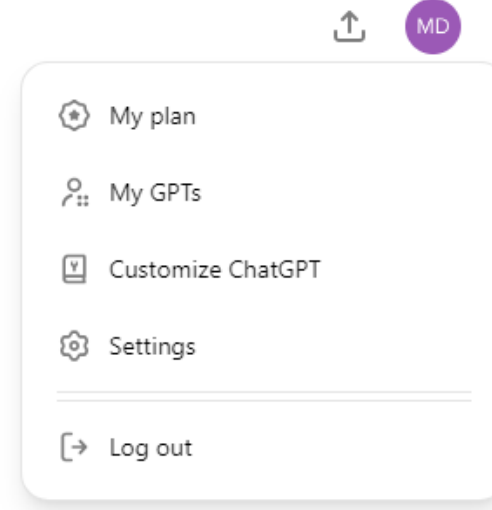
Customisation

- **What It Is:**

- Allows you to set preferences that influence how ChatGPT responds to queries.
- Includes adjusting the tone, formality, and type of information ChatGPT focuses on during interactions.

- **Benefits:**

- Tailoring ChatGPT's responses can make the tool more relevant
- Can make interactions more enjoyable and efficient
- Get the answers you need faster.



Customize ChatGPT

Custom Instructions ⓘ

What would you like ChatGPT to know about you to provide better responses?

0/1500

[Hide tips ⓘ](#)

How would you like ChatGPT to respond?

As a digital trainer and project manager based in the UK, I am associated with a small digital training firm named Cosmic, which you can learn more about at Cosmic's website. Our primary clientele includes sole traders, micro businesses, and small to medium-sized enterprises (SMEs).

1060/1500

GPT-4 Capabilities ⓘ

Browsing

DALL-E

Code

Privacy

- **Data Collection** - ChatGPT stores user input and personal data to improve AI responses.
- **Control Options** - Users can disable chat history to prevent data from being used for training.
- **Data Retention** - When chat is disabled conversations are kept for 30 days for abuse monitoring, then deleted.
- **Data Export** - Users can export their data for transparency on what is stored.
- **ChatGPT Business** - A new subscription that offers stricter control over data, excluding it from training by default.

Settings



General	Improve the model for everyone	On >
Personalization	Shared links	Manage
Speech		
Data controls	Export data	Export
Builder profile	Delete account	Delete
Connected apps		
Security		

Model improvement

Improve the model for everyone



Allow your content to be used to train our models, which makes ChatGPT better for you and everyone who uses it. We take steps to protect your privacy. [Learn more](#)

Done

GPT's

- The "Explore GPTs" feature within ChatGPT allows you to discover and create custom versions of the ChatGPT model.
- You can find specialised versions of ChatGPT that focus on specific tasks, such as generating images, writing, data analysis, education or research.
- You can create your own version by combining different instructions or integrating external knowledge to suit your needs.

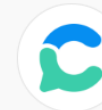
GPTs

Discover and create custom versions of ChatGPT that combine instructions, extra knowledge, and any combination of skills.

[Top Picks](#) [Writing](#) [Productivity](#) [Research & Analysis](#) [Education](#) [Lifestyle](#) [Programming](#)

Featured

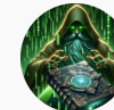
Curated top picks from this week



Consensus

Ask the research, chat directly with the world's scientific literature. Search references, get simple...

By consensus.app



Grimoire

Code Wizard ✨ New Grimoire PRO App: <https://apple.co/3YRykm3> Build...

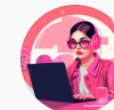
By mindgoblinstudios.com



PDF AI PDF

The ultimate document assistant. Securely store and chat with PDFs, CSVs, TXT, Markdown and Excel...

By myaidrive.com



ChatPRD - AI for Product Managers

An on-demand Chief Product Officer that drafts and improves your PRDs, while coaching you to...

By chatprd.ai

Trending

Most popular GPTs by our community

1



image generator

A GPT specialized in generating and refining images with a mix of professional and friendly tone.image generator

By NAIJ ALOTAIBI

2



Write For Me

Write tailored, engaging content with a focus on quality, relevance and precise word count.

By puzzle.today

3



Scholar GPT

Enhance research with 200M+ resources and built-in critical reading skills. Access Google Scholar, PubMed, JSTOR, Arxiv, an...

By awesomegpts.ai

4



Logo Creator

Use me to generate professional logo designs and app icons!

By community builder

5



Consensus

Ask the research, chat directly with the world's scientific literature. Search references, get simple explanations, write...

By consensus.app

[See more](#)

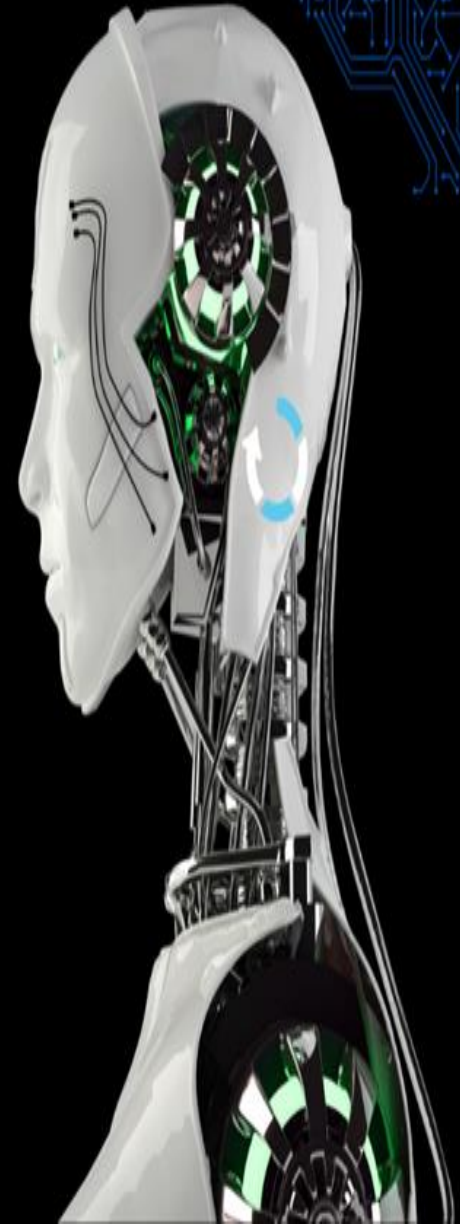
Prompt Engineering



Prompt Engineering

- Provides AI with specific questions or instructions to guide its response.
- Acts as a starting point for AI to generate relevant answers based on its training.
- Used for tasks like answering queries, composing emails, or generating creative content.
- The clarity and detail of the prompt significantly influence the AI's response accuracy and relevance.

PROMPT ENGINEERING



The 5 S's of Prompt Engineering

Set the scene

Be Specific

Simplify your language

Structure the output

Share feedback

- **Set the Scene** - You are supporting a holiday cottage rental business located in the Lake District, catering to families and couples looking for peaceful retreats.
- **Be Specific** - Create a seasonal marketing plan that targets mid-week bookings during the off-peak season, with promotional offers and highlighted local attractions.
- **Simplify your language** - Write a brief guide on the steps for guests to check in and out of their cottage, including key collection and house rules
- **Structure the output** - Draft an email template for responding to enquiries about cottage availability and pricing, ensuring it includes placeholders for personalised details like guest name and preferred dates.
- **Share feedback** - The guide for guests needs to include emergency contact numbers and instructions for heating adjustments. Please add these details.



Question Answering Prompt

- The AI quickly answers straightforward questions based on the input alone, without needing extra context or detailed explanations.
- Answers are generated promptly, making the interaction quick and efficient.
- The AI can respond without prior examples, using its built-in knowledge to understand and answer queries directly.

I'm managing a mid-sized farm and looking to diversify my operations. I currently focus on traditional crops and livestock but am interested in exploring new avenues like organic produce, agritourism, or renewable energy. Could you provide some practical advice on initial steps I should take to start this diversification process effectively?



Memory updated

Diversifying your farm operations is a great way to enhance sustainability and potentially increase revenue. Here are some practical steps you can take for each of the avenues you're considering:

1. Organic Produce

- **Research and Certification:** Begin by understanding the specific requirements for organic certification in the UK, such as those set by the Soil Association or other certifying bodies. This includes everything from seed sourcing to pest control methods.
- **Market Analysis:** Investigate the local and regional demand for organic products. Consider the types of organic crops that are in demand and can grow well in your climate and soil.
- **Transition Plan:** Transitioning to organic farming takes time, often up to three years. Plan your crop rotation and soil enhancement strategies accordingly.

2. Agritourism

- **Regulations and Insurance:** Check local regulations concerning agritourism and get appropriate insurance to cover your new activities.
- **Visitor Attractions:** Identify what unique attractions your farm can offer, such as farm tours, pick-your-own fruit, farm-to-table meals, or seasonal events like pumpkin patches or corn mazes.
- **Marketing:** Promote your agritourism activities through local tourism boards, social media, and partnerships with other local businesses or tourist attractions.

3. Renewable Energy

- **Feasibility Study:** Assess the feasibility of different renewable energy sources on your farm, such as solar, wind, or biomass. Consider factors like your geographical location, available space, and initial investment costs.
- **Government Incentives:** Explore any government grants, incentives, or tariff schemes available for renewable energy projects in the UK, such as the Smart Export Guarantee (SEG).
- **Professional Consultation:** Engage with renewable energy consultants or companies who can provide detailed insights and installation services tailored to your farm's needs.



Few Shot Prompting

- Give the AI examples of what you want it to do. This helps it understand and create similar responses.
 - Seeing examples helps the AI match the style and details you need, making its answers more relevant.
 - Examples guide the AI, reducing errors and improving the accuracy of the information it gives.
 - Using examples is a fast way to get the AI ready for specific tasks without needing a lot of changes or new training.
- Action: Upload the documents titled "Financial_Report_2022.pdf" and "Financial_Report_2023.pdf".
 - Question: Compare the total revenues and expenses between these two years.
 - Answer: The AI reviews both documents, extracts the necessary data, and provides a comparative analysis highlighting the changes in revenues and expenses.



Instruction Prompting

- Gives straightforward instructions directly to the AI to improve its understanding and responses.
- Works effectively without extra background information, focusing only on the given instructions.
- Helps the AI recognise what the user really needs, ensuring responses match user requests more closely.
- Enables the AI to adhere closely to detailed instructions, boosting its ability to carry out tasks accurately.

"Can you develop a detailed content marketing strategy for our small home design business? Please focus on identifying key topics that align with current interior design trends and customer interests. Additionally, outline a 6-month content calendar with suggested blog topics, social media posts, and email newsletter ideas that will engage our target audience, drive traffic to our website, and increase conversions. Include guidance on SEO best practices to optimise our content for better visibility in search engine results."



Chain of Thought Prompting

- The AI breaks down complex queries into smaller, manageable steps to find solutions gradually.
- Each reasoning step is clearly shown, making it easier for users to understand and trust the AI's logic.
- The AI checks its work at each step, often catching errors that could be missed in a direct answer.
- This method increases the accuracy of AI outputs, especially useful in complex scenarios.
- Ideal for detailed queries where understanding the reasoning process is important

Prompt:

"Our company is deciding whether to invest in digital marketing or traditional advertising for the next quarter. Can you help break down the pros and cons of each option? Please consider cost, reach, engagement, and return on investment for both strategies before making a recommendation."

Chain of Thought Explanation:

1. **Cost:** Compare the upfront and long-term costs of digital marketing vs traditional advertising.
2. **Reach:** Analyse the potential audience size and targeting capabilities of each option.
3. **Engagement:** Consider how each method engages with the target audience (e.g., interaction on social media vs passive consumption of TV/radio ads).
4. **Return on Investment (ROI):** Evaluate the expected ROI for both strategies based on industry data and trends.
5. **Recommendation:** Based on the analysis, provide a recommendation with a clear explanation of why it's the better option for the company.

This prompt encourages the AI to think through each factor logically and make a well-rounded business recommendation.



Self Ask Prompting

- AI asks follow-up questions to gather complete context, enhancing the accuracy of its responses.
- Users guide the direction of the conversation, ensuring AI focuses on relevant details.
- Iterative questioning allows AI to delve deeper into complex topics, refining its understanding with each query.
- Continuous interaction hones the final output, as AI refines its responses based on detailed user feedback.

I wish to write a blog on prompt engineering and to get a better understanding of my writing style and the context I want to be included in the piece, ask me as many follow up questions as necessary in order to get everything you need to write a compelling piece.



Great, writing about prompt engineering sounds like a fascinating topic! Here are some questions to help tailor the blog to your needs:

1. **Objective:** What is the main goal of the blog? Are you looking to educate, persuade, or discuss the complexities of prompt engineering?
2. **Audience:** Who is the primary audience for this blog? Are they novices in AI, experienced data scientists, or perhaps professionals in related fields?
3. **Key Points:**
 - What specific aspects of prompt engineering do you want to focus on? (e.g., techniques, best practices, common pitfalls)
 - Are there any specific examples or case studies you'd like to include?
4. **Tone and Style:**
 - Since you prefer a professional yet friendly tone, would you like to include personal anecdotes or a more formal, data-driven approach?
 - Do you prefer a conversational style or something more structured and formal?
5. **Length and Depth:**
 - How detailed do you want the blog to be? Are we looking at a deep dive or an overview?
 - Do you have a word count in mind?
6. **Visuals and Examples:**
 - Would you like to include any diagrams, charts, or images?
 - Do you have any visuals in mind that you'd like to create or have explained?
7. **Call to Action:**
 - What would you like the readers to do after reading the blog? (e.g., engage with a tool, sign up for a newsletter, participate in a survey)

These questions should help us create a structured outline for your blog that aligns with your objectives and style.

Iterative Prompting

- Engage in a back-and-forth dialogue where each AI response guides the next user prompt, refining the focus gradually.
- Users iteratively adjust their questions or instructions based on the AI's outputs for more precise answers.
- Each interaction cycle helps the AI better understand the user's needs, improving the relevance and accuracy of responses.
- Ideal for complex problem-solving, detailed research, or creative development where evolving insights are crucial. Involves active participation from the user to continuously refine queries for optimal results.
- The effectiveness of iterative prompting relies on the AI's ability to understand and respond to refined prompts accurately.

"I want you to become my Prompt Creator. Your goal is to help me craft the best possible prompt for my needs.

The prompts will be used by you, ChatGPT. You will follow the following process.

1. Your first response will be to ask me what the prompt should be about. I will provide my answer, but we will need to improve it through continual iterations by going through the next steps.

2. Based on my input, you will generate 3 sections.

A.) Revise prompt (provide your rewritten prompt. It should be clear, concise and easily understood by you.

B.) Suggestions (provide suggestions on what details to include in the prompts to improve it.)

C. Questions (ask any relevant questions pertaining to what additional information to improve the prompt)

3. We will continue this iterative process with me providing additional information to you and updating the prompt in the revised prompt section until it's complete."



I need some ideas to diversify my farms income



Revised Prompt

"Please provide a list of innovative ideas for diversifying income on a mid-sized farm focusing on traditional crops and livestock."

Suggestions

- Consider including specific details about the farm's current operations (e.g., types of crops and livestock).
- Specify any particular interests or resources you might already have that could influence the diversification strategies (e.g., available land, water resources, community interest).
- Mention any constraints or challenges you face that should be taken into account (e.g., climate, labor availability, market access).

Questions

- Are there any sustainability goals or practices that you want to incorporate into the diversification strategies?
- Do you prefer low-investment or high-investment options?
- Are you open to integrating technology-based solutions, such as agritech or renewable energy projects?



Sustainability Goals or Practices to Incorporate:

"We are committed to sustainable farming practices and are particularly interested in exploring options that enhance biodiversity, improve soil health, and reduce our carbon footprint. Incorporating organic farming practices or establishing pollinator-friendly habitats are key goals."

Preference Between Low-Investment or High-Investment Options:

"We are open to both low and high-investment options, but it's essential that any high-investment ventures offer a clear, sustainable return on investment. Initially, we might focus on low-investment strategies to gradually build our capabilities and understanding."

Openness to Integrating Technology-Based Solutions:

"We are very interested in integrating technology-based solutions, especially those that could increase efficiency and sustainability. This includes exploring agritech innovations, such as precision farming tools, and renewable energy projects like solar or wind energy installations on our farm."



Memory updated

Revised Prompt

"Provide a list of innovative and sustainable ideas for diversifying income on a mid-sized farm focused on traditional crops and livestock, incorporating practices that enhance biodiversity, improve soil health, reduce carbon footprint, and potentially include organic farming or pollinator-friendly habitats. The farm is open to both low and high-investment options with a clear return on investment and is very interested in integrating technology-based solutions like precision farming tools and renewable energy projects."

Suggestions

- Specify the geographical location of the farm to tailor recommendations that consider local climate and market conditions.
- Mention any existing infrastructure that could support new ventures, such as buildings that could be used for agritourism or land areas suitable for renewable energy projects.
- Consider the target market for new products or services, such as local consumers, restaurants, or educational groups.

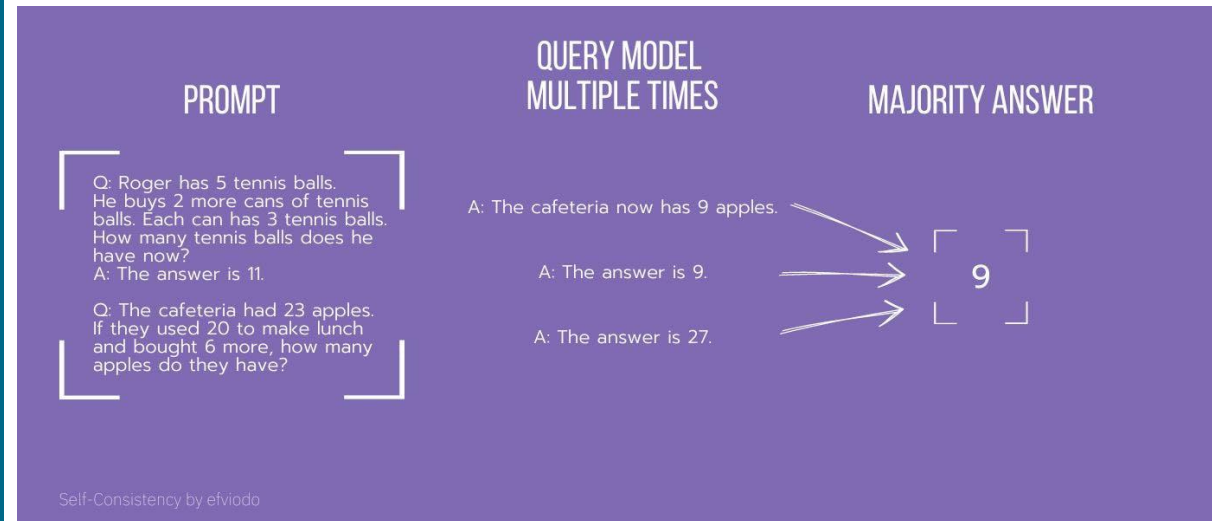
Questions

- Are there specific types of crops or livestock currently at the farm that could influence diversification options?
- What is the size and layout of the farm to understand the feasibility of suggested projects like solar installations or agritourism activities?
- Are there community or governmental incentives for adopting sustainable practices or technologies that you're aware of or already utilizing?



Self Consistency

- Ask the AI the same question multiple times to assess consistency in responses.
- Select the most consistent answer from multiple outputs as the final decision to enhance reliability.
- Use the same prompt on different models to compare answers and confirm accuracy.
- Particularly useful in high-stakes fields like financial forecasting and scientific research



Tips for Effective Prompt Engineering

- Define Clear Objectives
 - Craft Specific Questions
 - Start Simple
 - Use Examples
 - Iterate and Optimise
- Understand Limitations
 - Incorporate Context
 - Monitor Performance
 - Stay Informed
 - Set Anchor Notes





workplace
digital skills

Upgrade Your Future

FREE TRAINING*
DIGITAL SKILLS TRAINING
FOR YOUR WORKFORCE

*eligibility applies

Eligible Sectors:



**Health & Adult
Social Care**



**Hospitality &
Tourism**



**Creative
Industries**



**Clean
Growth**

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Leaders in the Digital Age

Navigate
change, seize
opportunities.

BECOME A DIGITAL LEADER



Gain digital
competitive
advantage

Streamline
processes

Enhance
productivity

Recognise
change
management
challenges

Prepare
staff for
change

Horizon scan
for your
industry

Fully funded, highly valuable
leadership skills training

VISIT COSMIC.ORG.UK/PROJECTS/DIGITAL-LEADERSHIP-SMES

Get in touch Digital Leadership for
SMEs Enquiry



Thank You

