

Artificial Intelligence: Everyday Uses

Presenter: Simon Parker

GLOSSARY OF TERMS

Term	Meaning
Artificial Intelligence (AI)	A branch of computer science focused on creating machines that can perform tasks requiring human intelligence, like learning, reasoning, problem solving, and understanding language, by processing vast amounts of data to recognize patterns and adapt.
Machine Learning (ML)	A subset of artificial intelligence (AI) that enables systems to automatically learn, analyze patterns, and make decisions without being explicitly programmed.
Large Language Models (LLM)	An advanced AI trained on massive text datasets to understand, summarize, translate, and generate human-like text.
Generative Pre-trained Transformer (GPT)	An AI that: <u>G</u> enerates something new rather than operating on an existing object, which is <u>P</u> re-trained on a large body of information, using a neural network known as a <u>T</u> ransformer.
Generative AI	AI designed to produce output, especially text or images, normally requiring human intelligence, typically by applying machine learning techniques to large collections of data.
Prompt Engineering	The art (?) of writing instructions that reliable, useful AI results.
Agentic AI	Autonomous AI systems that can independently set goals, reason, plan, and execute complex, multi-step tasks with minimal human intervention.
Artificial General Intelligence (AGI)	A hypothetical AI with human-level cognitive abilities, able to understand, learn, and apply knowledge across any intellectual task, unlike current "narrow AI" that excels at specific jobs.

Model		Company	Version	Comments
ChatGPT		OpenAI -> Microsoft	5.4	Choice of lots of GPTs – e.g. image generator, Scholarly, Code CoPilot.
Claude		Anthropic	4.6	Can create ‘artifacts’ – ideas turned into shareable apps, tools or content. Includes ‘Claude Code’ – an agentic coding environment.
Gemini		Google Deepmind	3.1	Various components, including AI Studio, NotebookLM & Nano Banana.
Copilot		Microsoft	N/A	Available as free version or as part of Microsoft 365 (Personal, Family or Premium).
Perplexity		Perplexity	N/A	Search engine powered by AI, available as an app or browser. Provides citations. Can also provide access to other models, all under one subscription.

Model		Company	Version	Comments
Meta AI		Meta (Facebook)	N/A	Majors on Image and Video generation, and integration with social media (e.g. Facebook, Instagram, WhatsApp).
Grok		xAI	4.20	Said to be ‘most current’, drawing on social media sources.
Deepseek		Deepseek	3.2	Latest entrant with significantly lower training cost.

LLMs – GENERAL SUGGESTIONS

1. Don't rush into signing up for a paid subscription – you can do a lot for free.
Most chatbots cost £15-20 pcm for the first paid tier.
2. User experience may vary from platform to platform (e.g. between laptop and phone).
3. Create an account (even for a free tier) – you will be able to personalise your 'experience' and save your queries and responses.
See following slides.
4. Be prepared to tell the tool how you think (e.g. conciseness, bullet lists) – it will improve the response you get.
See following slides.
5. Try several tools and make your own mind up about their strengths and weaknesses.
6. Remember that all the processing happens in 'The Cloud', so the history of your questions and the generated responses will be held by the LLM provider.

CHATGPT – PERSONALIZATION

✕

⚙️ General

🔔 Notifications

🕒 Personalization

📁 Apps

🔒 Data controls

🛡️ Security

👤 Parental controls

👤 Account

Custom instructions

Additional behavior, style, and tone preferences

About you

Nickname

Simon

Occupation

Retired data analyst

More about you

Local History, AI, Music

Memory ⓘ

Manage

Reference saved memories

Let ChatGPT save and use memories when responding.

Reference chat history

Let ChatGPT reference recent conversations when responding.

Settings

General

Account

Privacy

Billing

Capabilities

Connectors

Claude Code

Profile

Full name

S

Simon

What should Claude call you?

Simon

What best describes your work?

Data Science

What personal preferences should Claude consider in responses?

Your preferences will apply to all conversations, within [Anthropic's guidelines](#).

Custom Instructions

Who I Am:

- About Me: I am a retiree who believes in life-long learning. I am interested in local history and microelectronics

- My Work Context: I used to work in telecommunications, deploying data centres.

How To Talk To Me:

- How I like to receive information: I like lists and frameworks that allow me to focus on key issues, but with pointers to where I can find further information.

- Connect topics to my interests: I would like to see how I can use AI to support my research into local history.

- Desired tone, style, and format: I'm happy to receive conversational responses, but don't try to make any jokes.

Use these to guide your responses.

Cancel

Save changes

Instructions for Gemini ⓘ

☒

Share info about your life and preferences to get more helpful responses. Add new info here or ask Gemini to remember something during a chat.

+ Add

Show examples

 Delete all

Saved today

I used to work in telecommunications, deploying data centres. I prefer to write code in Python. I am a retiree who believes in life-long learning. I am interested in local history and microelectronics. I like lists and frameworks that allow me to focus on key issues, but with pointers to where I can find further information.

⋮

PERPLEXITY – PERSONALIZATION

Personalisation

Your occupation

Data Scientist

Company name

Self-Employed

Custom instructions

I used to work in telecommunications, deploying data centres. I prefer to write code in Python. I am a retiree who believes in life-long learning. I am interested in local history and microelectronics. I like lists and frameworks that allow me to focus on key issues, but with pointers to where I can find further information.

Clear

Save

Location

Share location

Share to use precise location for the most relevant results.

Share location

Response preferences

Set the style of how Perplexity responds to general queries. This doesn't impact Perplexity's capabilities.

Response Length

Default

Headers and Lists

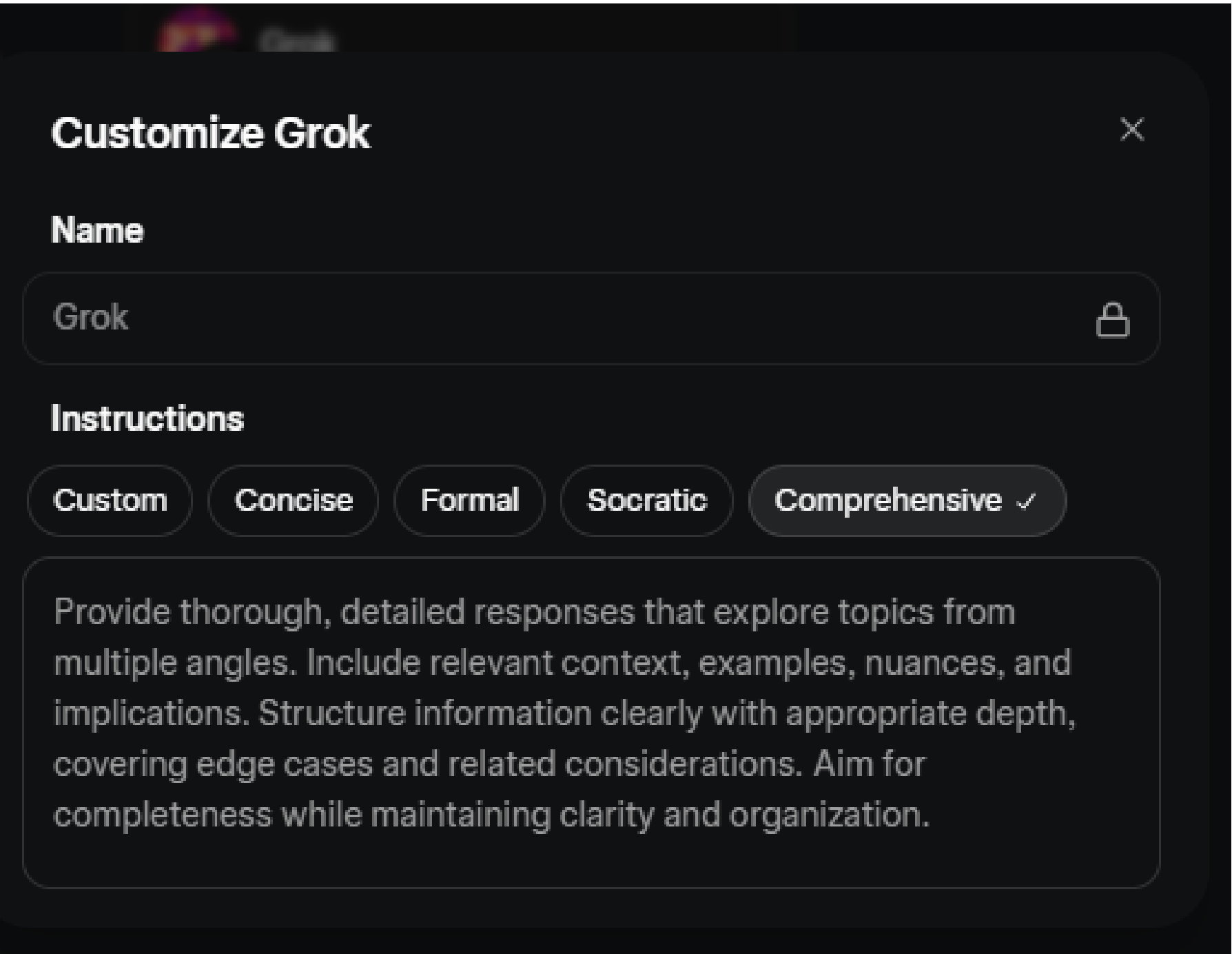
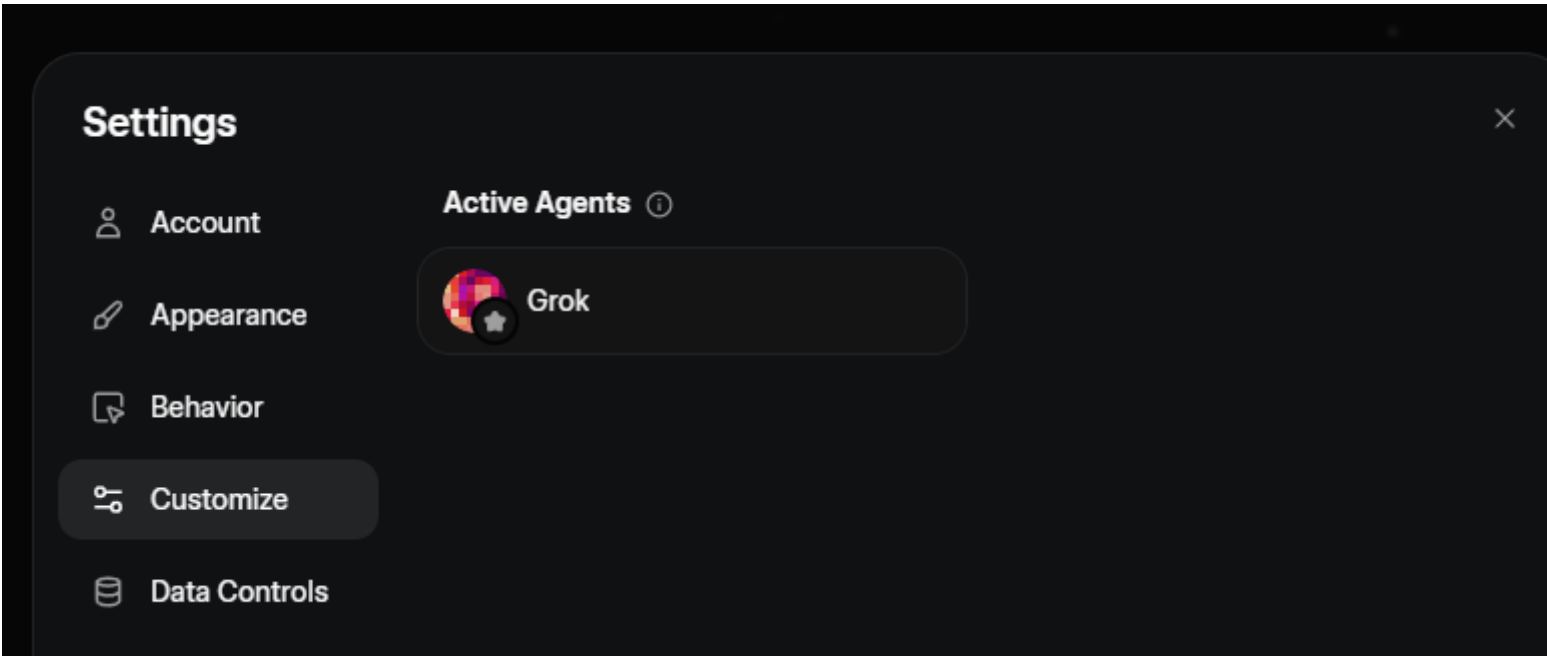
Default

Memory

Reference search history

Let Perplexity use previous searches when answering.

GROK – CUSTOMIZE



There are a number of ways to structure a prompt in order to guide the kind of response that you are seeking.

- **APE** – Action, Purpose, Expectation
- **TAG** – Task, Action, Goal
- **ERA** – Expectation, Role, Action
- **RACE** – Role, Action, Context, Expectation
- **RISE** – Request, Input, Scenario, Expectation
- **CARE** – Context, Action, Result, Example
- **COAST** – Context, Objective, Actions, Steps, Task
- **TRACE** – Task, Role, Action, Context, Expectation
- **ROSES** – Role, Objective, Steps, Expected Solution, Scenario
- **CRAFT** – Context, Role, Action, Format, Tone

Some of these may work better on one platform than on others.

PROMPT FRAMEWORKS – 2 of 3

1. A.P.E Action: Define job/activity. Purpose: Discuss goal. Expectation: State outcome. EXAMPLE Action → Write blog post on AI marketing trends. Purpose → Educate readers on AI's impact. Expectation → Blog is informative, highlights benefits.	2. T.A.G  Task: Define task. Action: Describe steps. Goal: Explain end goal. EXAMPLE Task → Develop content plan. Action → Create 3-month calendar. Goal → Increase brand visibility & engagement.	3. E.R.A Expectation: Describe result. Role: Specify AI's role. Action: Specify needed actions. EXAMPLE Expectation → Provide market analysis report. Role → You are a research analyst. Action → Research tech competitors & summarise.
4. R.A.C.E  Role: Specify AI's role. Action: Detail action. Context: Provide details. Expectation: Describe outcome. EXAMPLE Role → Marketing expert. Action → Generate list of AI tools. Context → User is beginner looking to automate. Expectation → List with brief explanations.	5. R.I.S.E Request: Specify a request. Input: Provide info. Scenario: Detail steps. Expectation: Describe result. EXAMPLE Request → Recommend content ideas. Input → Business sells eco-friendly products. Scenario → Launching new line. Expectation → Provide 10 sustainable ideas.	6. C.A.R.E  Context: Set stage. Action: Describe task. Result: Describe outcome. Example: Give illustration. EXAMPLE Context → Company wants to improve engagement. Action → Design internal newsletter. Result → Increased employee interaction. Example → Provide sample layout.
7. C.O.A.S.T Context: Set stage. Objective: Describe goal. Actions: Explain steps. Steps: Describe situation. Task: Outline task. EXAMPLE Context → Small business expanding online. Objective → Increase traffic by 50%. Action → Create digital strategy. Steps → Outline SEO & ads. Task → Generate roadmap.	8. T.R.A.C.E  Task: Define task. Role: Describe need. Action: State action. Context: Provide context. Expectation: Illustrate with example. EXAMPLE Task → Write fundraising email. Role → Nonprofit marketer. Action → Create compelling message. Context → Environmental project. Expectation → Email emphasizes urgency.	9. R.O.S.E.S Role: Specify AI's role. Objective: State goal. Steps: Describe situation. Expected Solution: Define outcome. Scenario: Ask for actions. EXAMPLE Role → Customer Service Manager. Objective → Improve satisfaction. Steps → Implement feedback system. Expected Solution → Higher ratings. Scenario → Address recent low ratings.



Law 1: Specific Rules

Always provide exact details vague inputs yield vague results; define scope, format, and constraints upfront.



Law 4: Context Layering

Supply relevant background first, then query build cumulative context across **multi-turn chats**.



Law 7: Constraint Setting

Limit scope: "Answer in 200 words max" or "Use only 2025 data" to focus energy.



Law 10: Multimodal Integration

Upload images/videos with "Analyze this screenshot and suggest code fixes."



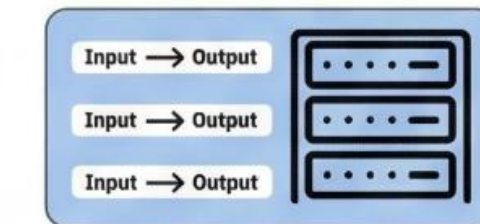
Law 2: Role Assignment

Assign a persona (e.g., "Act as a senior data scientist") to align responses with expert perspectives.



Law 5: Output Formatting

Specify structure: "Respond in JSON with keys: summary, steps, risks" for parseable results.



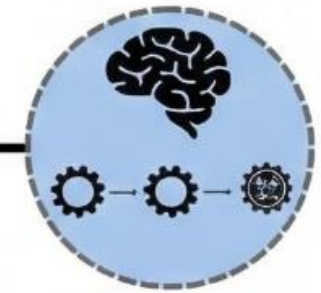
Law 8: Example Provision

Include 1-3 exemplars: "Like this: Input → Output" for few-shot learning.



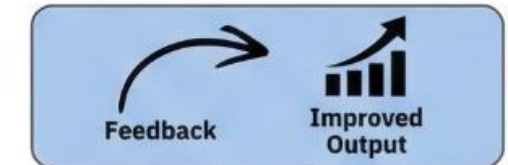
Law 11: Hypothetical Framing

Use "Pretend you're [expert] solving [scenario]" for unbiased, creative angles.



Law 3: Chain of Thought

Instruct "Think step-by-step" to boost reasoning accuracy by 40-60% on complex tasks.



Law 6: Iteration Refinement

Follow up with "Improve this based on [feedback]" to evolve outputs progressively.



Law 9: Temperature Control

Request "creative (high temp)" or "precise (low temp)" modes implicitly via phrasing.



Law 12: Reverse Prompting

Ask "What questions should I ask to solve X?" to uncover blind spots.

CRAFT - Creates balance by defining situation, actor roles, action needed, and tone.

- C** **Context** Set the background or purpose of the model
- R** **Role** Assigns the model an identity or perspective
- A** **Action** Tells the model what to do in clear, operational terms.
- F** **Format** Specifies the style, structure, or format of output
- T** **Tone** Defines the tone, end user or audience of response

Healthcare example

- **Context:** Hospital discharge
- **Role:** Nurse
- **Action:** Explain medication instructions
- **Format:** Bullet points
- **Tone:** Supportive and reassuring

Marketing example

- **Context:** Product launch
- **Role:** Copywriter
- **Action:** Create slogans
- **Format:** Tagline list
- **Tone:** Energetic



Best For: Professional / creative structured output prompts.

Framework Rating (Scale 1 to 5 best)

- Clarity/Simplicity:** 4 – Clear modular breakdown.
- Goal Alignment:** 5 – Aligns with structured outputs.
- Adaptability:** 4 – Works across professional/creative domains.
- Completeness:** 4 – Covers key prompting dimensions.
- Efficiency:** 4 – Direct and structured.
- Transferability:** 4 – Easy to reuse in varied scenarios.
- Evidence:** 3 – Recognized but less formally studied.

Education example

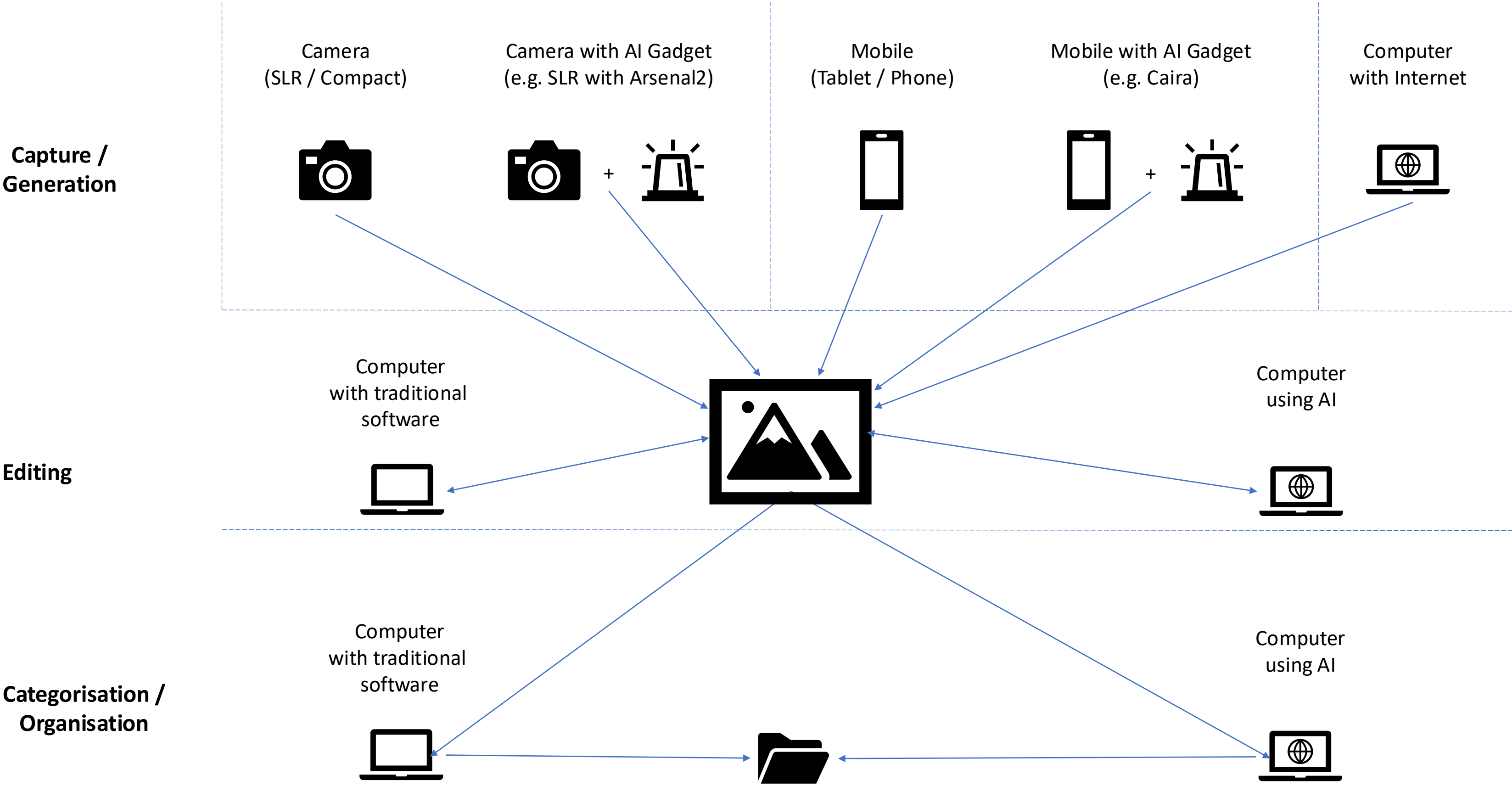
- **Context:** Exam prep
- **Role:** Teacher
- **Action:** Provide practice questions
- **Format:** Quiz format
- **Tone:** Encouraging

USE CASES

We're going to explore AI by looking at everyday activities in the Parker household ...

1. **Photography** – generating, editing and organising still images.
2. **Research** – preparing talks and presentations.
3. **Speech** – transcribing audio recordings for the Museum / U3A Local History group.
4. **Data Analysis** – understanding and documenting data sets – e.g. completeness, correctness, patterns, uses.
5. **Curiosity** – other random musings.

USE CASE 1 - PHOTOGRAPHY



PHOTOGRAPHY – CAPTURE (SLRs)

Digital SLRs – evolution rather than revolution [Canon, Nikon, Leica, Sony].

- Intelligent scene recognition – adjusts focus and exposure for optimal results
- Real-time subject tracking – ensures focus is held

Accessories to add to SLRs to provide AI features, e.g. [Arsenal 2](#) [certain models of Canon, Fuji, Nikon & Sony]

- Identifies subject and environment-specific needs based on image recognition
- Derives appropriate camera settings based on professional photos using a neural network
- Optimises settings based on photographic theory and knowledge of camera and lenses being used



PHOTOGRAPHY – CAPTURE (Mobile)

Smartphones with AI features built in [[Apple Intelligence](#), [Galaxy AI](#), [Google Pixel](#)]:

- Intelligent scene recognition
- Remove unwanted objects
- Boost facial recognition
- Low-light photography – intelligently merging multiple exposures

Hybrid devices such as [Caira](#) + iPhone + conventional lens to bring AI features to a smartphone:

- Uses a Google Edge TPU (Tensor Processing Unit) to run AI models locally (i.e. on the device, rather than 'The Cloud')
- Voice control
- Generative editing using Nano Banana
- £600 (without lenses or smartphone) + monthly subscription to use generative editing



PHOTOGRAPHY – GENERATIVE

[Canva](#) and [Midjourney](#) - the predominant commercial choices. Limited time free versions are available, but a subscription is required to create images or videos.

Google Nano Banana (part of [Gemini](#)) – seems to be the most popular / talked-about tool.

[Meta AI](#) – free versions available.

Use Cases for [Meta AI](#):

1. Colourise this photo [Frithville Mill] – OK, three versions of varying authenticity.
2. Remove the background from this image, leaving just the two men [Dad and Uncle] – Good. Even includes shadows.
3. Make the people in this image walk towards the camera [Dad and Uncle] – Good, although a bit artificial.
4. Add an old-fashioned magnifying glass to the centre of this image [Halesworth URC], distorting the image beneath the lens.

Video-editing tools available:

- Trim & cut – slice out unwanted parts or tighten the clip.
- Add music – upload your own track or pick from the library and adjust volume.
- Transitions & effects – fade, slide, or apply filters to change the look.
- Text & captions – overlay titles, subtitles, or animated captions.
- Speed control – speed up or slow down footage with a few taps.
- Export – save in various resolutions and share directly to social platforms.

Scholar AI - accessed from ChatGPT:

- In sidebar, under 'GPTs', click on 'Explore GPTs'
- Enter 'Scholar AI' into search bar and choose it from results
- Scroll past bumpf and click 'Start Chat'

Key features:

1. Searches across 200M+ peer-reviewed papers
2. Provides a list of key references for each of the points presented.
3. With a paid subscription, provides access to the underlying articles for further research.

Demos, using Jan's query –

- “What is a scientific explanation for transgender?”
- “Tell me about the companies that were involved in the development of RADAR in the UK”

Google NotebookLM

Good for pulling together information from many sources, answering your questions (based on the sources) and producing several types of output document.

Sources:

- Google Drive
- Links – websites and YouTube content
- Text
- Documents – PDF, Word, Audio, Photos

Output

- Audio or Video Overview
- Mind Map
- Reports
- Flashcards
- Quiz
- Infographic or Slide Deck (Beta)

Demo, using Admiral (Edward Francis) Bruen, a Halesworth resident from 1924-52.

TRANSCRIPTION

Starting Point: Oral History recordings at Halesworth Museum, around 45min – 1hr in length, with local accents.

Tool Used: [TurboScribe](#)

Inputs	Controls	Outputs
Audio files (e.g. MP3, WAV, WMA, AAC) or Video files (e.g. MP4, MOV, WMV, AVI)	Audio Language (distinguishes ‘English (UK)’ from ‘English (USA)’ Mode – Fast, Accurate or Balanced Speaker recognition Audio Enhancement	Text / Word / PDF (With or Without Timestamps) Integration with ChatGPT

Free Version: 3x transcriptions daily, each up to 30 minutes long.

Paid Version: Unlimited transcriptions daily, up to 50 files uploaded at once, each up to 10 hours / 5 GB in size.

\$10 / month if signed up for 1 year. \$20 / month if only committing to 1 month at a time.

Experience: Over 31h of recordings transcribed in around 4h – roughly 8:1.

Demo: Login to TurboScribe, access dashboard, show transcription, show integration with ChatGPT.

EXPLORATORY DATA ANALYSIS

Using DIG framework and Claude to analyse some of my Local / Family History information, held in a spreadsheet / CSV file.

DIG framework:

- Description – list columns, data types, and provide a summary to ensure a shared understanding.
- Introspection – brainstorm interesting questions, identify patterns, and uncover insights from the data.
- Goal Setting - Define the specific objectives of the analysis, focusing the AI on key metrics to ensure relevant results.

Example prompts

- D List all the columns in the attached spreadsheet and show me a sample of data from each column.
- D Take 5 more random samples of the data for each column to make sure you understand the format and type of information in each column.
- D Run a data quality check on each column. Specifically look for:
 1. Missing, null, or empty values (give me counts and percentages)
 2. Unexpected formats or data types
 3. Outliers or suspicious values

Demo:

1. Show data file in Excel and text editor.
2. Open Claude, add the file and enter the prompt – can be done with *Census.csv*, *Register.csv*, *Marriages.csv* and *People.csv*.
3. Show the output

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Example prompts

- I Tell me 10 interesting questions we could answer with this dataset and explain why each would be valuable.
- I For [these questions] tell me exactly which columns you'd need to use and whether the current data is sufficient to answer it.
- I What questions do you think someone would WANT to ask about this data, but we CAN'T answer due to missing information?

Demo:

1. Show data file in Excel and text editor.
2. Open Claude, add the file and enter the prompt – can be done with Census.csv, Register.csv, Marriages.csv and People.csv.
3. Show the output

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Example prompts

- G My goal is to understand [*specify your goal*]. Given this goal, which aspects of the data should we focus on?
- G What are the key questions someone reading my analysis would ask, and how should we proactively address them?

Demo:

1. *Show data file in Excel and text editor.*
2. *Open Claude, add the file and enter the prompt – can be done with Census.csv, Register.csv, Marriages.csv and People.csv.*
3. *Show the output*

Using Claude to look at trends in the FTSE 100 index.

 Generate some python code that will retrieve the FTSE 100 closing price since the start of the year and create a graph of it

FTSE 100 Year-to-Date Price Graph

Code



Here's a Python script that fetches FTSE 100 data since January 1st, 2025 and creates a nice graph!

What it does:

- Pulls FTSE 100 closing prices from the start of 2025 to today
- Shows key stats (starting price, current price, YTD change %, highs/lows)
- Creates a dual-panel chart:
 - Top: Closing price with shaded area and starting price reference line
 - Bottom: Trading volume with color-coded bars (green = up days, red = down days)
- Saves both the chart (PNG) and raw data (CSV)

To use it:

1. Install dependencies: `pip install yfinance matplotlib pandas`
2. Run the script

You'll get a comprehensive view of how the FTSE 100 has performed so far this year. The volume chart helps you see which days had the most trading activity! Let me know if you want any changes.

Observations:

1. Used a trusted source.
2. Was well-commented and provided guidance for customisation.
3. Produced a good, simple graph.
4. Had a few errors, resulting in bad code needing to be commented out or fixed.

CURIOSITY - INTEREST RATES

S Generate some python code that will show the Bank of England interest from January 2020 until now.

Bank of England Interest Rate Tracker
Code



Here's a Python script that fetches Bank of England interest rate data from January 2020 to now!

What it does:

- Pulls official bank rate data directly from the Bank of England API
- Displays all rate changes with dates
- Shows summary statistics (current, highest, lowest rates)
- Creates a line chart visualization
- Saves data to CSV and chart to PNG

To use it:

1. Install required packages: `pip install requests pandas matplotlib`
2. Run the script

The Bank of England base rate has been quite volatile during this period (COVID cuts, then the rapid rises in 2022-2023), so the chart should be pretty interesting! Let me know if you need any modifications.

Observations:

1. Provides links for where the data (and commentary) came from.
2. Provides useful summary of the timeline and current status.
3. Suggests where more data may be found.
4. Took three attempts to get a graph – within app, in browser using one approach, in browser using other approach.

CURIOSITY – ENERGY PRICES

S Generate some python code to show the UK energy price cap since it was introduced

UK Energy Price Cap Tracker
Code



Here's a Python script that shows the UK energy price cap since it was introduced in January 2019!

What it does:

- Shows all price cap changes from Jan 2019 to present (Oct 2025)
- Displays each period's cap with the change from the previous period
- Shows key stats: initial cap, current cap, peak (during the energy crisis), and lowest
- Creates a dual-panel visualization:
 - Top: Bar chart with line overlay showing the price cap progression (color-coded by era)
 - Bottom: Bar chart showing period-over-period changes (green = decrease, red = increase)
- Saves both chart and data to files

To use it:

1. Install dependencies: `pip install pandas matplotlib`
2. Run the script

This really shows the dramatic spike during the 2022-2023 energy crisis when the cap more than tripled, and the subsequent decline back to more reasonable levels. The data is for a typical dual-fuel household paying by direct debit. Let me know if you need any adjustments!

Observations:

1. Provides links for where the data (and commentary) came from.
2. Provides useful summary of the timeline and current status.
3. Suggests where more data may be found.
4. Produced a simple, presentable graph.

OTHER ASPECTS

Natural Resources – power- and water-intensive

US Department of War:

- [Project Maven](#) (officially Algorithmic Warfare Cross Functional Team) – since 2017.
Google (until 2018), Anthropic (until earlier this year), [Palantir](#), [Anduril](#), Amazon Web Services.
- Variations in T&Cs in contracts with OpenAI and Anthropic.
Anthropic subsequently being designated as a 'supply chain risk' as they refused to agree contract variations.

Driverless cars – questionable approach to training data, resulting in some tragic accidents.

AI slop – can we trust any social media, news feeds etc.?

American dominance

Use in Health Care / Insurance:

- [NHS Federated Data Platform](#) – Palantir awarded £330m contract in November 2023 (due to run for 7 years)
HMG is currently considering ending the contract early after campaigning by MPs and Unions.
- [UnitedHealthcare](#) - large US health insurance company (48 million US 'customers').
Using AI to (allegedly) 'delay, deny and depose' insurance claims.

Deep-fakes – audio and video impersonation, 'nudification'.

Anthropic (Claude) Mythos – AI-powered hacking, Project Glasswing.

SOURCES

Books

“The Eye of the Master: A Social History of Artificial Intelligence” by Matteo Pasquinelli. Verso, 2023.

“Artificial Intelligence: A Guide for Thinking Humans” by Melanie Mitchell. Penguin, 2019.

“50 AI Ideas You Really Need to Know” by Keith Mansfield. Greenfinch, 2024.

[The Artificial Human](#) – BBC Podcast, with Aleks Krotoski and Kevin Fong

[AI Confidential](#) – BBC Documentary series (3 episodes), with Hannah Fry

[Grayson Perry Has Seen The Future](#) – C4 Document series (2 episodes), with Grayson Perry