AI in 20(ish) min

① What is AI?

② Why is everyone talking about it now?

③ A mental model when considering AI

④ AI in education, a few emerging trends

⑤ A few examples

⑥ if we have time Lets have a go...

⑦ Optional – How are guardrails applied to AI?

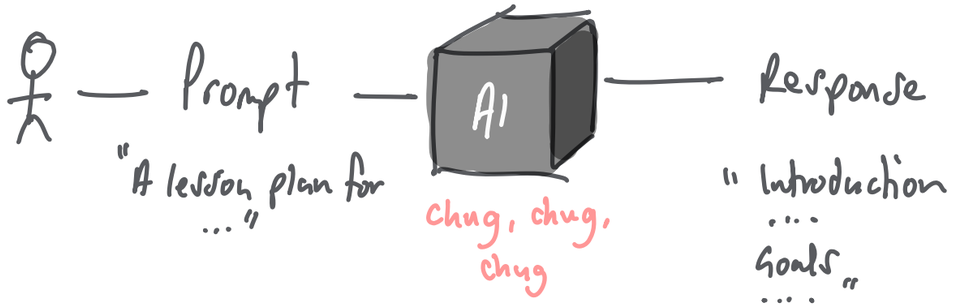
Outcome

How AI hangs together, trigger a few ideas of where it might support you + a few examples

But First...

1. Who has used an AI service?
2. What was that service?
3. Was it useful?

What is AI?



Think of AI as a fuzzy guessing machine

fuzzy in that it don't produce the same result each time

fuzzy in that in the purest sense no one can predict an outcome

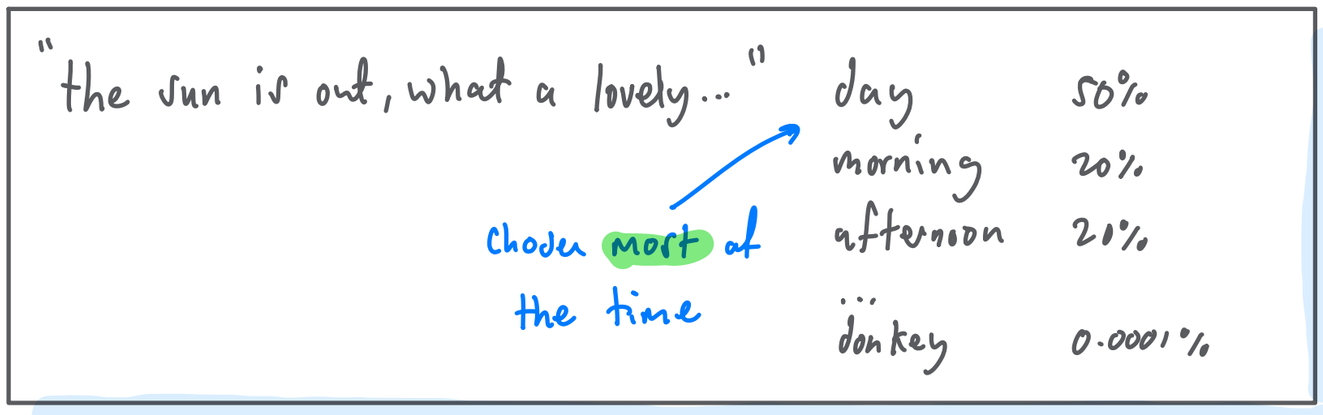
How it works

When using the most accessible version of AI - text completion (e.g. ChatGPT)

Each word produced is generated on likelyhood of occurence when considering the preceding words + context derived from the prompt.

PROMPT

"create small talk about the weather" ⇒



Limitations

* it doesn't 'know' anything e.g. maths 2+2=DUH But....
* AI can't reason, it has no model of reality
* its accuracy needs to be under constant scrutiny.
* still an expensive service to run, for now cheaper = poorer accuracy &&&

Why is everyone talking about it now?

'90 - 00	'07 - 20	'22 →
Internet	Mobile	AI
=	=	=
Distribution	Engagment	Intelligence
Ideas/knowledge accessible to everyone	5.4b users with instant access	All human knowledge curated, packaged and extended

SCALE!!!

* Generic application to a wide variety of domains
* Interface - super accessible, commonly via chat.
* Computers solving fuzzy problems has been very difficult up to now

Recent history of AI

This is happening fast.. 

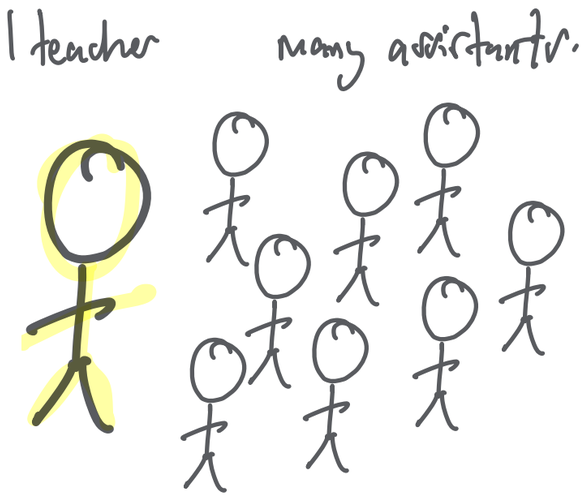
Pre 2022	2022	now
Specialist Machine learning.	General AI Problem solving.	Specialist/Enhanced AI
e.g how many people are there in this photo?	e.g. write me an essay about ww2 in the style of a 15 year old	- code generation - media creation - self validating responses - ...
Specific problem, relatively easy to measure accuracy	Open ended, varied Outcome, varied quality	Fairly open ended, easy to measure output, better

A mental model when considering AI

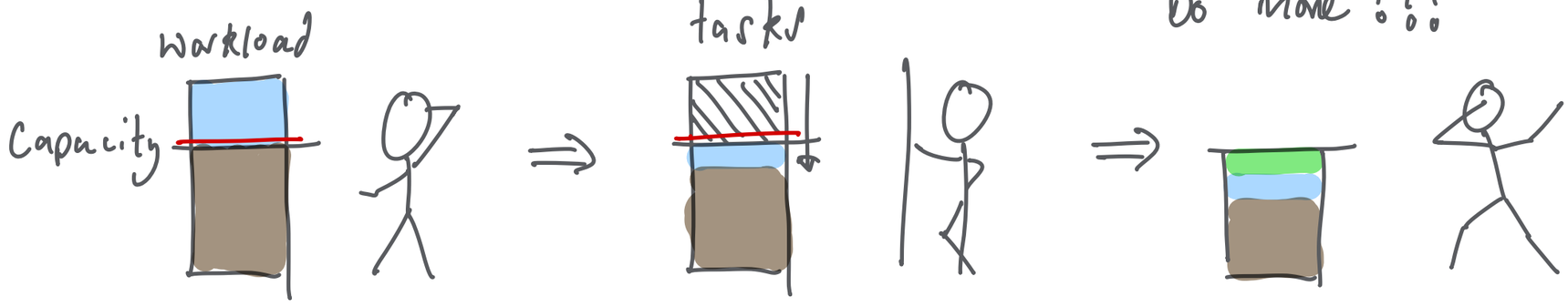
* Production Assistant
* Teaching Assistant
* XYZ Assistant

> Everyone gets one!!! or more

(Example: my report writer)



Reality.



AI Scales Intelligence. BUT.

You still need to consciously steer AI

Goal 1

Accelerate existing tasks

Goal 2

Do more !!!

Not all AI is equal, for now...

free or cheap

=

limited accuracy, depth

AND

but tends to be good enough at either specific or trivial tasks.

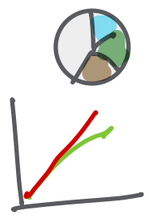
(We'll see an example in a min)

AI in education, emerging trends.

For Teachers:

- Content generation
  - Differenciated / contextualised
  - Extended support
  - 'Operational' content e.g audits, analysis

- Problem solving
  - Given xyz what's the best way to do...
- Analysis
  - Given results xyz + these curriculum learning objectives what next?



- Scale
  - Teaching assistant, first line of support
- Assessment + Peer Review

- Do you understand the content being generated?
- What is quality of the content being generated?
- Student perception

For students

- Content generation
  - ideas
  - correction
  - creativity
- Depth and exploration
- Understanding gaps.
- Tailored support.

- Cheating.
  Doing the work but not understanding it

A few examples

* Transcribe handwritten notes (chat)
* meeting notes via an app (app)
* Create learning material with differentiation (chat)
* Create a quiz (chat)
* Analyse my data (chat)

Risks

* Data protection, follow school guidelines when handling school data
* Validate output
* Understand what you're producing – Rima example...

How are guardrails applied to AI?

The AI Stack

User Interface

- ChatGPT
- 365 Word/Excel
- Photoshop

---> The part we interact with as users

The app

- Backend
- Backend
- Backend

---> How a service "directs" our query to the AI

AI

- Master Prompt
- AI model

---> How a AI provider steers our query

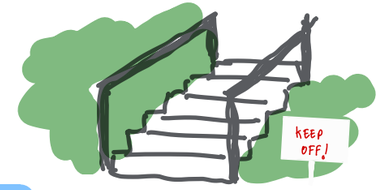
---> AI model generates a response based on what it "knows"

Knowledge

- Training Data

---> The data used to train the AI

Guardrails



Level 1 - Your org.

People / Process oriented

- Best practice
- Governance
- Rules / policies

Level 2 - App behaviors

- Filters / limits
- Guide prompt
- tone / direction of response

Level 3 - AI behaviours

- Manage biases
- hard limits

Level 4 - AI model behaviours

- Model limitations based on size

Level 5 - The data

- models are only as good as the data it uses

My notes and stuff post sessions-

Questions, Comments and Concerns.

* IT, data protection, how is our data processed + stored?
* IT. No trust in producing official docs e.g. legal or policies.
* IT, wants to create AI specific governance/controls.
* User
  - Quiz generation (spot test) Rachel, classics.
  - Not tried but liked the idea, Pod cast script into audio (kids shared) Gareth, Head English
  - Wants adaptive content, build a framework/path through content the generate content based on kids results - Wanted to produce video - Maths Teacher?
  - Generating lesson content via ChatGPT. - Wick, Head of Hosp. Maths teacher? Ally, Deputy Head + more

Notes.

* ChatGPT synonymous with AI
* Inherent mistrust for some
  - first experience is a negative one triggered by student behaviour
  - Just doesn't believe the tech can work the way it's pitched
  - Tried, didn't work as expected, written off.
* Personal Productivity message landed - prob helped link married to teacher - authenticity.
* Overestimate - 50% of the room had no idea how to engage with AI
* Start with a demo 'Create a lesson plan for .... using format .... topic area ....' then revisit later for differentiation
* Differentiate content for SLT/Teacher - Guardrails + School use cases SLT only. (use cases in other deck)
  (SLT engaged in this part, last others)

* Go back, run small practical workshop focus on productivity use cases - engage Ally to define*
* Peers seemed to appreciate an explanation of AI, even the high level to contextualise why it's difficult to what we can define.