Tea & Toast

The March towards AI

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What is Artificial Intelligence?

Unless you've been living under a rock, it's impossible to have **not** heard of artificial intelligence (AI) recently.

While the technical advances are scaling at a exponential pace, the concept of AI has been around for *centuries.*

A bit shocked to read that?

I was! Here's the story:

In 1770, The Mechanical Turk, also known as the Automaton Chess Player, was constructed. For 84 years, it was exhibited as an autonomous machine. It wasn't. It was a fraud.

But it struck me that this happened in 1770!

For context, the Americans were in the process of fighting for independence using muskets and swords. And people in Vienna were faking AI.

Functional AI is now mainstream

Use Google Maps? Text suggestions? Grammarly?

Use Siri or Alexa or any of the other assistants? Talked to a chatbot recently? All AI.

Functional AI has shot up like rapid-fire. Not only stoking excitement - but concerns.

From **learning** (*Did they write this or ChatGPT?*) - to **entertainment** (*Will we need human actors? writers? musicians in the future?*) - to **work** (*How do I add value?*) artificial intelligence has the power to fundamentally change the way we live, work and play.

Quick reference for AI terms

Supervised Learning

Machine learns from labelled data, makes predictions and decisions based on input-output pairs.
Email rule to move things into spam folders

Machine Learning (ML)

Enable systems to learn and improve from experience without being explicitly programmed.
ChatGPT, Dall-E2 and GitHub Copilot

Deep learning (DL)

Type of machine learning that uses neural networks with many layers to learn.
Used for image and speech recognition

Generative AI

Generative artificial intelligence (generative AI) is a subset of deep learning wherein an AI system can produce unique and realistic content from learned knowledge.
ChatGPT, Dall-E2, Sora

Natural language processing (NLP)

Understand, interpret and generate human language in a way that is both meaningful and useful.
Real-time language translation, language modelling, text-to-speech

Computer vision

Interpret and analyse visual information from the real world.
Autonomous vehicles, AR / VR, medical imaging
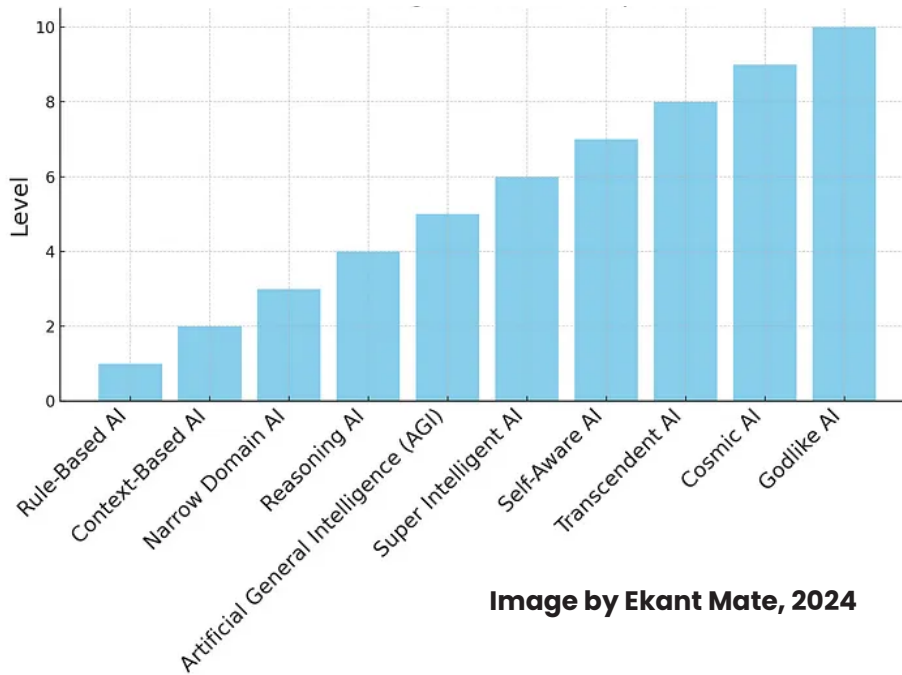
10 stages of AI Development

Image by Ekant Mate, 2024

Stages	Description	Examples
1. Rule-based	Operates on pre-defined rules, cannot learn and adapt	Alarm clocks & thermostats
2. Context-based	Process inputs while considering the environment, historica data and real-time cues	Siri & Alexa
3. Narrow Domain	Excels in specific tasks	ChatGPT (currently) & medical diagnostics
4. Reasoning	Able to analyse complex data, connect patterns and draw conclusions	Autonomous vehicles & Google Maps
5. Artificial General Intelligence (AGI)	Can perform any task that a human can and it can perform tasks that it is not necessarily trained or developed for	This is currently what AI researchers are working towards. So will argue we're close.
6. Super Intelligent	More intelligent than humans, can improve themselves without human intervention and understand complex concepts	
7. Self-Aware	Understands its own existence and relationship to the world. Can be introspective & develop an understanding of others	
8. Transcendent	AI systems picks its own evolutionary path, leading to self-development & collective intelligence	
9. Cosmic	Understands and interacts with the broader universe and cosmos	
10. Godlike	Develops autonomously, understand its environment without the need for supervision, and can transform the world around it	

The Training Practice
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The problems with Generative AI

Generative AI (GenAI) has the ability to generate new content, data, images or sounds that didn't exist before. It attempts to mimic human creativity. ChatGPT is an example of this.

Bias in, bias out	When you're cooking you want to use the best ingredients. Data is to AI as ingredients are to cooking. But if we put biases data in, we'll get biased data out. Just look up "AI Black Nazi"
No context	There's little to no connection or understanding about the interdependencies of data points. It can reiterate facts but not necessarily understand the societal, economic or historical context which led to these data points.
Environmental impacts	Requires a significant amount of energy consumption, which contributes to carbon emissions. The materials needed to build the hardware components for AI systems also require a significant amount of reasons. Additionally, with any new technology, e-waste increases.w
Accuracy issues	GenAI has been known to produce 'hallucinations.' These are unexpected and nonsensical responses which diverge from their intended functionality.
Mindless parroting	AI is trained on a lot of data. It can repeat (parrot) information or ideas without putting any critical thinking around it. There's a risk people will accept the information as fact.
Values - ethical - moral dilemmas	Foundational to ensure that AI systems align to human values. But who's values, exactly? Machines are built to accomplish a specific goal or purpose. But who decides what that is? What does good look like? Or success? "The real risk with AI isn't malice, but competence. A superintelligent AI will be extremely good at accomplishing its goals, and if those goals aren't aligned with ours, we're in trouble." -Max Tegmark Physicist and AI Researcher
Privacy - data concerns	AI applications rely on a massive amount of data. How that personal data is collected, stored and analysed needs to be closely regulated. A topical example: how facial recognition is used by law enforcement.
IP - ownership challenges	Data ownership, particularly our personal data, is becoming increasing fought for. Companies spend millions collecting and using data for research, marketing and sales purposes. New challenges around copyright and IP are raised: Who owns content created by GenAI?
Pace of change > pace of regulation	We need proper regulations to make sure AI is not an existential threat. But technology has highlighted the slow pace of regulation compared to advances and changes. Two challenges arise: the technology is exponentially increasing and the solutions require global-collaboration.

How will AI impact our jobs?

The short answer: Not fully known, but likely a helluva lot!

We already know and have seen the potential for automation in manual, repetitive roles - assembly lines, baggage handling, sorting machines, driving. But the industries now affected by AI are beginning to widen, impacting professional and technical roles as well.

Automation for the win

A 2023 McKinsey report predicts AI automation could free up almost 60-70% of our work hours by 2030. And this is not limited to manual and administrative tasks - but ones that require creativity, critical thinking and strong contextual knowledge. The 2023 Future of Work report suggests 80% of jobs worldwide will be transformed by generative AI. The hope? To make our lives easier and help us be more productive!
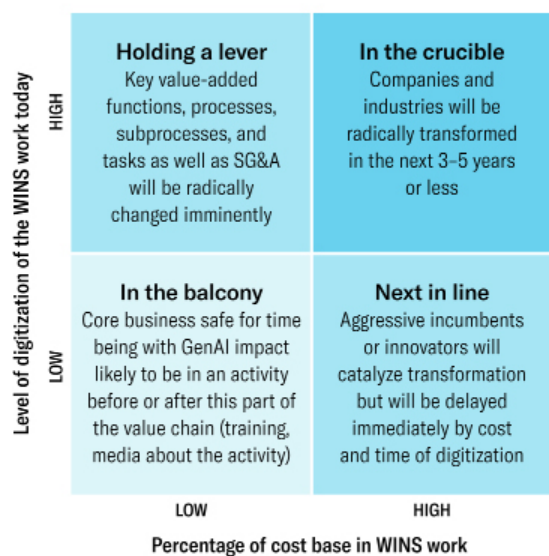
The WINS framework:
words, images, numbers, sounds

If your job heavily involves words, images, numbers or sounds - be ready for transformational change in the next 3-5 years. You're in the crucible.

HBR published the WINS framework to describe the sectors that generative intelligence will transform. WINS Work is centred on centred on words, images, numbers and sounds.

Consider two things:
- How much of your cost base is made up of WINS work?
- How digitised are the WINS inputs?

	Holding a lever Key value-added functions, processes, subprocesses, and tasks as well as SG&A will be radically changed imminently	**In the crucible** Companies and industries will be radically transformed in the next 3-5 years or less
	In the balcony Core business safe for time being with GenAI impact likely to be in an activity before or after this part of the value chain (training, media about the activity)	**Next in line** Aggressive incumbents or innovators will catalyze transformation but will be delayed immediately by cost and time of digitization

Level of digitization of the WINS work today (HIGH / LOW)

Percentage of cost base in WINS work (LOW / HIGH)

Harvard Business Review

The more WINS Work your role has the more AI can augment or automate your tasks.

Much of this is due to large language models (LLMs) and other generative AI tools. They haven't been around for very long, but they're expected to have far-reaching impacts on the way people do their jobs. AI tools and capabilities are exponentially increasing and we'll need to be able to adopt and embrace. **In summary: Put on the skates, it's time to be agile.**

- If you're in the crucible: understand and embrace GenAI immediately or you'll be left behind.

- If you're holding a lever: look for opportunities to optimise and gain advantages across your selling, general and administrative functions.

- If you're next in line look at tasks not currently digitised, and digitise/automate them.

As one CNN reporter put it, *It's not artificial intelligence that's going to take your job. It's people who know how to use artificial intelligence who will take your job.*

Let's adopt a growth mindset and enjoy the process of learning about how we can use AI to help us.

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Reimagine the workplace

The first step is going to be an enhancement, not elimination. For now, instead of thinking about the extreme-AI-takeover and complete loss of our jobs, let's think more iteratively: *How is generative AI redifining the workplace?*

> **2023 McKinsey report:** *About 75% of the value that Gen AI could deliver falls across four areas: Customer operations, marketing and sales, software engineering, and Research & Development..*

How is GenAI redefining management?

Your team's daily administration management can be supported with workflow and task scheduling features. You can use AI to create instant online meeting summaries with action logs. Generative AI can help with data-driven decision making.

From a training and development perspective, you can use AI to generate customised learning materials and modules based on an individual employee's learning style, development goals and performance reports.

How can GenAI augment our creativity?

There's a ton of evidence to show the power and impact innovation and creativity can bring to a business. But it requires the right environment. Tojin Eapen et al. highlight four innovation challenges and four ways we can use GenAI to help:

1. **Evaluation overload.** Analysis paralysis.

2. **Curse of expertise.** *This is the right way, the way it's worked for me. No need to question or change it.*

> *"Companies may fall prey to the curse of expertise. Domain experts who are best at generating and identifying feasible ideas often struggle with generating or even accepting novel ideas."*
>
> **-Tojin T. Eapen, HBR, July 2023**

3. **Inability to translate novel ideas into feasible and practical solutions.** Lots of blue sky, little grounded reality.

4. **Inability to see the forest from the trees.** Henry Ford famously said, *"If I had asked people what they wanted, they would have said faster horses."* It can be easy to describe the problem and think of immediate tweaks and solutions, but harder to contemplate the best solution.

Use Generative AI to help you:

- **Promote divergent thinking.** AI can make associations across different concepts and create new ideas. Try trisociation, ask ChatGPT to play the role of ideator and connect three distinct words.

- **Challenge expertise bias.** By bringing in weird and wonderful new designs or ideas early on, it can challenge what we think is possible or what we can deliver.

- **Evaluate ideas.** Ask ChatGPT to consider the pros and cons of your idea.

- **Help refine ideas.** ChatGPT can sift through data and resources, flesh out concepts and write out descriptions. Of course you'll need to heavily edit this yourself, but it's so much easier than starting with a blank sheet!

Build a strategy around AI

Gary Hamel, a well-known and highly respected business consult says,

"Strategy is about making the future happen, not just reacting to it."

How can we strategise a future involving something that is rapidly changing and largely unknown?

Times have changed. Your timing should too. An annual plan won't be sufficient, it's got to be faster and more iterative than that - particularly with the more WINS Work you're doing.

Use AI to kick-off your thinking. It's easier to get going with data and drafts ready to go. You have the tools freely available to do this. . See the suggestions on the previous page!

Consider: What new opportunities are available to us now that AI is more accessible? Don't know? Not good enough. Go exploring!

Do a current stocktake. What are you using now and what opportunities are out there? What resources will you allocate to invest in your strategy *(people / financial / communication).*

Develop a roadmap. You won't get to the finish line overnight - nor should you try. But begin to build your goals, milestones and timeframes around AI.

Build your capability: upskill your people. Even if you graduated in software engineering in the last five years - the landscape has already changed. This is going to be a long learning journey.

- Develop or find resources and tools to help people grow. Train people on new tools and possibilities. There's tons of free options. Here are ten new courses Google has published on AI.

- Create an expectation that people spend time and energy learning about AI.

- Loudly and proudly discuss AI opportunities and risks at your team meetings.

All this is novel and new - give yourself and your teams time to digest it.

Leading now and in the future

Wow have things changed! It likely won't slow down from here. Covid had a hand in speeding up workplaces changes; technology will continue to increase this pace.

Leadership fundamentally looks different now than it did ten years ago. If you're leading or managing people or projects, it's likely you're facing new leadership challenges, unique to this specific time period. Areas to focus and build capabilities:

- **Technology:** Artificial intelligence & technological advances* (within reason)

- **Culture and environment:** Building team identity and psychologically safe environments

- **Flexible, hybrid, remote work:** Connect digitally and build remote teams remotely

- **Brains & Bias:** Recognise biases and their impact on our our decisions, responses and work

- **DE&I:** Recognise the diversity people bring into work and foster inclusion

- **Intergenerational teams:** Understanding the importance of age, stage and generation on expectations - from Boomers to Zoomers.

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