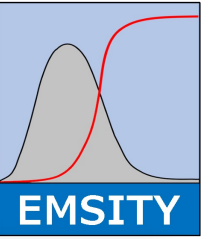


optimise

The AI Advantage: How Project Control Professionals Stay Ahead





Mark Turner

- Risk Manager CFIRM - Project Threat and Opportunity Identification Specialist
- Safran Risk Manager Lead Design Consultant
- Defence background:
 - Royal Navy Weapons Engineer (Submarines)
 - Project Planner
 - Project Manager in R&D
 - Head of Internal Audit
 - Senior Risk Manager
- Managing Director of Emsity
- First studies Artificial Intelligence in 1998 as part of my Technology Degree
- Author of the IRM Guide to Digital Ethics
- Married for 31 years with 3 children



Matt Livingstone



- Risk Management and Decision-Making Specialist
- 20 Years working on Major Infrastructure Projects and Programmes including
 - Nuclear Decommissioning (UK NDA, Sellafield Ltd, Magnox LLP, Fukushima, AWE)
 - Aviation (MAN-TP, DAA)
 - Aerospace and Defence (F35 Lightning II, Nimrod MRA4)
 - Roads and Rails (UK National Highways SMP/ SMA/ RIP Programmes, Network Rail TRU)
- Partner at optimise
- Husband and Father
- Pilot
- Computing and Artificial Intelligence *Geek*
 - BSc Hons Computing
 - Fascination in Automation and AI for over 30 years
 - Contributing author of the APM Project Risk Analysis and Management Guide

Artificial Intelligence Milestones



1956

“Artificial Intelligence” is coined by John McCarthy at Dartmouth.



1981

DEC deploys AI to help configure orders for new computer systems. Saving \$40 million a year by 1986.



2008

Google App with speech recognition appears on the iPhone.



1966

ELIZA, the world's first chat bot, developed by Joseph Weizenbaum at MIT.



1997

World chess champion Garry Kasparov is defeated by IBM's Deep Blue.



2015

ImageNet challenge declares that computers would more accurately ID objects in visual data than humans.

2018

OpenAI releases GPT-2, a natural language processing model that is capable of generating coherent and convincing text.

2019

OpenAI releases GPT-3, an even more advanced natural language processing model that can perform a wide range of language tasks, such as translation, summarization, and question answering.

2020

The emergence of AI systems that can detect and diagnose COVID-19 from medical images, demonstrating the potential of AI in healthcare.

2021

GPT-3 is used to develop new AI assistants, which can help people write, create audio and video content, generate images, write code and more in a fraction of the time.

2021

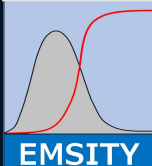
AI is used to develop autonomous vehicles that can navigate complex environments and make real-time decisions to avoid accidents.

2022

OpenAI launches ChatGPT on November 30th, breaking all records for adoption of any online service with one million users in 5 days.

2023

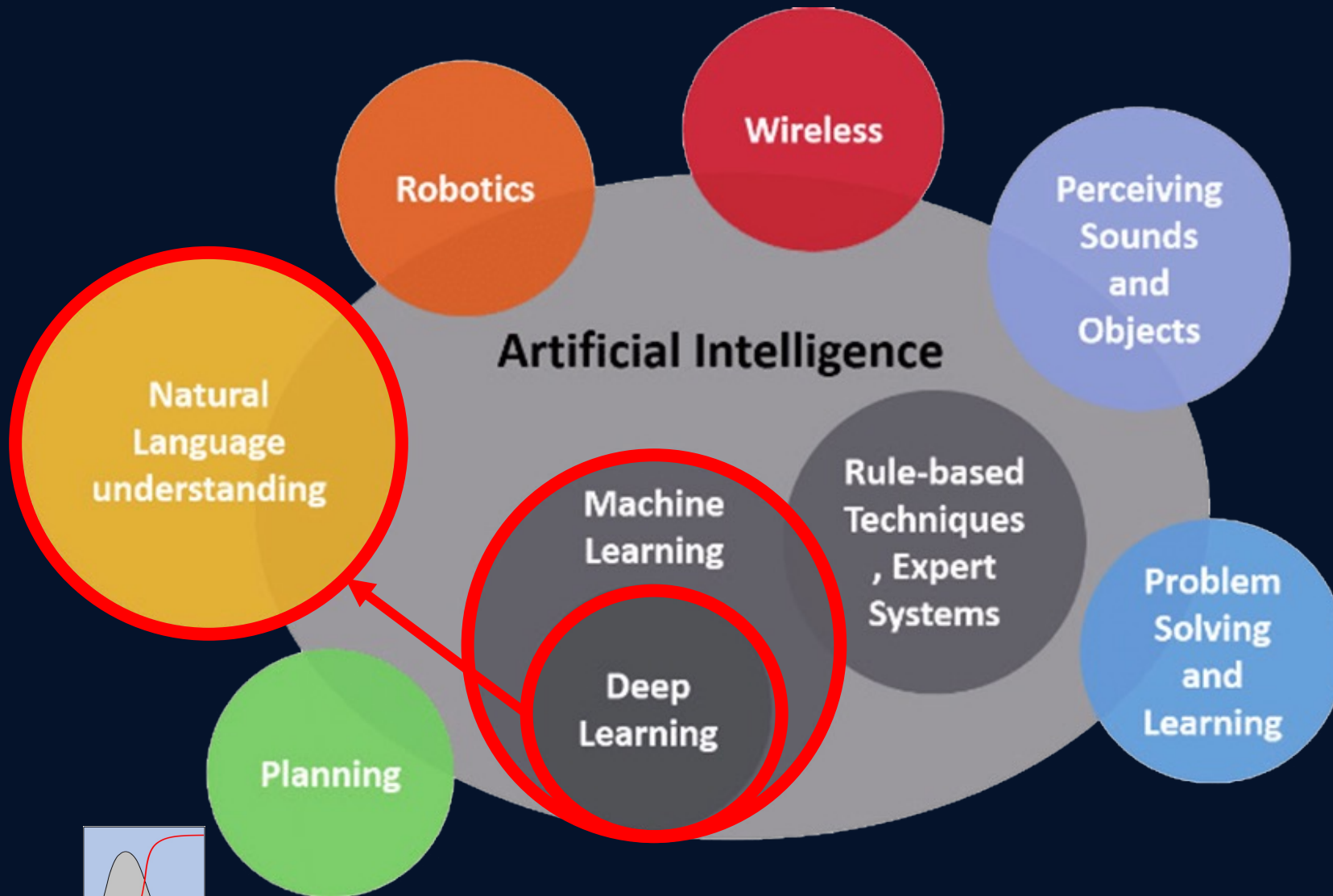
Open AI launches GPT-4 in March which can understand photos and video inputs.



Key message: “AI will not take your job, a person using AI will” ... for now
... 3 – 5 years and ... Beyond?



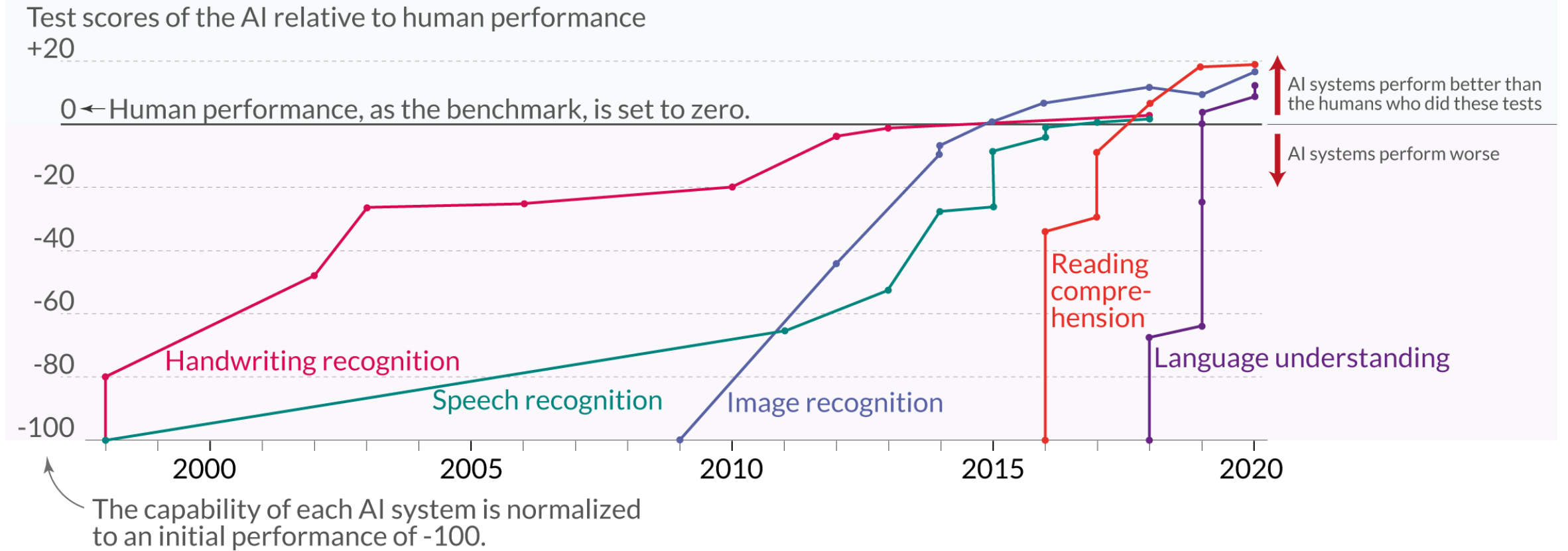
What Do We Mean By “Artificial Intelligence”?



FOR PMC

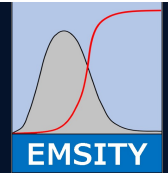
- Deep Learning
- Natural Language Processing
- Generative AI

Language and image recognition capabilities of AI systems have improved rapidly



Data source: Kiela et al. (2021) – Dynabench: Rethinking Benchmarking in NLP
OurWorldinData.org – Research and data to make progress against the world’s largest problems.

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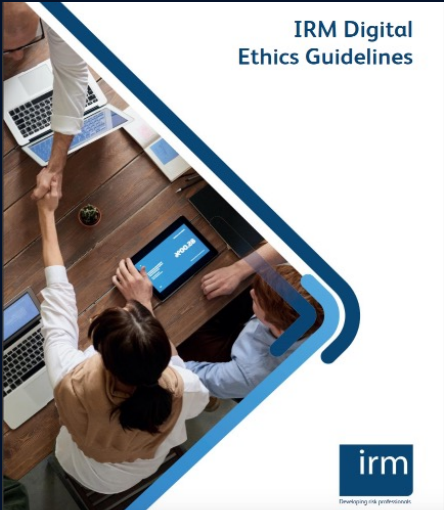
Governance, Control and Accountability

US Executive Order on AI Safety & Security

OECD AI Principles

EU AI Act

Bletchley Declaration

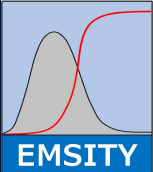


Accountability

Transparency

Fairness

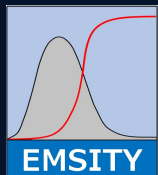
Sustainability

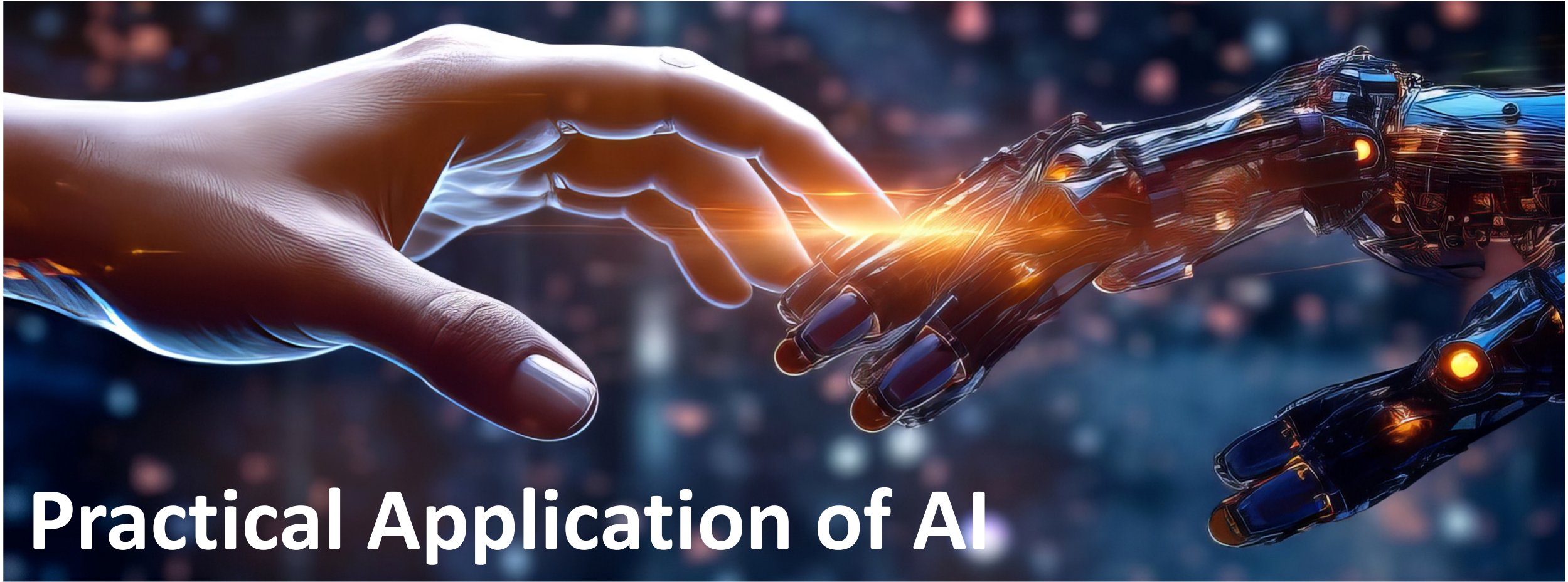


PRACTICAL MEANING FOR PROJECT MANAGEMENT TEAMS

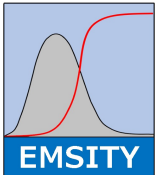


- **From Data Rich to Information Rich**
 - Leading to better decision options
 - Better monitoring of KPI
- **Reduction in repetitive tasks**
 - Automation of monitoring
 - Automation of reporting
- **Optimisation of activities**
 - Better schedules
 - Better risk registers
 - Better estimations
 - Better budget forecasting
- **Optimisation of resources**





Practical Application of AI



Deep Learning

Useful in speeding up the process of, and increasing the accuracy and forecasting of planning, risk management and cost estimation and control activities.

Project Professionals can expedite this transition by:

- **Enhancing their data extraction skills**

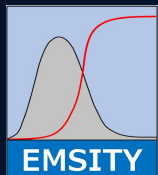


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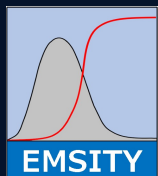
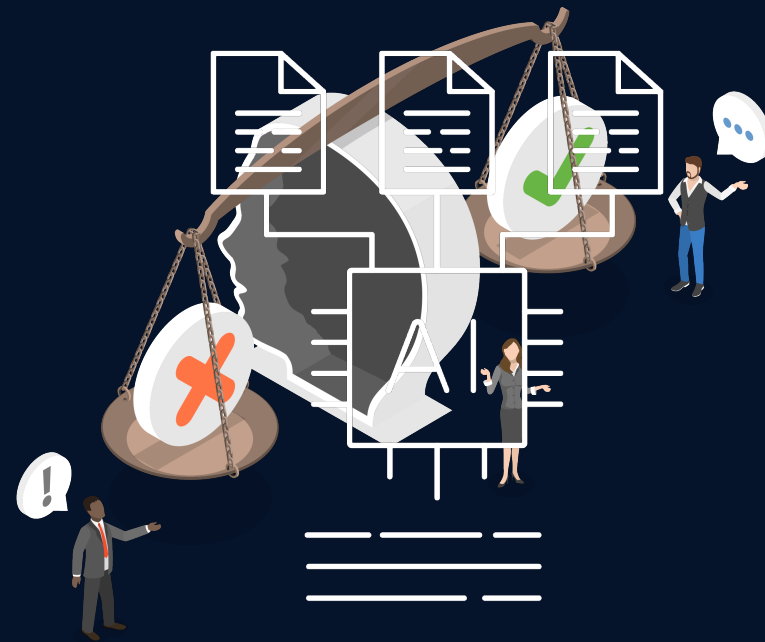


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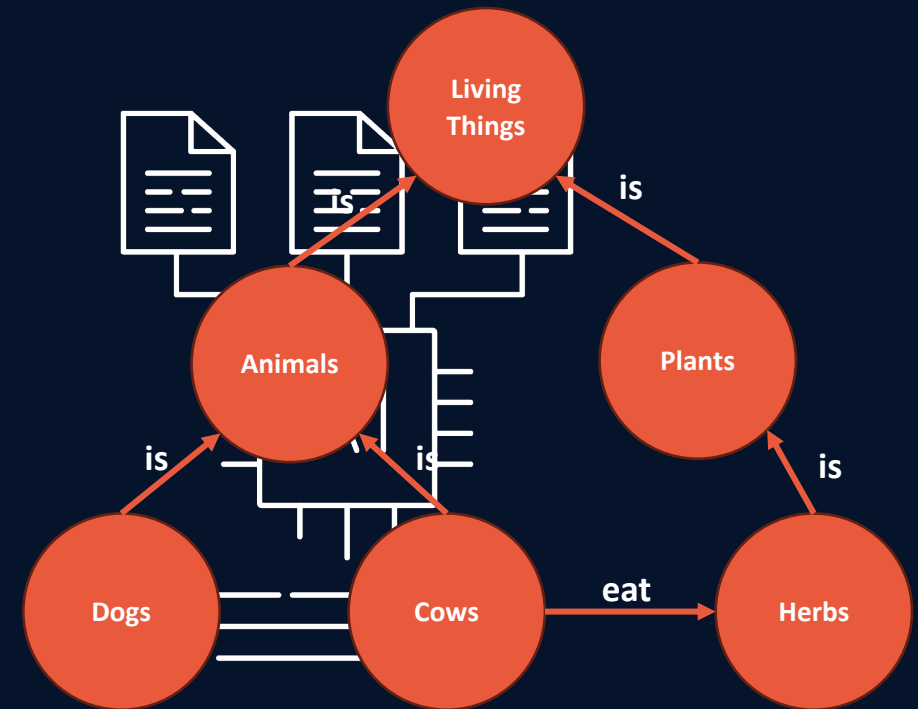


Deep Learning

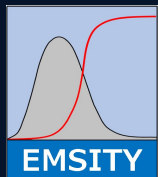
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- **Understanding how to load project information into AI**
- **Develop a robust skillset in generating Knowledge Graphs**



*Natural Language Processing (NLP) and **Generative AI***





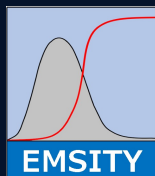
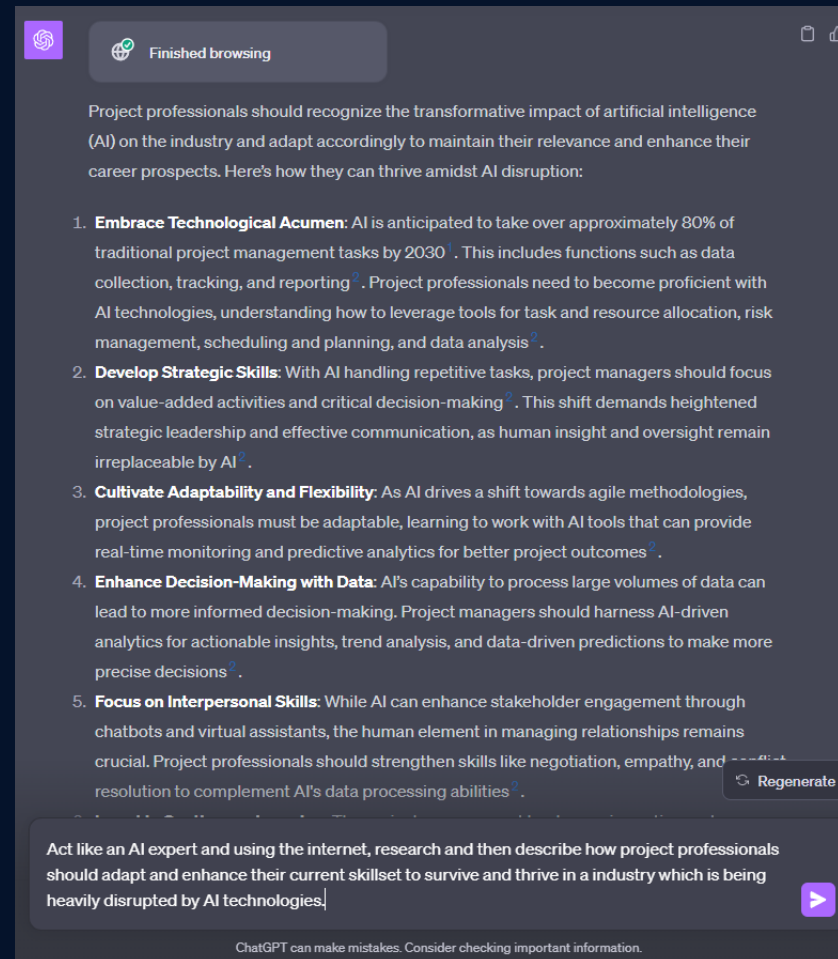
Natural Language Processing (NLP) and *Generative AI*

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Useful in aiding in the creation of reports and distillation of information into a common language and visualisations. This will offer more reliable and more easily understood advice and recommendations.

To enable this Project Professionals should:

- **Become familiar in AI prompt engineering**



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- **Enhance their analytics and communication skills**



Finished browsing

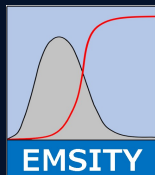
Project professionals should recognize the transformative impact of artificial intelligence (AI) on the industry and adapt accordingly to maintain their relevance and enhance their career prospects. Here's how they can thrive amidst AI disruption:

- 1. Embrace Technological Acumen:** AI is anticipated to take over approximately 80% of traditional project management tasks by 2025. This includes functions like data collection, tracking, and reporting. Project professionals should invest in learning AI technologies, understanding how to leverage them, and continuously updating their skill set to stay relevant in the industry.
- 2. Develop Strategic Skills:** With AI handling repetitive tasks, project managers should focus on value-added activities such as strategic planning, risk management, and stakeholder communication. Strategic leadership and effective communication, which require human judgment and oversight, are irreplaceable by AI.
- 3. Cultivate Adaptability and Resilience:** As the industry shifts towards AI, project professionals must be adaptable, learning to work with AI tools that offer real-time monitoring and predictive analytics for better project outcomes.
- 4. Enhance Decision-Making with Data:** AI's ability to process large volumes of data can lead to more informed decision-making. Project managers should leverage data analytics for actionable insights, trend analysis, and data-driven predictions to make more precise decisions.
- 5. Focus on Interpersonal Skills:** While AI can handle tasks like scheduling and chatbots and virtual assistants, the human element in managing relationships remains crucial. Project professionals should strengthen skills like negotiation, empathy, and resolution to complement AI's data processing abilities.

Regenerate

Act like an AI expert and using the internet, research and then describe how project professionals should adapt and enhance their current skillset to survive and thrive in a industry which is being heavily disrupted by AI technologies.

ChatGPT can make mistakes. Consider checking important information.



Practical Skills for next 5 years

Get familiar with Prompting

- AI will be integrated with every task you perform
- Knowing how to prompt effectively will become a key skill – so learn it now



Know what makes you different from a machine

- Interpersonal skills will become more important than ever
- Learn about Emotional Quotient (EQ) in yourself and others
- Develop your communication skills as much as possible



Get used to interpreting the results of the machine

- Machines will create reports
- Your skill will be in interpretation within the context of your projects

