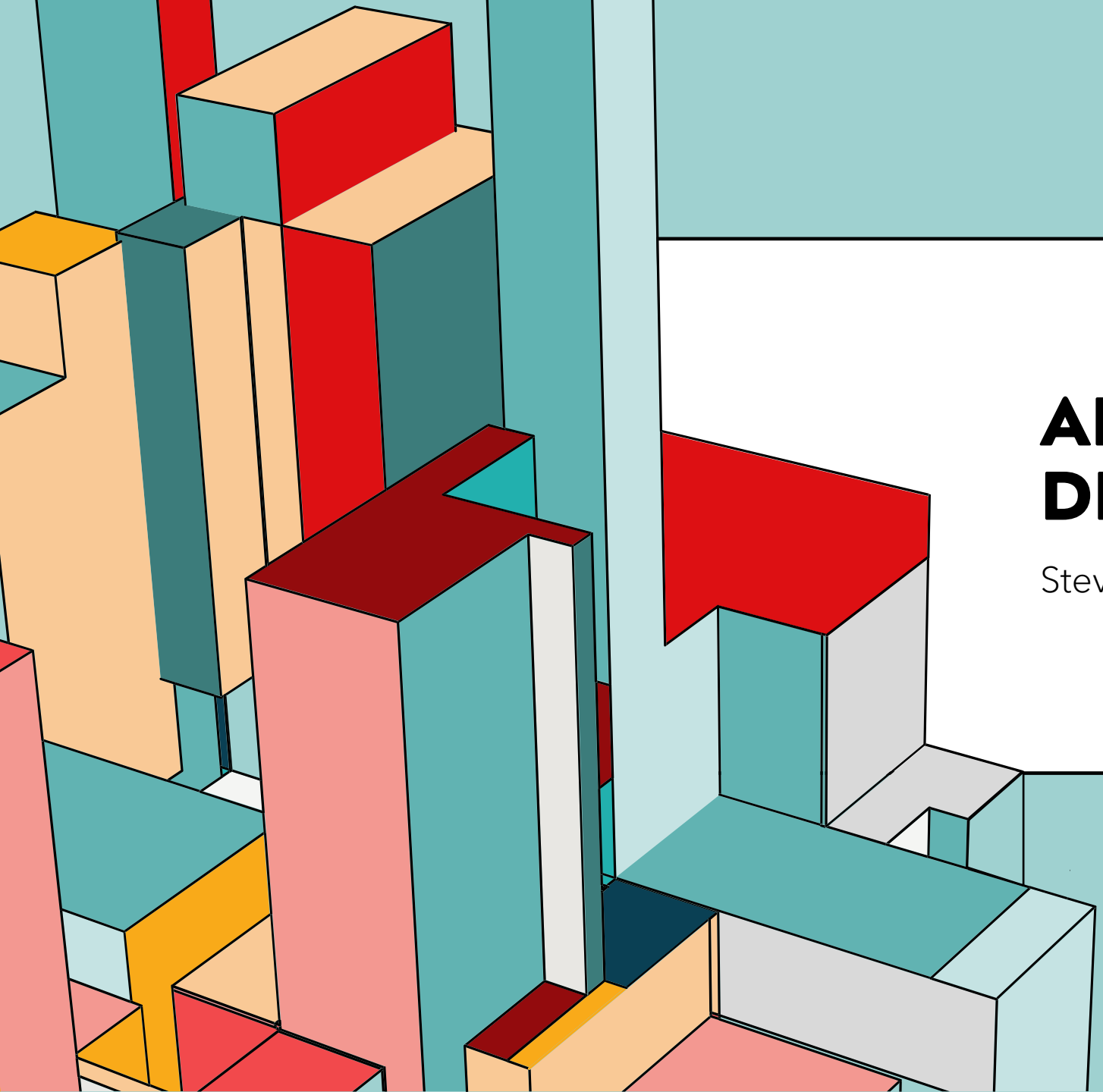
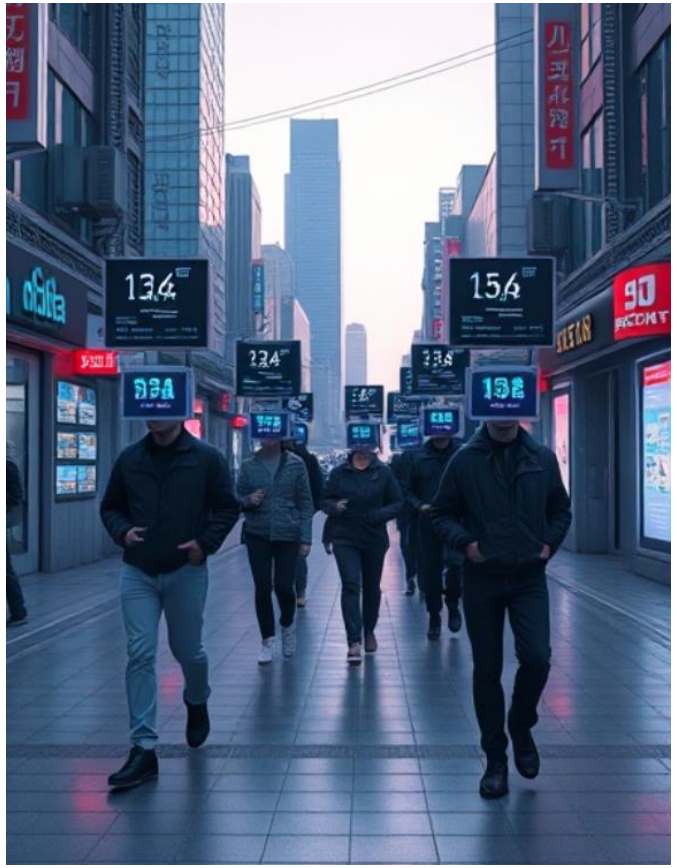


AI AND THE DIGITAL ECONOMY

Steven Parker

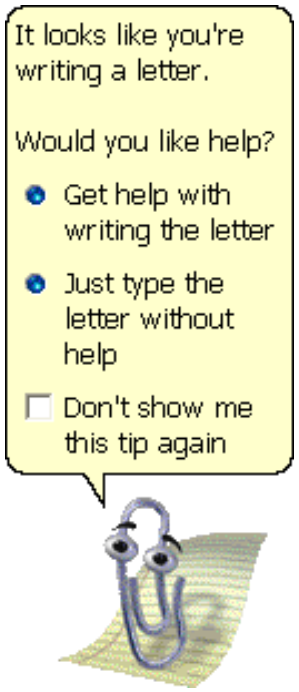
DATA GENERATION

- We all generate data everyday through interaction with all digital devices: Photos, Documents, Banking transactions, Shopping habits, Online interactions
- For a workspace this is more focused around Documents & Emails, Reporting, Company Data
- All of this data is valuable:
  - For companies, their own data, e.g. their IP which requires protecting
  - For people their data may be financial, or photos of family which have value
  - For other companies, people's data is extremely valuable for marketing and customer insights
- AI can use all of this data to learn



WHERE DID AI COME FROM?

- The idea of AI or 'thinking machines' was first published by Alan Turing following the Second World War
- In the 1960s Dartmouth College developed machines which could speak English and solve algebra problems and play checkers demonstrating the potential of AI.
- Around the year 2000 AI had sufficiently advanced with Deep Blue to beat the best human chess player, Garry Kasparov
- Some use cases became well-known such as spell-check or auto-correct, or Microsoft Word's Paperclip Assistant
- With the influence of mobile technology, increasing available processing power and cloud computing, AI is seeing a resurgence



HOW DO WE INTERFACE WITH AI

- Today a number of AI functions exist to assist us, such as:
  - ChatGPT to assist with various queries
  - Siri/Alexa/Google to provide voice control of technology/music
  - Spellcheck/Grammerly/Copilot to assist with personal office and business functions
  - Generative AI (GenAI) to create images, music or videos or a combination of media

ChatGPT

alexa

grammarly

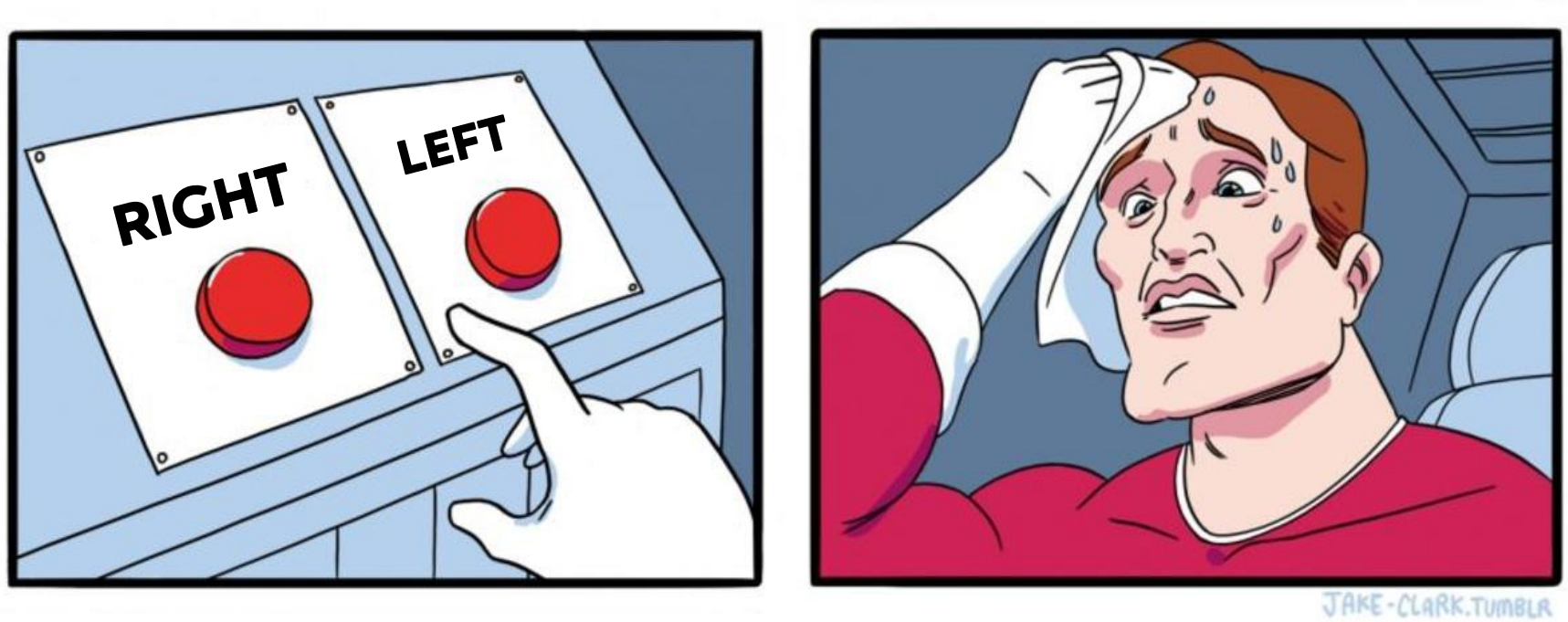
Copilot

THE JOURNEY OF GENERATIVE AI

Midjourney generations over time:
"a hyper-realistic image of Harry Potter"

Source: Midjourney, 2023

EXPERIMENT: HOW DOES DATA ENABLE BETTER DECISIONS?

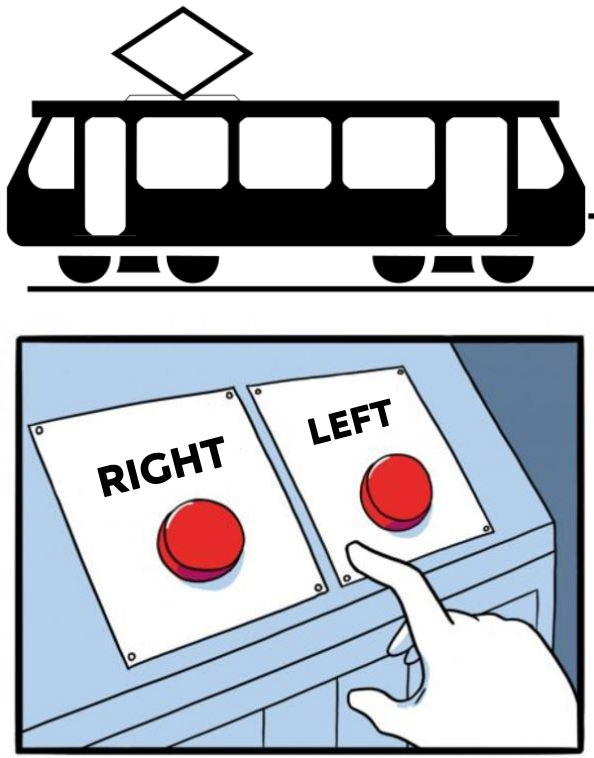


TWO BUTTONS MEME

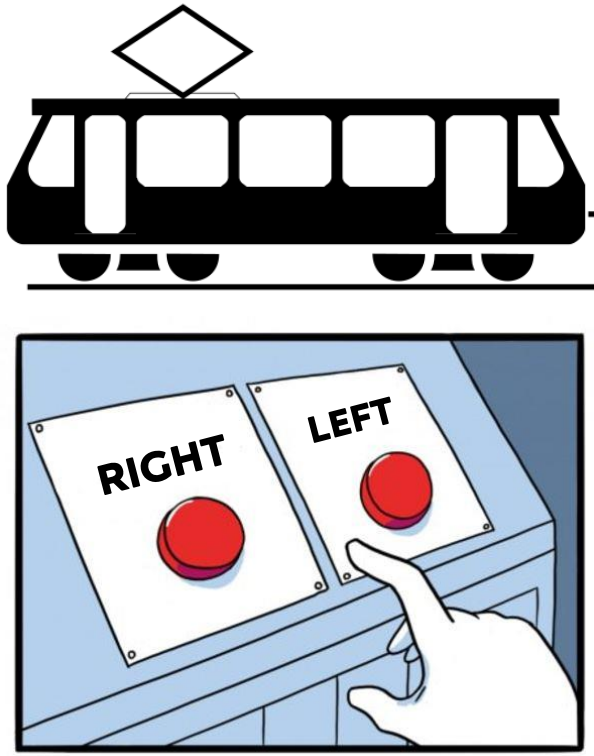
EXPERIMENT: HOW DOES DATA ENABLE BETTER DECISIONS?

THE TROLLEY PROBLEM –
A THOUGHT EXPERIMENT

EXPERIMENT: HOW DOES DATA ENABLE BETTER DECISIONS?



EXPERIMENT: HOW DOES DATA ENABLE BETTER DECISIONS?



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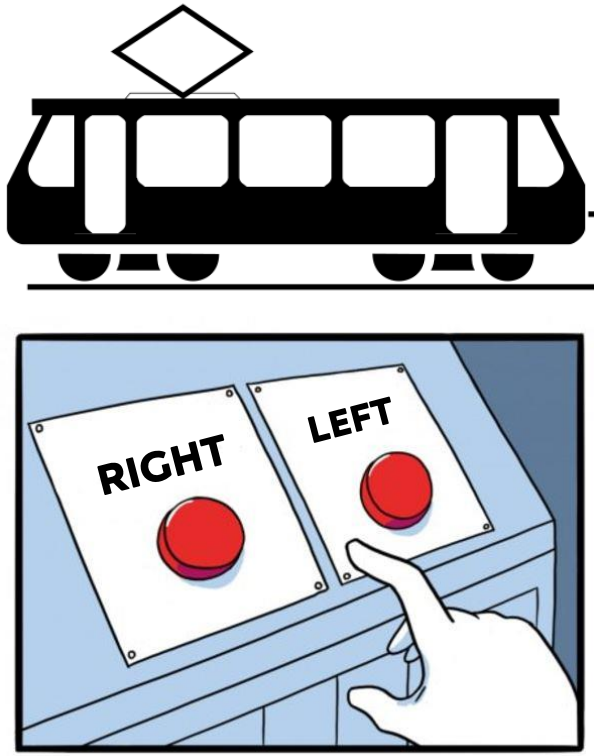
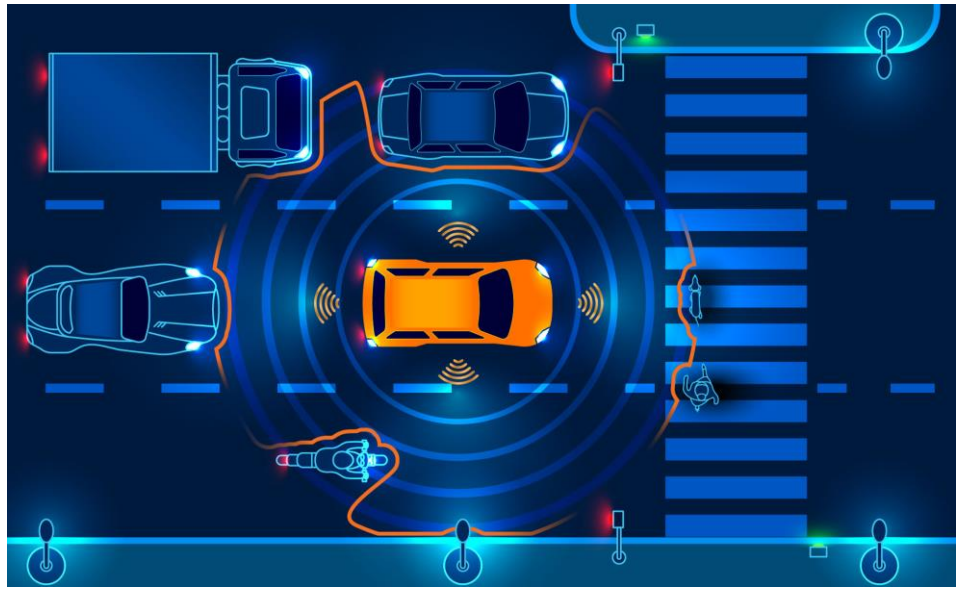


AI DECISION-MAKING

- The decisions AI takes are not actual decisions, but are based on probabilities and correlation from data fed to it
- The trolley problem has been synonymous with autonomous vehicles of ‘how best to crash’:
  - One person vs multiple inside or outside the car?
  - Should the car protect the occupants more than pedestrians, or less because the occupants have safety devices?
  - A tree or a pedestrian; as a tree could be a greater risk to the vehicle rather than the pedestrian?



WHY THE DRIVE FOR AI?

Efficiency

AI improves analytics and resource utilization across an organization, resulting in cost reductions. It can also automate processes and minimize downtime.

Empower-ment

AI can tackle mundane activities while employees can complete high-value tasks; this can boost productivity. Using AI can also unlock the potential of talent with disabilities, while helping all workers thrive.

Accuracy

AI augment human intelligence with rich analytics and pattern prediction capabilities to improve the quality, effectiveness, and creativity of employee decisions.

DISCUSSION POINT -
HOW DOES THIS AFFECT OUR BUILT ENVIRONMENTS?

Offices

Remote working requirements

Increased data use and wireless accesses for AI support functions

Residential

Remote working requirements for smaller office spaces?

Smarter homes with sustainable features

Data Centres

Increased density for AI compute servers (x5 current)

Increased load variability

Hospitals

Remote monitoring of patients with increased technology requirements

Remote surgeries with robotics