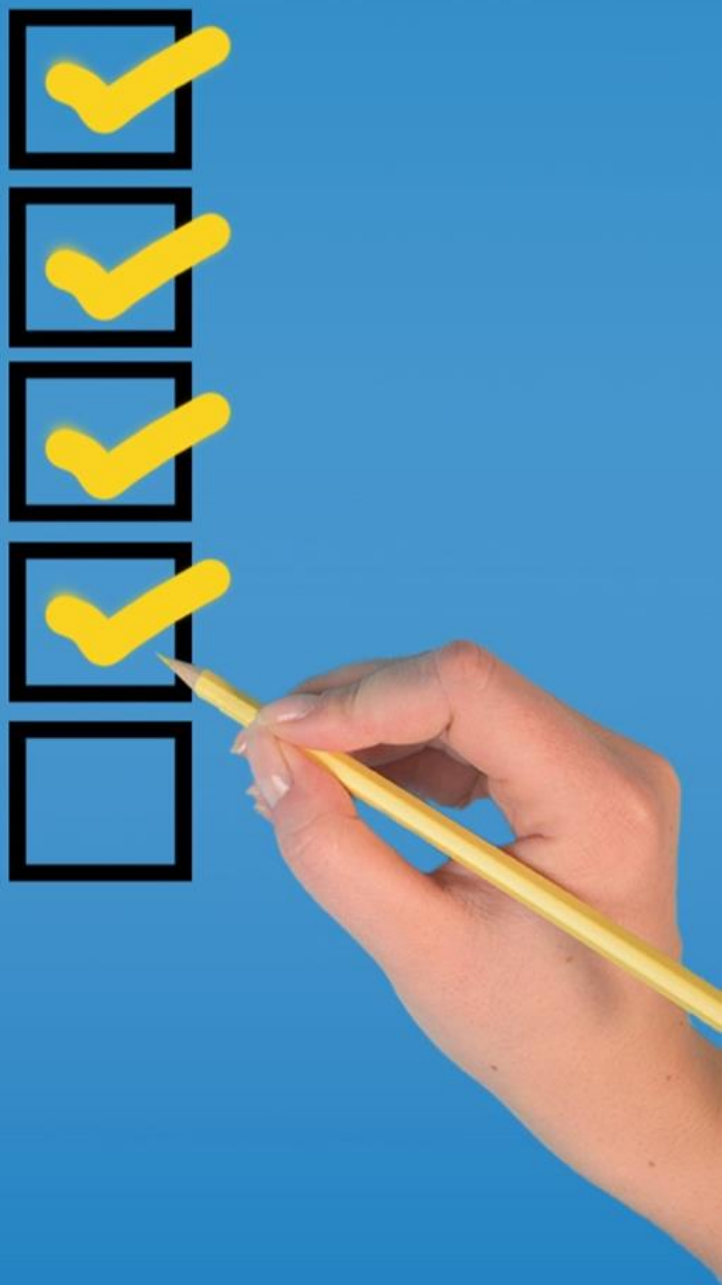
WHITEPAPER

AI Ethics 2.0: The ethical test

Being human-centred in responsible AI



fractal

Alan Turing is regarded as one of the pioneers of Artificial Intelligence, saying in 1947 "What we want is a machine that can learn from experience," and that the "possibility of letting the machine alter its own instructions provides the mechanism for this."[1]

In 1950 he developed The Turing test - the test involves three participants: a computer, a human, and a human interrogator. The interrogator attempts to determine, by asking questions of the other two participants, which is the computer.[2]

From these early beginnings, as AI evolved, two distinct perspectives emerged as to how humans and computers should interact:

Rationalistic perspective	Design perspective
AI encompasses the theory and development of computer systems that mimic human abilities and perform tasks that require human intelligence.	AI is a problem-solving tool to advance people's capabilities and improve human conditions.
People are seen as "cognitive machines"	Focuses on the interaction or involvement of the human with the computer
AI research focuses on mathematical and technological advancement.	Sees human thought and human physical embodiment as inseparable

At Fractal we build upon the Design perspective and focus on Human-Centred design

1. Alan Turing and the beginning of AI
2. The Turing test

The results of a rationalistic approach

Developing rationalistic AI systems that focus on speed, resilience, and agility can often overlook the complexity of human interaction - Have you ever had a conversation with a chatbot that has left you frustrated, and just wanting to talk to a real person?

We've also seen that the rational approach can cause unintended consequences:

AI reinforcing social bias

- Automated hiring bots being biased against women
- AI healthcare services neglecting minority communities

AI conflicting with societal values

- Tesla recalled cars that disobeyed stop signs
- A chatbot named Lee Luda learned to spew hate speech against women, sexual minorities, foreigners, and people with disabilities.

AI overstepping ethical boundaries

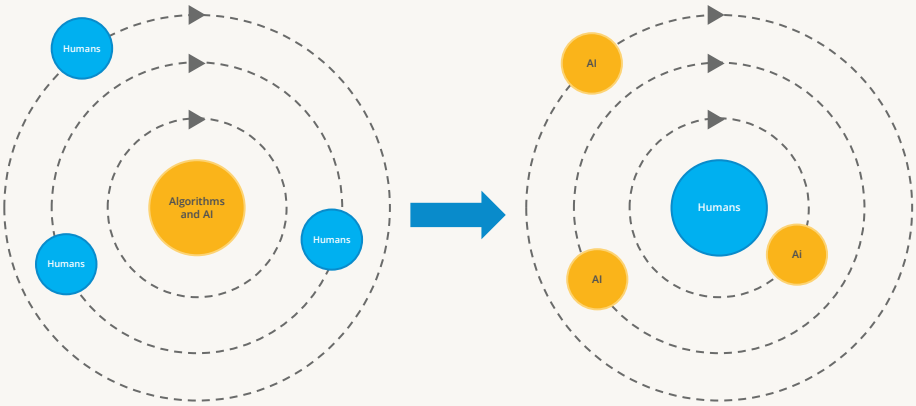
- AI may be able to identify physical problems from medical scans, but is it equipped to understand mental health conditions, where influencing factors may be behavioral?

> When decisions are seen to be subjective or the variables change, human judgement is trusted more. So how do we harness the power of AI without compromising the ethical values that make us human?

3. Amazon scraps secret AI recruiting tool that showed bias against women
4. Can we trust AI not to further embed racial health inequalities?
5. Tesla recalls nearly 54,000 vehicles that may disobey stop signs
6. South Korean AI chatbot pulled from Facebook

Top marks for human-centred design

Traditional discussions suggest that humans are “in-the-loop” around AI, while the human-centred AI reframing suggests that AI is “in-the loop” around humans:



Source: AIS Transactions on Human-Computer Interaction by Ben Shneiderman, *University of Maryland*

In practice, this means rethinking design practices, and combining with a strong AI governance framework, to craft responsible AI products:

- Pair programmers with designers at all stages of the development
- Iterate consistent design principles; empathize, define, ideate, prototype, test
- Assess automation and augmentation choices – which parts to automate and what to augment with a human?
- Fairness and model monitoring to practice responsible AI

> The human-centred design perspective helps bring the focus back on examining the messiness of the human situation through “enlightened trial and error”[7]

7. Human-centered AI: The role of Human-centered Design Research in the development of AI

fractal dimension

We believe complex problems need to be looked at through multiple lenses simultaneously to be grasped. With the new lens, new dimensions emerge, thus making complexity more evident and solvable.

How is Fractal Dimension set up to do it?

We identify complex and unstructured problem themes in the industry that are relevant. We invest in building expertise and a dimensionalized point of view around it.

We engage clients via 'slow-thinking' workshops and co-creation jams to curate our perspective for their problem. We invest in architecting an end-to-end state-change program.

We partner with client teams at Fractal to deploy cross-functional solutions and support them in helping clients realize value ROI.

If this piques your interest and you want to join us in leveraging AI responsibly, then reach us at dimension@fractal.ai

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Enable better decisions with Fractal

Fractal is one of the most prominent players in the Artificial Intelligence space. Fractal's mission is to power every human decision in the enterprise and bring AI, engineering, and design to help the world's most admired Fortune 500® companies.

Fractal product companies include Qure.ai, Crux Intelligence, Theremin.ai, Eugenie.ai and Samya.ai.

Fractal has more than 2,300 employees across 16 global locations, including United States, UK, Ukraine, India, and Australia. Fractal has consistently been rated as India's best company to work for, by The Great Place to Work® Institute, a 'Leader' by Forrester Research in its Wave™ on Specialized Insights Services, Computer Vision & Customer Analytics and as an "Honorable Vendor" in 2021 Magic Quadrant™ for data & analytics by Gartner.

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