

The Ethical Use of AI



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Navigating the ethical landscape of artificial intelligence requires a proactive and comprehensive approach. By understanding and addressing the ethical issues associated with AI, project managers, AI consultants, and users can ensure that AI technologies are developed, deployed, and employed in ways that are fair, transparent, accountable, and beneficial to all stakeholders. Adhering to these guidelines will not only mitigate risks but also build trust and promote sustainable innovation in all technology fields.

As AI continues to evolve, ongoing vigilance and commitment to ethical principles will be essential in shaping a future where this technology is properly used.

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Author's Note

I began working in information technology in the late 1980s, following a two-year immersive course where I had the opportunity to learn about the hardware structure of PCs and peripherals, programming languages, and the word processing, spreadsheet, and database management applications available at that time.

Having studied the so-called hard sciences within electrical engineering and computer science, as well as the human and social sciences, I have developed a substantial cultural background. This foundation, thanks to excellent teachers, enables me to understand the implications of the ethical use of technology. Adopting a holistic approach to knowledge—viewing it as a unified field rather than dividing it into natural and humanities—is essential for comprehending the phenomena of the world that has been given to us. In particular philosophy, although today is considered useless, is a vital practice that can offer critical reflection, ethical guidance, cultural understanding, personal growth, and a means to navigate existential and societal changes.

Thus, I hope to offer my modest contribution to understanding whether AI truly poses a danger or if it can be used ethically—serving the greater good and promoting social progress, rather than solely benefiting profit, which often employs unethical practices.

Bob Mazzei

London, 5 August 2024

Introduction

In broad terms, the starting point for the ethical use of technology, including AI, is the following:

“WE LIVE IN A PROBABILISTIC UNIVERSE WHERE NOTHING POSSESSES EXCLUSIVE PROPERTIES; EVERYTHING IS INTERCONNECTED, INCLUDING OURSELVES. TO UNDERSTAND THE WORLD, WE MUST CREATE MODELS, WHICH ARE NOT AND CANNOT BE THE REALITY ITSELF, BUT THEY ARE THE ONLY TOOLS THAT ENABLE US TO GAIN KNOWLEDGE.

INFORMATION TECHNOLOGIES ARE POWERFUL TOOLS FOR PROCESSING DATA, ALLOWING US TO CREATE THESE MODELS AND TEST OUR HYPOTHESES. AI IS CURRENTLY THE MOST ADVANCED DATA PROCESSING TECHNOLOGY. IF WE MANIPULATE DATA IMPROPERLY, WE REACH INCORRECT CONCLUSIONS, WHICH CAN LEAD TO CONFUSION OR EVEN CAUSE CONFLICT AND DESTRUCTION. THEREFORE, IT IS CRUCIAL THAT DATA IS PROCESSED ACCURATELY, NOT MANIPULATED.”

For me, this is the *incipit* from which everything regarding this topic begins.

As a matter of fact, the ethical use of technology is an enduring issue that extends far beyond the domain of Artificial Intelligence. This ongoing debate persists through every societal transformation, as each new wave of technological advancement presents unique challenges that demand our attention and resolution to prevent adverse consequences.

It is crucial to make clear distinctions in these discussions. Failing to do so leads to syncretism, resulting in confusion and a lack of clarity, which hampers our ability to address pertinent questions effectively.

Attempting to resolve the complex issue of the ethical use of technology with overly simplistic distinctions can be seen as both arrogant and naive. Such an approach often mirrors the harmful superstition that misleads us into believing that either our mythological beliefs are real or our scientific knowledge and discussions are the ultimate truth rather than reflections of our observations and experiences.

Therefore, the aim of this guide is not to provide definitive answers but to frame the ethical concerns surrounding AI, presenting practical cases that illustrate unethical practices and suggest corrective measures.

Over the past three decades, my career as an analyst and business engineer has involved leading numerous projects to implement information technologies across companies in Europe and North America. In recent years, my focus has shifted to AI projects. AI is a remarkable technology with growing ubiquity. However, to prevent it from becoming a tool for fraud and deception, as has happened with many other technologies, we must clearly define the ethical frameworks guiding its use.

What is Ethics anyway?

Ethics today refers to the systematic study and evaluation of human actions and attitudes, determining what is right, wrong, good, or bad. It involves analysing moral concepts and principles to guide behaviour and decision-making. Ethics encompasses various subfields, including normative ethics, which outlines moral standards; meta-ethics, which examines the nature of moral judgments; and applied ethics, which addresses specific practical issues such as medical or business ethics, among others.

And what about morality?

Morality is often discussed as if it were synonymous with ethics, but in fact, they are distinct concepts.

Morality and Ethics: Understanding the Basics

Morality refers to a set of principles or values that guide individuals on what is right and wrong. These principles are often shaped by cultural, religious, and personal beliefs. Morality is subjective and can vary widely between different societies and individuals.

Ethics, on the other hand, is the systematic study of moral principles. It involves examining, questioning, and understanding moral beliefs and their implications. Ethics is more formal and theoretical, often developing frameworks and theories to address moral questions.

And Legal Norms?

Well, legal (or juridical) norms differ significantly from morals and ethics. While they may originate from the customs, traditions, and moral and ethical concepts of a society, legal norms—constituting the law—include provisions for sanctions enforced by the state. This enforcement aspect distinguishes legal norms from morals and ethics.

To guide us, we can structure it in the following manner:

Difference Between Moral and Ethical Norms and Juridical Norms

- Moral Norms are personal or societal standards of right and wrong. These norms guide individual behaviour and are often unwritten and informal.
- Ethical Norms are principles derived from ethical theories and frameworks. These norms are usually more formalised and subject to philosophical scrutiny.
- Juridical Norms (or legal norms) are rules established by legal authorities. These norms are codified, formally enforced, and designed to regulate behaviour within a society through laws and regulations.

Please note that this is merely a framework, a systematisation to help us organise and understand phenomena, as we do in all areas of knowledge. It hasn't always been this way, and it won't always remain so. Things are constantly changing.

Hegel's Contribution to Ethics

Georg Wilhelm Friedrich Hegel introduced a significant distinction between morality (Moralität) and ethics (Sittlichkeit) that was not clearly delineated before his time.

- ★ Moralität (Morality), according to Hegel, pertains to the individual's internal sense of duty and personal moral principles. It is the subjective aspect of ethical life, focusing on personal conscience and intentions.

- ★ Sittlichkeit (Ethical Life), in contrast, represents the objective manifestation of ethical principles in social institutions, customs, and laws. It is the embodiment of ethical norms within the community and its traditions.

Hegel argued that true ethical life transcends mere individual morality and is realised within the context of societal institutions such as the family, civil society, and the state. This distinction highlights that individual moral intentions (Moralität) must align with and be actualised within the broader ethical structures of society (Sittlichkeit).

In essence, Hegel's philosophy marked a turning point in the understanding of ethics by asserting that individual morality alone is insufficient without the context and support of societal institutions. This integrated approach emphasises the interplay between personal moral convictions and the ethical norms embedded in the social and political fabric.

As a consequence, we will examine a series of cases where we will refer to ethical behaviour, or ethics, as a specific manner of using technology—in our context, AI—even when it involves adherence to legal regulations. Having differentiated between law and ethics, where the former sanctions behaviours that contravene rules, one might question why, for instance, why, for instance, violating privacy rights is considered unethical behaviour when it is, in fact, a legal violation? What is legally mandated should not be considered part of the ethical sphere since it is compulsory. Conversely, the automation of layoffs through AI does not breach any legal statutes but is decidedly unethical as it prioritises profit over human dignity.

Yet, in this context, everyone agrees to consider ethical use to encompass both behaviours mandated by law and those dictated by ethical principles.

Summarising the points discussed above, as one of the guiding examples we will explore further, we can assert the following:

Juridical Norm Example: AI and Privacy Violation

- Scenario: A company uses AI to collect and analyse personal data from its users without their consent, violating data protection laws such as the General Data Protection Regulation

(GDPR) in the European Union, or the Data Protection Act 2018 in the UK, or the US Privacy Laws—The United States has yet to implement a comprehensive federal consumer data protection law that covers all forms of private data. Nonetheless, it has several federal statutes that safeguard specific types of data, including the U.S. Privacy Act of 1974, HIPAA, COPPA, and the Gramm-Leach-Bliley Act. The CCPA (California Consumer Privacy Act) is the US counterpart to the GDPR for Californian citizens.

- Juridical Norm: The GDPR mandates that companies must obtain explicit consent from individuals before collecting or processing their personal data.
- Penalty Applied by the State: If the company is found to have breached these regulations, it can face severe penalties, including hefty fines and legal action enforced by regulatory authorities.

Ethical Norm Example: AI and Job Displacement

- Scenario: A company implements AI technology to automate certain tasks, leading to the displacement of many employees. The company complies with all labour laws and provides the legally required severance packages.
- Ethical Norm: While the company has not broken any laws, the ethical implications of mass job displacement are significant. Ethical considerations suggest that companies should consider the broader social impact of their decisions, such as the well-being of their employees and the communities they serve.
- Unethical Behaviour Not Punished by the State: The decision to automate and lay off employees may be seen as unethical because it prioritises profit over people, potentially causing financial hardship and social disruption. However, there are no legal penalties for this decision as long as the company follows employment laws.

In summary, using AI to collect personal data without consent is a legal breach with state-imposed penalties, whereas using AI to automate jobs and displace workers is an ethical breach without legal punishment, illustrating the distinction between juridical norms and ethical norms.

This is a prime example of how the concept of ethical AI use introduces complexity and nuances, leading to varying interpretations and criticisms.

Let us now move forward with a brief overview of the “Ethical use of AI” as it is generally understood today. An observant reader will likely notice that certain definitions can be easily misconstrued and tend to be somewhat generic, vague, and incomplete. Nonetheless, this is the prevailing understanding in current discourse.

Understanding Ethics in AI

Ethics in AI encompasses the principles and guidelines that govern the responsible design, development, deployment, and usage of AI systems. These ethical standards aim to ensure that AI is used fairly, transparently, and for the benefit of society. The key ethical principles in AI include:

1. **Fairness and Non-discrimination:** Ensuring AI systems do not perpetuate biases or discriminate against individuals based on race, gender, age, or other characteristics.
2. **Transparency and Explainability:** Making AI algorithms and decision-making processes understandable and accessible to users.
3. **Privacy and Data Protection:** Safeguarding individuals' privacy and managing personal data responsibly.
4. **Accountability:** Establishing mechanisms to hold individuals and organisations accountable for the actions and decisions made by AI systems.
5. **Beneficence:** Promoting the well-being of individuals and society through the use of AI.

Instances of Unethical AI Usage

1. Bias and Discrimination

- Example: An AI hiring tool exhibits gender bias by favouring male candidates due to skewed training data.

- Measures: Ensure diverse and representative datasets, conduct regular audits for bias, and integrate fairness checks in the development process.

2. Lack of Transparency

- Example: A financial institution utilises a complex AI model for loan approvals, leaving applicants without clear reasons for rejections.
- Measures: Develop explainable AI models, provide comprehensible explanations to users, and maintain transparent decision-making processes.

3. Privacy Violations

- Example: A health application collects and shares sensitive user data without explicit consent.
- Measures: Implement stringent data protection policies, ensure informed consent, and employ anonymisation techniques to protect personal information.

4. Manipulation and Misinformation

- Example: AI-generated deepfakes are used to disseminate false information or manipulate public opinion.
- Measures: Develop detection tools for deepfakes, promote digital literacy, and enforce regulations against the misuse of AI for spreading misinformation.

5. Autonomous Weaponry

- Example: The development of AI-powered autonomous weapons capable of making lethal decisions without human oversight.
- Measures: Advocate for international treaties and regulations to ban or control the use of autonomous weapons and ensure human oversight in military AI applications.

Measures for Ensuring Ethical AI Usage

1. Regulation and Governance

- Establish comprehensive legal frameworks and policies to regulate AI development and usage.
- Create independent oversight bodies to monitor and enforce ethical standards.
- Clearly state that anything produced using AI (such as images, text, etc.) must be identified as AI-generated.

2. Education and Training

- Promote education and training in AI ethics for developers, users, and policymakers.
- Encourage interdisciplinary collaboration to address ethical challenges in AI.

3. Stakeholder Engagement

- Involve diverse stakeholders, including philosophers, sociologists, and affected communities, in the AI development process.
- Promote open dialogue and public engagement to understand societal concerns and values.

4. Ethical Design and Development

- Incorporate ethical considerations throughout the AI design and development lifecycle.
- Use established ethical guidelines and frameworks, such as the [IEEE Global Initiative on Ethics of Autonomous and Intelligent Systems](#).

5. Continuous Monitoring and Evaluation

- Regularly audit AI systems for compliance with ethical standards.
- Implement feedback mechanisms to address ethical issues and improve AI systems over time.

Summarising

Ethics in AI is a crucial consideration as we continue to integrate AI into various facets of our lives. Adhering to ethical principles and taking proactive measures allows us to harness the potential of AI while mitigating its risks. Ensuring ethical AI requires a collective effort from developers, policymakers, and society to create a future where AI benefits all members of society equitably and responsibly.

Ethical Considerations for Project Managers

As a project manager directing AI implementation projects for clients, it is imperative to be aware of and address the ethical implications associated with AI technologies. Ensuring ethical compliance not only builds trust with clients but also safeguards the reputation and efficacy of the AI solutions deployed.

Key Awareness Points for the Project Manager

❖ Understanding Ethical Principles in AI

- Fairness and Non-discrimination
- Transparency and Explainability
- Privacy and Data Protection
- Accountability
- Beneficence

❖ Identifying Potential Ethical Issues

- Bias in training data and decision-making
- Lack of transparency in AI algorithms
- Inadequate data privacy measures
- Risks of unintended consequences or misuse
- Ethical implications of automating sensitive decisions

❖ Engaging Stakeholders

- Involve diverse stakeholders in the project from the outset
- Ensure that all voices, including those potentially affected by the AI, are heard and considered. This often may include customers/consumers.

Clear Communication with Clients

1. Defining Ethical Standards

- Clearly articulate the ethical standards and principles guiding the AI implementation

- Highlight the importance of these standards in ensuring fair, transparent, and beneficial AI use

2. Transparency in AI Design and Deployment

- Explain how the AI system works and the data it uses
- Provide clients with an understanding of the decision-making process

3. Addressing Privacy Concerns

- Outline measures taken to protect data privacy
- Ensure clients understand their role in maintaining data security and confidentiality

4. Mitigating Risks

- Identify potential ethical risks and propose mitigation strategies
- Develop a risk management plan that includes regular audits and assessments

Risks to Consider

1. Bias and Discrimination

- The risk of embedding existing biases in AI models
- Potential for discriminatory outcomes affecting marginalised groups

2. Transparency and Accountability

- Difficulty in explaining AI decisions
- Challenges in holding parties accountable for AI actions

3. Privacy Violations

- Unauthorised access to sensitive data
- Inadequate consent mechanisms for data usage

4. Unintended Consequences

- AI systems behaving in unexpected ways
- Potential misuse of AI technology for harmful purposes

Ethical AI Policy for Clients

Ethical AI Implementation Policy

This policy outlines the ethical standards and practices for the implementation of AI technologies in our projects. It aims to ensure that AI systems are developed and deployed in a manner that is fair, transparent, and beneficial to all stakeholders.

1. Ethical Standards

- **Fairness and Non-discrimination:** AI systems will be designed to avoid biases and ensure fairness across all demographic groups.
- **Transparency and Explainability:** We will provide clear information on how AI systems operate and make decisions.
- **Privacy and Data Protection:** Strict measures will be taken to safeguard personal data and ensure privacy.
- **Accountability:** Mechanisms will be established to hold parties accountable for the actions and decisions of AI systems.
- **Beneficence:** AI technologies will be used to promote the well-being of individuals and society.

2. Stakeholder Engagement

- We will engage diverse stakeholders throughout the AI project lifecycle.
- Feedback from affected parties will be actively sought and incorporated.

3. Risk Management

- Regular audits and assessments will be conducted to identify and mitigate ethical risks.
- A comprehensive risk management plan will be in place to address potential ethical issues.

4. Client Responsibilities

- Clients are expected to maintain data security and confidentiality.
- Collaboration with our team to ensure ethical compliance is required.

5. Continuous Improvement

- This policy will be reviewed and updated regularly to reflect new ethical challenges and technological advancements.
- Ongoing training and education on AI ethics will be provided to all team members.

Summarising

By adhering to this policy, we aim to ensure that our AI projects are conducted ethically, promoting trust and delivering value to our clients and society at large.

All of the above assumes that the project manager has a thorough understanding of AI, effectively serving as both a project manager and an AI consultant, which is the ideal scenario for these projects. If not, then the project manager must collaborate closely with an AI consultant to ensure these policies and analyses are properly addressed.

Actually, a project manager overseeing AI implementation must be vigilant about the ethical implications of their work. By clearly communicating ethical standards, addressing potential risks, and implementing a robust ethical policy, they can ensure that AI technologies are used responsibly and beneficially for all stakeholders.

The Golden Rule: Never Use AI for Improper Purposes

With the advent of tools like OpenAI's ChatGPT, Google Gemini, and Claude—among the most popular and widely used—generative AI platforms are now employed by a vast number of individuals and organisations. While generative AI offers remarkable capabilities, we must remain vigilant against improper uses.

This concern transcends mere ethical considerations; it is a fundamental principle applicable to all technologies. As an illustration, consider an important field of human knowledge, though this principle can be adapted to any discipline.

The golden rule is simple: never use AI for purposes it is not suited for.

AI in the Medical Field

Medicine greatly benefits from artificial intelligence. Various electromedical devices and diagnostic software assist specialised medical personnel in their daily practices. However, these sophisticated tools necessitate the expertise and knowledge of medical professionals. Personally, I would not know how to operate such devices, and even if I could interact with the software, the data it generates would be incomprehensible to me.

Therefore, I would never consider asking ChatGPT to diagnose my back pain, determine its causes, or suggest treatments. However, I am aware that some people do this. It's not surprising, but it's important to understand that we do not yet have the technology to provide reliable medical advice to laypersons. Perhaps one day we will, but currently, this is not the case. Avoid using generative AI for medical or legal advice. Always consult a specialist, as it is the appropriate course of action.

Generative AI for Producing Information

What about generative AI used to produce information? With the proliferation of these platforms, the practice of using AI to generate content—such as books, articles, and manuals—has also become widespread.

If someone thinks AI can replace Shakespeare's genius, it is largely harmless. While it is unethical unless clearly stated that the literature is AI-generated, it doesn't cause significant harm. AI lacks the ability to abstract and does not possess the same level of human creativity, and it may even result in plagiarism. Consequently, such work is unlikely to be hailed as the next Nobel Prize for literature and would probably languish in obscurity on the internet. Moreover, platforms like Amazon have various methods to combat this phenomenon.

I can accept those who make use of these tools for checking grammar and syntax, but not beyond that. Otherwise, you are not the true author, and the result tends to be banal and unremarkable.

About the use of AI to generate pictures, I think it is quite apparent, making it nearly impossible to claim such creations as one's own work. Nonetheless, I believe AI can indeed be utilised to create art, provided its use is transparently declared. This form of art is already emerging, and the process of directing AI to produce images based on an artist's input can become a practice that is far from simple or obvious. While we are still in the early stages, I believe that talented artists will explore and excel in this new medium.

The phenomenon of AI-generated deepfakes, which I have previously mentioned, becomes particularly concerning when their use is not transparently declared, such as in satire for instance.

Regarding AI-generated textual content, all reputable AI tools advise users to verify the information provided, as it may be incorrect or misleading. Producing texts, especially on topics one is unfamiliar with and unable to verify, is highly irresponsible. Circulating such content poses significant risks, as it can mislead others into believing false information.

At this point, I can't even fathom the enjoyment conspiracy theorists must be experiencing, along with the so-called internet gurus who deceive countless individuals with their dubious success formulas, and the fake specialists, often operating in sensitive fields such as medicine.

Therefore, the advice for users is to exercise caution and verify information before blindly accepting it. Avoid contributing to the spread of misinformation and, most importantly, do not fall for the tricks of these so-called experts. Remember, you won't get rich overnight, you won't lose 60 lb in a month, you won't win someone's love with a list of tips, you shouldn't take medication unless prescribed by a doctor, and you certainly can't inject microchips through vaccines. These are merely foolish clickbaits that should be ignored.

Reasoning is at the heart of decision making

We must acknowledge that we live in a probabilistic world where there are no absolute truths. Even our values are not absolute or immutable. Everyone has likely felt horror at behaviours considered acceptable in past centuries, which today seem barbaric. Likewise, we still witness many horrors, often

driven by outdated beliefs that persist even in our so-called civilised world, such as the division of human races, the misapplication of Darwinian evolution in social sciences, and other such fallacies.

From the very beginnings of Western civilization, we have confronted the issue of opinions, and Plato's dialogue "Protagoras" addresses this topic.

Opinions are certainly important, but not all opinions hold the same weight. If I have a toothache, I consult a dentist, not my grocer, for advice on how to resolve the issue.

So, I base my interaction with the world on what I can know and adapt my actions accordingly. In other words, science doesn't provide definitive answers about the world; it tells us what we know with a high degree of probability, until a new scientific theory expands our understanding.

Scientific theories are not reckless ideas, as if my opinion on viruses holds the same weight as that of a virologist, when I can barely recall from biology that there are entities called cells. In simple terms, a scientific theory is a collection of hypotheses backed by observations and experiments. It is not a series of fantasies or delusions where the statements of any random individual are accepted as truth.

This preface is meant to address the fact that many today question the use of AI, labelling it as inherently unethical. According to some, AI epitomises unethical technology because it steals jobs, facilitates cheating, and poses potential threats to humanity, among other concerns.

Regarding jobs, the notion that technology steals jobs is absolutely false. It is not technology that causes job losses, but rather the way we allow the economic system to prioritise profit over people. When personal computers first became widespread, there were similar fears that they would cause massive unemployment. Instead, millions of new jobs were created in software development, technical support, training, hardware production, maintenance, and so forth. This pattern has repeated with every technological advancement. Technology itself is not unethical; it is our behaviour that determines its impact.

Therefore, we must now establish the conditions to train people for this technological shift, ensuring that no one is left behind. By doing so, we create the groundwork for greater advancements in AI, allowing everyone to benefit from its progress.

As for the rest, every new technology has been susceptible to improper and criminal uses, even to the point of threatening humanity. However, these actions are carried out by people, and it is on their behaviour that we must focus, rather than halting technological progress. When I say we must address people's actions, I do not mean enacting laws that impose severe penalties—such laws already exist if we choose to enforce them. Instead, we must educate people and create social conditions that provide access to education, healthcare, and employment, ensuring no one feels excluded. Increased well-being correlates with reduced crime rates.

While it is true that criminals can misuse AI, it is also true that law enforcement can leverage AI to protect us from such threats. AI will not deploy an atomic bomb on its own; it requires people to design and implement such processes.

Check data, do not be swayed by superficial appearances or irrational outcries, and employ reason when making judgments.

Ned Ludd and his followers

Ned Ludd is a legendary figure, often considered the symbolic leader of the Luddites, a group of English workers in the early XIX century who protested against the industrial revolution's impact on their livelihoods. The Luddites destroyed machinery, such as weaving frames, which they believed threatened their jobs and traditional way of life. The term “Luddite” has since come to describe someone opposed to technological change.

We still have quite a few Luddites among us, and they are not just workers or labourers concerned about losing their jobs. This phenomenon spans across various social classes, although it likely doesn't affect those at the top of the pyramid, given their considerable wealth should make them feel secure. Notwithstanding, as the saying goes, you never know—some individuals oppose modernity because they believe we were better off in more difficult times.

In Plato's “Phaedrus,” Socrates recounts the myth of Theuth and the Pharaoh. Theuth, the Egyptian god of writing, presented his invention of writing to King Thamus (the Pharaoh). Theuth argued that writing would improve memory and wisdom. Yet, Thamus countered that writing would create

forgetfulness by encouraging reliance on written texts rather than internal memory, leading to a superficial understanding rather than true wisdom. As you can see, this legend highlights the ambivalence towards technological advancements and their impact on human cognition.

I do not reference Plato randomly, nor is it out of pretension or admiration. The foundations of our Western civilization lie in Greek philosophy, Roman law, and Judeo-Christian culture. The entire history of philosophy, or rather all discussions on the essential themes of human existence, have always centred around Socrates and Plato, simply because those issues remain unresolved, despite our scientific and technological progress.

This is why dividing scientific and humanistic knowledge is detrimental. Language, including our use of the alphabet and writing, plays a crucial role here. Words do not define things absolutely but express other words and concepts. For example, the sun is not an absolute, fully understood object; it is a concept we continually study. Similarly, terms like dark matter and dark energy highlight our ignorance about certain aspects of the universe—we perceive them but cannot fully understand them. This aligns with Kant's idea that the thing-in-itself is unknowable; we can understand phenomena but cannot achieve complete understanding of things.

These concepts are essential to comprehending our relationship with technology. Without this understanding, everything becomes debatable and relative, allowing anyone to claim anything as objectively true and irrefutable. The key point is that technology does not appear as if by magic; it is a product of our scientific journey and our exploration of the world. Science is meaningless without its contribution to social progress. While we can create remarkable tools and significantly enhance our material well-being, this well-being should be accessible to everyone, not just a select few.

Consequently, the alphabet, our principle and remarkable technology, enables us to articulate language and accomplish myriad tasks. There would be no science without language. However, this powerful tool can be used to compose hurtful words or to create beautiful works of art, as done by the greatest poets and writers. In essence, humans can harness technology for noble purposes and the advancement of humanity, or for self-destruction. It is always humans who make these choices, not the machines.

As mentioned, do not fear questioning, but always rely on data. Thoroughly search for and verify sources, and do not trust the first thing you read or see in the news outlets. Be cautious even of the personal opinions of self-proclaimed experts and those by Nobel Prize winners. Science is not a matter of personal opinion; peer review is not a random practice but a necessary process to allow the scientific community to check and validate findings. If a theory is not verifiable, it is not scientific because it cannot be scientifically refuted. Only what is testable and potentially refutable can be validated.

A Nobel Prize winner, as we have seen in some cases, can say misguided things, either because they are speaking outside their field of expertise or because they may fall into the trap of believing in invalid concepts or protecting interests unrelated to genuine knowledge. This underscores the importance of peer review, as corrupting an entire community of millions of scientists is not feasible.

The process of verification, which is intrinsically critical in the highest sense of the term—meaning it involves deep understanding and questioning by reason—requires great attention and meticulousness. Be wary of those who claim to have an open mind, as while mental flexibility is valuable, it is important not to be swayed by individuals who boast of their open-mindedness but spout nonsense, revealing that their minds are so open that their brains have effectively escaped.

In short, we should not believe that AI will destroy the world just because a computer scientist with decades of experience in AI says so. After all, we also know of a doctor who claimed that vaccines cause autism, only for it to be later revealed that there was no causal link and that he had tampered with the data.

Well, with artificial intelligence, the fear of technology has reached its peak. Some people believe that because these machines and applications are “intelligent,” they possess their own conscience and thus have the autonomy not only to act but also to decide to take over and govern the world. That’s Hollywood not reality. Ça va sans dire, there isn’t even a universally agreed-upon definition of conscience.

The temptation of relativism

Of course, as I have already mentioned, there are no absolute values that are universally valid across all eras. Everything is contextualised within a specific social setting and time period. However, this does not mean that every assumption is relative to the extent that every opinion is valid, even if it contains inaccuracies.

What has propelled our science to achieve such remarkable results, through the discoveries and accomplishments of our species, is the recognition of our ignorance. To be ignorant is to know, and it is this understanding of our ignorance that drives scientific inquiry. Once again, Socrates was right.

We are all appreciative of those who disseminate knowledge, but we must also be cautious not to fall into the trap of thinking that everything is relative and, as a result, that every idea, no matter how bizarre, is a source of truth. Popularising scientific knowledge is not wrong; what is problematic is an educational system that fails to teach the fundamentals of our culture, thereby neglecting to develop the reasoning mechanisms that guide us towards rational understanding.

Since Einstein introduced the Theory of Relativity, the mistaken belief that everything is relative—both in the natural world and in human relationships, including ethics—has proliferated. This perspective does not reflect the views of true scientists and esteemed thinkers but is a misconception spread by mediocre commentators.

Actually, Einstein's Theory of Relativity describes how measurements of space and time vary depending on the relative motion of observers, but it operates within a rigorous framework of physical laws. Relativity maintains objective truths about the universe, governed by consistent principles, rather than endorsing a notion of universal relativism where all viewpoints are equally valid. Thus, it underscores the importance of accuracy and empirical evidence in forming valid scientific assumptions.

Galileo Galilei also formulated a relativity theory, stating that the laws of physics are identical in all inertial frames, making uniform motion indistinguishable from rest.

Both Einstein and Galileo emphasised that the world must be investigated within a rigorous framework of scientific knowledge, not outside of it.

Therefore, when it comes to ethics, it is all too convenient to relativise everything based on one's own convenience. Especially in the absence of legal violations, as in the case of that company using AI to determine layoffs without breaking the law, people often feel justified in doing anything, even if it causes harm to others and creates social tensions.

So, I can make use of AI algorithms to maximise user engagement on social media platforms in ways that can be harmful to mental health. For instance, AI can be used to create echo chambers, amplify polarising content, or exploit psychological vulnerabilities to keep users hooked, even though these practices might not violate any specific laws. While these actions can lead to increased social tensions and mental health issues, they are often not illegal and thus not directly subject to legal sanctions.

This behaviour is absolutely an unethical use of AI; could anyone deny that?

Again, consider using AI to analyse which keywords and topics are most effective for the distasteful practice of clickbait. While clickbait is not illegal, at least to a certain extent, would you consider this behaviour acceptable simply because it is legal?

Perhaps it's time to ban all forms of clickbait, whether AI-driven or not. This could be achieved without legal intervention: platforms could refuse to publish such content, and we as consumers could stop clicking on ridiculous headlines like, "A woman gave birth to 3 twins, but one was not a baby," or "You'll never believe what happened when he opened his door..."

Back to the business side

In over three decades of practice, starting as a programmer, then as an analyst and project manager, and ultimately as a business engineer and AI consultant, I have witnessed numerous improper and unethical uses of information technology.

When it comes to AI, the unethical manipulation of these processes is similar to that of traditional software and automation—bearing in mind that automation itself is not AI. However, since AI

enables tasks to be performed faster, more efficiently, and more powerfully, the potential for misuse is even more concerning.

At this point, I would like to highlight something that is often overlooked. We call it artificial intelligence, but there is nothing truly intelligent about it. Intelligence is not an innate quality of machines; it is we humans who create the conditions through our knowledge and intelligence that enable machines to respond in certain ways. In fact, there isn't even a universally accepted definition of intelligence, especially among academics in fields such as neuroscience, biology, psychology, and philosophy.

When we assert that computers possess memory, we are actually misusing the term, as genuine memory involves both the ability to remember and to forget—capacities that machines lack. Nonetheless, our designs for machines are heavily influenced by our own nature and the way our brains engage with the world.

Thus, when we say that someone has an IQ of 120, what exactly are we measuring? Similarly, while we do not have a conclusive definition of energy, we still measure it using a unit from the International System of Units, the joule (J). When we measure an individual's IQ, we are assessing specific cognitive abilities, primarily focusing on logical reasoning, mathematical skills, and memory. However, one could argue that there is artistic creative intelligence that does not rely on logical mathematical reasoning, as well as spatial intelligence relevant to certain athletic performances, and so on.

We must remember that our interpretation of the world, while striving for objective knowledge and understanding of its laws, is always partial and subject to revision. This is why we never fully grasp the “thing in itself.” As we know, any scientific theory is open to refutation. When we consider the human element, the complexity and numerous variables involved prevent us from creating models that are entirely objective beyond any reasonable doubt. In all fields of knowledge, including natural and human sciences, it is impossible to separate human intervention. Who conducts science? Who investigates the world? Who contemplates the functioning of things? It is always and only humans.

Thus, we have chosen to label it intelligence, adding the term artificial to indicate that it is something beyond what machines have traditionally done—something that is artificial, not human. It is certainly not human, but it is still created by humans though processed by machines. Who else would create it?

In my experience as an AI consultant and project manager, I have encountered a wide range of requests from the business world, not always coinciding with ethical use. For instance, some have sought to use AI for monitoring employees, akin to Big Brother-style surveillance; others have aimed to manipulate sales data to exploit customers' emotional vulnerabilities and drive compulsive purchases, or to more easily profile clients in the financial sector to persuade them into investing in high-risk securities, among other questionable practices.

Of the numerous projects I have directed and completed, none have ever involved these unfair or, even worse, illegal practices, I can confidently say. My clients are carefully chosen and are reputable companies that do not seek success through fraudulent means.

Of course, there are always challenges along the way. Even so, whenever I encountered a manager or entrepreneur who was a bit too “creative”—to put it mildly—I made it clear that everything must adhere to my deontology, proper-use policies, and respect for ethical standards. If they couldn't comply, I would politely decline their business, thanking them for their interest but clarifying that this wasn't a suitable match for me.

In any case, consider this: AI is a highly powerful technology that can greatly enhance almost any work process within any industry. Why then would anyone choose to use it unethically or illegally?

Does it make sense to engage in business practices that could have severe consequences for your company? Of course not. Yet you know, for some, the temptation to achieve a goal through unethical or illegal practices is hard to resist, and for others, it's standard norm.

From a legal perspective, penalties for illegal actions can range from fines to imprisonment, with the possibility of additional sanctions and even company closure. From an ethical standpoint, even if no crimes are committed, you risk losing access to AI platforms, tools, and services, as many providers clearly state that non-compliance with their policies will result in service termination. This can lead to

a loss of customers, revenue, and, if the business model is focused on these services, potentially even the bankruptcy of the company.

You can typically encounter four scenarios that indicate the risks of unethical AI usage:

1. **Ignorance:** Lack of understanding about how AI and digital platforms/services operate.
2. **Job Insecurity:** Fear that using AI might jeopardise one's job.
3. **Exposure:** Concern that AI could uncover unethical or illegal practices in one's work.
4. **Intentional Misuse:** A deliberate intention to use AI unethically, and often illegally.

Let's examine these cases in detail.

1. **Ignorance:** Lack of understanding about how AI and digital platforms/services operate.

It is not uncommon to receive requests for the implementation of AI in companies where there is limited ability to handle digital tools, despite their widespread use. Additionally, there is often a lack of knowledge regarding data protection and security provisions. Many companies still do not have policies on data privacy and security, which are required by law.

As a result, some companies may enter personal data, confidential commercial information, or details about industrial processes into AI-assisted content generation services without the knowledge or consent of the individuals involved. Now, we know that privacy laws, such as the GDPR, prohibit the processing of personal data (information about individuals) without specific consent under certain circumstances. At the same time, other legal provisions prohibit the disclosure of certain commercial information, industrial processes, and similar sensitive data. All of this data should never be entered into online tools, whether AI-driven or not, to avoid data breaches or unintentional disclosures. Additionally, such platforms might use this data for AI training purposes, potentially leading to further disclosure. The careless use of these tools is, unfortunately, a common practice among those who are unfamiliar with these services.

This significant misuse leads to unethical behaviour stemming from ignorance, which may be caused by laziness (a reluctance to become informed) and/or negligence (failure to implement required data protection and security regulations), or from a misguided perspective on resources and investments.

In fact, some companies are willing to invest in innovation but not in training, viewing it as unnecessary. Especially in the case of AI, some business owners or managers mistakenly believe that AI can optimise and improve every process regardless of the operator's awareness. They seem to think that the machine drives while the human merely observes, but that is not how it works.

In this case, the remedy is not particularly complex. Providing the right information, training staff, and ensuring the company implements all necessary policies, can address these issues effectively.

Simply put, a lack of understanding of the tools and regulations can lead to improper and unethical use. This can be addressed through education, policy implementation, and regular checks and audits.

2. Job Insecurity: Fear that using AI might jeopardise one's job.

This scenario can reveal alarming and unsettling implications, so caution is essential.

While it is common for people to fear losing their jobs when their employing company decides to implement AI, training personnel, including managers and owners, on the efficient and ethical use of AI generally alleviates these concerns. These individuals are often happy to learn new skills and engage in requalification programmes, which boost their self-esteem among other benefits.

Personally, when coordinating an AI project, I emphasise how this technology can enhance everyone's work and increase company efficiency providing the opportunity to focus on enhancing activities and freeing up resources for research and the development of new products and markets. Needless to say that this improvement should include retraining staff rather than laying them off.

As an example, consider a manufacturing company that implements AI to streamline its production line. Instead of firing staff, it requalifies employees by training them to oversee and manage the AI systems. Workers transition from manual tasks to roles focused on AI maintenance, monitoring, and

data analysis, enhancing efficiency and productivity while preserving jobs and boosting employee morale.

Of course, we must be realistic. Many companies implement AI to reduce their staff and increase profits. In my experience, remaining employees are often asked to boost productivity by working longer hours, producing more, or selling more, usually for the same pay. Yet, this unethical use of AI, is driven not just by the owners' profit motives but by the economic system's inherent demands. Unfortunately, addressing this issue requires a structural change in the global production system, which is beyond the scope of this discussion.

Yet, the sneaky aspect that sometimes falls in this category we have called "Job Insecurity"—apart from those who fear losing their jobs to AI—makes it not so uncommon to stumble upon managers who lack understanding of the standard practices and knowledge of their own jobs and sector. Indeed, it is important not to assume that all managers, especially those in small to medium-sized companies, have a strong educational and professional background or are committed to continually improving their knowledge. Many excel at self-promotion and thrive by capitalising on the efforts of others.

In this case, this attitude can lead to the unethical use of AI because incompetent individuals, particularly those in leadership roles, are often willing to do anything to conceal their ineptitude.

For instance, if someone has no grasp of data analysis and presents simple spreadsheet calculations as in-depth statistical analysis and predictive models, do you think they will hesitate to use AI to generate training content they know nothing about or to process personal data without consent? In my experience, the answer is no, they will not hesitate—I have encountered such persons.

These seasoned operators—whom I readily call con artists—thrive in small and medium-sized businesses where owners lack the technical knowledge to uncover their tricks and deceptions. Regrettably, such companies exist and, in certain contexts, even seem to be the norm.

In such cases, finding a solution is not always straightforward. As an AI consultant and project manager, in other words as an external professional, you cannot interfere with your client's company dynamics and long-established relationships. It requires a delicate approach. When a company

entrusts you with a project and certain dodgy yet influential individuals are involved, it is crucial to address the issues with diplomacy. The strategy involves providing training to impart the necessary knowledge and attempting to persuade them that AI, when used correctly both technically and ethically, can enhance their work and position. Yet, once again, these cases are particularly challenging when the manager in question is both incompetent and powerful within the company. Remember, incompetence often accompanies dishonesty and arrogance.

In addition, even when you have successfully trained the work group and such reluctant managers, you cannot be certain of how they will use it once the project is completed and they operate independently without your supervision. These are issues that cannot always be remedied unless you establish an ongoing relationship of assistance and consultancy, which does not always happen.

In later interventions, I discovered how certain shady characters prevented other employees, who would have used it correctly, from utilising the new technology, resorting instead to practices that are both ethically and technically unacceptable. The owner is often occupied with multiple businesses and satisfied with certain results, unaware that much higher ones could be achieved and oblivious to the improper practices. Additionally, he/she neither remembers anything from the training provided nor has the time to revisit the manuals and policies.

Here's an interesting anecdote. A few years ago, I directed an AI project that included an employee shift scheduling process. Previously, shift schedules were managed by an incompetent and unscrupulous manager who assigned disadvantageous shifts to certain employees, favouring those who were submissive and compliant, namely his lackeys. The AI-driven process, of course, eliminated these unethical irregularities.

Some time later, during a business trip, I met an employee from that company. He confided that the unscrupulous manager had asked him how to modify the AI tool to "meet the needs of the company." This employee was not only the most knowledgeable about IT and digital tools but also the most qualified individual upon whom their entire IT system depended. The manager struggled to find a plausible excuse to convince the owner to replace this employee because he had refused to comply with

unethical demands. If the manager had been less incompetent and more knowledgeable, he might have manipulated the system to his advantage. And yes, this happens.

If I may add a key point, it is that this rarely occurs in companies where ownership is primarily controlled by women, who tend to be much more attentive and less likely to overlook details.

3. Exposure: Concern that AI could uncover unethical or illegal practices in one's work.

In this case, it is clear that unfair practices are not being used to mask incompetence. There is a clear intention and plan to use unfair practices to conduct business. So, it is unlikely that such a company will introduce AI in the workplace.

Clearly, one should never accept assignments from such companies, but if the owners and managers knowingly engage in these practices, they are already aware of the risks involved and normally don't go looking for experts to implement AI in their work processes.

As long as this fear persists, these companies will remain excluded from the AI loop. However, all the digital processes they use, even if not AI, will undoubtedly be used improperly and fraudulently. For example, they might engage in purchasing stolen personal data for marketing, conducting phishing attacks, using clickbait to gather more data for resale, and other even more troubling activities.

Yet, some individuals overcome their fear, driven by the desire for greater profits, or they never had such fears to begin with. The potential money that can be made using AI for unethical and illicit purposes is highly enticing. There are many vulnerable people to whom they can sell empty promises. Unfortunately, while we hope such dodgy individuals are swiftly apprehended and held accountable, they often thrive for a long time. As a result, we witness how the web and mobile platforms are plagued by these harmful activities.

And so the transition to point #4 is now complete.

4. Intentional Misuse: A deliberate intention to use AI unethically, and often illegally.

There isn't much to elaborate on here. Those who intentionally use AI for unethical and illicit purposes, even committing socially alarming crimes, do not seek out experts with unquestionable

morality. If they do not already possess certain knowledge or the foundational understanding to acquire it, they can easily find it externally, just as they can procure illegal items, substances, and services. Sadly, there is a subset of highly skilled professionals who are willing to support any practice as long as they are well compensated. Consider the phenomenon of hackers; among them are brilliant minds who use their intelligence and expertise for nefarious purposes rather than for good. Of course, let's not forget the so-called ethical hackers—the cyber equivalent of digital superheroes—who work tirelessly to protect and secure systems.

It may seem paradoxical, but things get even more complicated when criminal intent is combined with sheer stupidity. Yes, because we've all seen those so-called criminal masterminds whose clever schemes are about as sophisticated as a group of bonobos stealing bananas from the local grocery—no offence to the bonobos, of course.

These individuals aren't hardcore criminals—they thrive on unfair practices that skirt the edges of legality. They have no qualms about using any technology unethically, but they don't have strong relationships with the underworld. So, it might just happen that they come to you for advice.

These are the cases where it takes all of two minutes to see through their intentions. When you explain how these processes should be properly implemented and managed, they usually respond with, "Well, maybe we're not quite ready for this step. Perhaps we'll think about it..." It's like watching a kid trying to bluff his way through a game of poker—utterly transparent and a bit pitiful.

This doesn't mean they won't find someone complacent or start tinkering themselves with AI tools and services—and they might even get away with it for a while, pulling off a few scams here and there. However, I don't want to sound overly simplistic or naive.

Sometimes, this category includes companies that are notably successful economically. There are sectors where it's still relatively easy to thrive on unfair practices, not only escaping consequences but also making significant profits.

Over time, by prospering this way and riding the wave of success, these people develop a certain arrogance and brazenness. They are determined to use the latest technological advancements. When

they call you to entrust you with a project and you refuse to engage in improper uses, they are often surprised and declare themselves offended.

Notwithstanding, this doesn't mean that you, as an expert, can never be unwittingly involved in a project where AI will ultimately be used for unethical or even criminal purposes. Consider a scenario where someone with significant resources invests in a project through a company whose employees are unaware of the devious intentions behind it. Everything appears legal and ethical, with all policies seemingly adhered to. Yet again, there's no guarantee that the sophisticated platforms, tools, and services you helped develop won't later be misused in unethical or illicit ways.

And let's not even leave out large companies that have the capacity to invest substantial resources into developing their AI platforms. It remains uncertain whether they will adhere to ethical principles.

Moreover, there exists a category of users I refer to as the Gurus and the Desperados, who pose significant risks to the ethical—and even legal—use of AI. Allow me to define these characters first.

Gurus and Desperados

I have already mentioned the gurus above. As we know, a guru is someone who is considered an expert or influential leader, often promoting their ideas with a sense of authority and expertise. Whether these individuals are truly competent is an entirely different question.

The web is teeming with self-proclaimed experts, influencers, and similar figures who sell various services and products, even on behalf of large companies. Their entire operation is based on the premise that marketing has become the most valued form of cultural communication in our society. It's a sad commentary on how far our standards have fallen.

Even more concerning is that they present their marketing practices as scientific. If a large portion of the population starts to view marketing as a science, it's no wonder that genuine science is so poorly understood and so many misconceptions flood our society.

Their approach is misleading when they claim marketing is a science, mistakenly arguing that science achieves exact, incontrovertible, and definitive results. Science is a creation of the human spirit (or

mind, if you prefer; let's not delve into metaphysical and philosophical details here); it does not exist independently of the social context that shapes and generates it. If we treated science as delivering definitive outcomes, we might never have understood even the most basic phenomena.

In other words, never confuse our journey to acquire knowledge with the actual laws of physics.

To avoid coming across as foolish, we must be clear on three key points:

1. Science is shaped by cultural, historical, and social factors.
2. Scientific understanding is always evolving.
3. Scientific advancements often come from challenging existing knowledge (according to rigorous scientific methodology, of course!)

Hence, science is inherently non-dogmatic; it is a path of knowledge that demands continuous study, rigorous testing, and questioning through the scientific method, never arriving at final, unchangeable conclusions.

Lacking anything concrete to offer, these shady characters demand an act of faith. Science is the exact opposite of faith; it does not ask for trust. Instead, you must test, verify, question, reason, calculate, and continuously experiment to confirm findings. The laws of physics remain unchanged, but our journey to comprehend them involves a continuous process of hypothesis, testing, and verification.

Thus, spreading certain inaccurate and foolish ideas is already unethical, as is presuming to teach something one doesn't truly understand but arrogantly believes they do. Even worse, it is unethical to knowingly exploit one's ignorance to deceive others and profit from it.

Marketing cannot be considered a science because it relies heavily on human behaviour, which is unpredictable and influenced by numerous subjective factors, making it resistant to the consistent, objective measurement and reproducibility that define scientific disciplines.

Similarly, psychology, which also studies the behaviours influencing our purchasing decisions, cannot be considered a science for the same reason: the human factor is too influential, and subjectivity cannot be transformed into objectivity, as Edmund Husserl rightly argued.

Many of these self-proclaimed experts now use generative AI tools to produce content on topics such as marketing, psychology, science, politics, medicine, economics, history, and more—subjects they barely understand. They disregard Wittgenstein's golden rule: "Whereof one cannot speak, thereof one must be silent."

I want to reiterate: spreading misinformation is very serious, concerning, and entirely unjust.

Moreover, the harm is compounded when such shady figures are involved in conspiracy theories.

On the other hand, the web also hosts excellent science communicators, genuine scientists, and other valid experts. These individuals are recognizable not only for the quality of their content but also by their measured approach. You will never hear them present outrageous claims as absolute certainties; in fact, they refrain from speaking of absolute truths altogether.

So, it should come as no surprise that these individuals, already accustomed to unethical practices that border on illegality—and often exceed it—have no qualms about using artificial intelligence in improper ways. This includes producing AI-generated material without any regard for its accuracy, disseminating fake news, manipulating data, processing personal data without consent, and more. Let's rephrase that for clarity and impact:

Not to mention the phenomenon of deepfakes. This practice poses significant risks. When they are not clearly identified as satire, parody, or educational tools, they can solidify misconceptions, deceive people, and incite criminal behaviour. Additionally, they can provoke political and religious extremists to commit acts of terrorism.

And this brings us to the Desperados, who are either direct or indirect victims of the gurus.

Unfortunately, we live in a desperate society that is increasingly abandoning reason and knowledge in favour of mere profit, making it seem as though any means is acceptable.

Many people, unable to find a job that meets their material needs, turn to gurus with the hope of becoming expert marketers, influencers, or digital entrepreneurs, aspiring to be the next big thing on the internet. And you know, desperation can drive people to engage in activities they would otherwise avoid. Consequently, we will have more users engaging in unethical—and often illegal—use of AI.

These behaviours assume gigantic proportions, increasing distrust of AI technology among those who, lacking a deeper understanding, only observe the accompanying social decay.

Lastly, there is an aspect of great importance that must be considered. AI technology consumes enormous amounts of energy. As we know, we are in the midst of climate change driven by human activities, making the issue of producing energy for a world with increasing consumption without harming the environment—and thus ourselves—crucially important. Therefore, using AI for purposes that involve unfair practices, deceiving people, and committing crimes is doubly unethical.

Case Studies

Now let's examine ten cases of unethical usage of AI and consider the countermeasures to adopt, plus one bordering case.

Case Study 1: AI in Hiring Processes

Unethical Use: Biassed Candidate Screening

Scenario: A company uses AI algorithms to screen job applicants, automatically filtering resumes and conducting initial interviews based on AI assessments. The system is found to favour candidates of a certain gender, race, or age due to biases in the training data.

Ethical Concerns

- **Discrimination:** The AI system unintentionally discriminates against candidates based on gender, race, or age.
- **Lack of Transparency:** Candidates are unaware of how decisions are made, leading to perceptions of unfairness.
- **Data Privacy:** Sensitive personal information may be mishandled or exposed.

Countermeasures

1. Bias Mitigation

- Implement measures to identify and eliminate biases in AI algorithms used for hiring.
- Regularly audit and update the training data to ensure diversity and representativeness.

2. Transparency

- Provide clear explanations to candidates about how AI decisions are made.
- Disclose the criteria used for screening and selection.

3. Data Protection

- Protect candidate data with robust security measures.
- Limit data access to authorised personnel only.

4. Human Oversight

- Ensure human oversight in the hiring process to review AI decisions and address any biases.
- Allow candidates to appeal decisions made by AI.

Case Study 2: AI in Financial Services

Unethical Use: Manipulative Investment Advice

Scenario: Financial institutions use AI to analyse customer data and provide personalised investment advice, prioritising the sale of high-risk products to increase profits.

Ethical Concerns

- **Conflict of Interest:** AI prioritises high-risk products for profit, disregarding customer interests.
- **Manipulation:** Customers are manipulated into making decisions that are not in their best financial interest.
- **Lack of Informed Consent:** Customers may not fully understand the risks associated with the recommended products.

Countermeasures

1. Ethical Guidelines

- Establish ethical guidelines for AI use in financial services, prioritising customer well-being.
- Ensure investment advice is based on customer needs and risk tolerance.

2. Transparency and Education

- Provide clear, understandable information about the risks and benefits of financial products.
- Educate customers about how AI-driven advice works.

3. Regulatory Compliance

- Ensure compliance with financial regulations and conduct regular audits to prevent conflicts of interest.
- Implement checks to ensure AI advice aligns with regulatory standards.

Case Study 3: AI in Social Media and Content Moderation

Unethical Use: Overreaching Censorship

Scenario: Social media platforms use AI to moderate content, identifying and removing posts that violate community standards. However, the AI overreaches, censoring legitimate content and stifling free expression.

Ethical Concerns

- ➔ **Censorship:** AI systems may overreach, censoring legitimate content and stifling free expression.
- ➔ **Bias and Fairness:** Content moderation algorithms can be biased, disproportionately affecting certain groups or viewpoints.
- ➔ **Lack of Appeal:** Users may have limited recourse to challenge AI-based moderation decisions.

Countermeasures

1. Human Oversight

- Ensure human moderators review AI decisions, especially in complex or controversial cases.
- Provide training to moderators to handle nuanced content appropriately.

2. Transparency

- Clearly define and disclose content moderation policies.
- Allow users to understand why their content was removed.

3. Appeal Process

- Establish a robust appeal process for users to challenge moderation decisions.
- Ensure appeals are reviewed by human moderators.

Case Study 4: AI in Healthcare

Unethical Use: Misdiagnosis Due to Algorithm Bias

Scenario: A healthcare provider uses AI for diagnostic purposes, but the algorithm is biased due to non-representative training data, leading to misdiagnosis.

Ethical Concerns

- **Patient Harm:** Biased AI algorithms can lead to incorrect diagnoses and inappropriate treatments.
- **Bias and Discrimination:** Certain patient groups may receive lower-quality care due to algorithmic bias.
- **Transparency and Accountability:** Patients may not understand or trust AI-driven diagnoses.

Countermeasures

1. Bias Mitigation

- Regularly audit and update training data to ensure diversity and representativeness.
- Implement bias detection and correction mechanisms.

2. Transparency

- Clearly explain to patients how AI-driven diagnoses are made.
- Provide detailed information about the AI's role in the diagnostic process.

3. Human Oversight

- Ensure that AI-driven diagnoses are reviewed by qualified healthcare professionals.
- Allow healthcare providers to override AI recommendations if necessary.

Case Study 5: AI in Autonomous Vehicles

Unethical Use: Inadequate Safety Testing

Scenario: A company rushes to deploy autonomous vehicles (AVs) without sufficient safety testing, leading to accidents and endangering public safety.

Ethical Concerns

- **Public Safety:** Inadequate safety testing can lead to accidents and fatalities.
- **Transparency:** Lack of transparency about the limitations and risks of AVs.
- **Accountability:** Unclear accountability for accidents caused by AVs.

Countermeasures

1. Rigorous Testing

- Implement comprehensive safety testing protocols for AVs.
- Conduct real-world trials in controlled environments before public deployment.

2. Transparency

- Clearly communicate the capabilities and limitations of AV technology to the public.
- Provide detailed safety reports and testing data.

3. Accountability

- Establish clear accountability frameworks for accidents involving AVs.
- Ensure that manufacturers and operators are held responsible for safety breaches.

Case Study 6: AI in Education

Unethical Use: Biassed Student Assessment

Scenario: An educational institution uses AI to grade student assignments and exams. The AI system exhibits bias, unfairly disadvantaging certain student groups.

Ethical Concerns

- **Bias and Discrimination:** AI grading algorithms can perpetuate biases, leading to unfair assessments.

- **Lack of Transparency:** Students may not understand how grades are determined, leading to perceptions of unfairness.
- **Impact on Opportunities:** Biased grading can negatively impact students' educational and career opportunities.

Countermeasures

1. Bias Mitigation

- Regularly audit and update AI grading algorithms to ensure fairness.
- Implement measures to identify and correct biases.

2. Transparency

- Clearly explain to students how AI grading works and the criteria used.
- Provide feedback and opportunities for students to contest grades.

3. Human Oversight

- Ensure that AI grading is supplemented by human review, particularly in ambiguous cases.
- Allow teachers to override AI-generated grades if necessary.

Case Study 7: AI in Recruitment

Unethical Use: Privacy Violations

Scenario: A recruitment firm uses AI to scrape social media profiles and other online data to build detailed candidate profiles without their knowledge or consent.

Ethical Concerns

- **Privacy Violations:** Collecting and using personal data without consent infringes on candidates' privacy.
- **Lack of Transparency:** Candidates are unaware of the data collection and its use in the recruitment process.
- **Potential for Misuse:** Sensitive personal information could be misused or exposed.

Countermeasures

1. Consent Mechanisms

- Obtain explicit consent from candidates before collecting and using their personal data.
- Clearly inform candidates about the types of data collected and its purpose.

2. Data Protection

- Implement robust data protection measures to safeguard candidate information.
- Ensure data access is limited to authorised personnel only.

3. Transparency

- Provide candidates with detailed information about how their data is used in the recruitment process.
- Allow candidates to view and correct their data.

Case Study 8: AI in Retail

Unethical Use: Price Discrimination

Scenario: A retail company uses AI to implement dynamic pricing strategies, charging different prices to different customers based on their purchasing behaviour and demographic data.

Ethical Concerns

- **Fairness:** Dynamic pricing can lead to unfair price discrimination, disadvantaging certain customer groups.
- **Transparency:** Customers may not understand why they are charged different prices, leading to perceptions of unfairness.
- **Exploitation:** Vulnerable customers may be exploited by higher prices.

Countermeasures

1. Fair Pricing Policies

- Establish fair pricing policies that ensure customers are not unfairly discriminated against.
- Avoid using sensitive demographic data for pricing decisions.

2. Transparency

- Clearly communicate pricing strategies to customers.
- Provide detailed explanations for price variations.

3. Customer Protection

- Implement measures to protect vulnerable customers from exploitation.
- Ensure that all customers have access to fair and reasonable prices.

Case Study 9: AI in Marketing

Unethical Use: Emotional Manipulation

Scenario: A marketing firm uses AI to analyse customers' emotional states from their online interactions and tailor advertisements to exploit their emotional vulnerabilities.

Ethical Concerns

- ➔ **Manipulation:** Exploiting customers' emotional vulnerabilities for profit is unethical.
- ➔ **Privacy:** Analysing emotional states without consent infringes on personal privacy.
- ➔ **Impact on Well-being:** Manipulative advertising can negatively impact customers' mental health.

Countermeasures

1. Ethical Advertising Standards

- Develop ethical guidelines for AI use in marketing, prioritising customer well-being.
- Avoid exploiting customers' emotional vulnerabilities.

2. Transparency and Consent:

- Obtain explicit consent from customers before analysing their emotional states.
- Clearly inform customers about how their data is used.

3. Customer Protection:

- Implement safeguards to ensure that AI-driven marketing does not harm customers' mental health.
- Regularly review advertising content to ensure it adheres to ethical guidelines.

4. Regulatory Compliance:

- Ensure compliance with data protection regulations, such as GDPR or CCPA, which mandate explicit consent and transparency in data usage.
- Conduct regular audits to verify that marketing practices comply with legal standards.

5. Feedback Mechanisms:

- Establish channels for customers to provide feedback on AI-driven advertisements.
- Use this feedback to continuously improve ethical standards and marketing practices.

6. Limit Data Collection

- Minimise the amount of personal data collected to only what is necessary for effective advertising.
- Avoid collecting sensitive data, such as emotional states, unless absolutely essential and with clear consent.

7. Independent Oversight

- Set up an independent ethics board to oversee AI marketing practices and ensure they align with ethical guidelines.
- This board should have the authority to enforce changes and address ethical breaches.

8. Public Accountability

- Publicly disclose the firm's ethical guidelines and compliance measures.
- Engage in open dialogue with stakeholders, including customers and advocacy groups, to build trust and accountability.

Case Study 10: AI in the Food and Beverage Industry

Unethical Use: Manipulative Pricing and Promotions

Scenario: A food and beverage company uses AI to analyse customer purchasing patterns and predict future buying behaviour. Based on this data, the company implements manipulative pricing strategies

and targeted promotions to maximise profits. For example, the AI system identifies customers who frequently purchase a particular product and raises the price of that product for those customers. Additionally, it targets promotions to encourage overconsumption of unhealthy products.

Ethical Concerns

- **Manipulative Pricing:** Raising prices for loyal customers based on their purchasing behaviour is exploitative.
- **Promotion of Unhealthy Habits:** Targeting promotions to encourage overconsumption of unhealthy products can harm customers' health.
- **Lack of Transparency:** Customers are unaware of how their purchasing data is used to manipulate prices and promotions.

Countermeasures

1. Fair Pricing Policies

- Establish transparent and fair pricing policies that do not exploit loyal customers.
- Ensure that price adjustments are not discriminatory or manipulative.

2. Health-Conscious Promotions

- Develop promotional strategies that encourage healthy eating habits.
- Avoid promoting overconsumption of unhealthy products, especially to vulnerable customer groups.

3. Transparency

- Clearly communicate to customers how their purchasing data is used in pricing and promotions.
- Provide detailed information about the rationale behind price changes and promotional offers.

4. Ethical Guidelines

- Create and adhere to ethical guidelines for AI use in marketing and promotions, prioritising customer well-being over profit maximisation.
- Regularly review and update these guidelines to address emerging ethical concerns.

5. Customer Education

- Educate customers about healthy eating habits and the potential impact of their purchasing choices on their health.
- Provide information on how AI-driven marketing works and how customers can protect themselves from manipulative practices.

6. Regulatory Compliance

- Ensure compliance with all relevant food and beverage industry regulations, including those related to marketing and consumer protection.
- Conduct regular audits to ensure that AI practices align with legal and ethical standards.

Bordering Case: Targeted Advertising Using AI

Legally Legitimate and Ethical, but Bordering on Unethical

Scenario: A company uses AI to implement highly targeted advertising campaigns. By analysing vast amounts of user data, including browsing history, purchase behaviour, social media activity, and even location data, the AI system can create personalised ads that are incredibly effective at capturing user attention and driving sales.

Legally Legitimate

- ➔ **Compliance with Laws:** The company complies with all relevant data protection laws, such as GDPR or CCPA. Users have consented to data collection and have the option to opt-out.
- ➔ **Transparent Policies:** The company provides clear information about how data is collected and used, ensuring transparency and user awareness.

Ethical

- ➔ **Improved User Experience:** By showing users relevant ads, the company enhances the user experience, helping consumers discover products and services that genuinely interest them.

- **Informed Choices:** Users are given detailed information and control over their data, allowing them to make informed choices about their privacy.

Bordering on Unethical

- **Manipulation Concerns:** Some argue that such precise targeting exploits psychological vulnerabilities, manipulating users into making purchases they might not have otherwise considered.
- **Privacy Intrusions:** Even with consent, the extensive collection and analysis of personal data can feel intrusive and raise concerns about the erosion of privacy.
- **Digital Inequality:** The constant barrage of targeted ads might disproportionately affect more vulnerable populations, such as those with compulsive buying tendencies or financial insecurities.

Example: An AI-driven advertising platform tailors ads for luxury goods based on users' social media posts indicating stress or dissatisfaction. While the users have consented to data use and find the ads relevant, some critics argue that targeting individuals during moments of emotional vulnerability crosses an ethical line.

Conclusion: This case illustrates the thin line between ethical and unethical practices in AI use. While legally compliant and beneficial in many respects, targeted advertising raises significant ethical questions about privacy, manipulation, and the broader societal impact. It highlights the importance of ongoing scrutiny and debate about AI's role in society and the need for robust ethical guidelines to accompany legal frameworks.

About targeted advertising using AI, my advice on countermeasures is as follows:

1. Transparency

- ★ **Clear Disclosure:** Ensure that users are fully informed about how their data is being used for targeted advertising. This includes providing clear and accessible privacy policies and terms of service.

- ★ **Consent Mechanisms:** Implement robust mechanisms for obtaining explicit user consent before collecting and using their data for targeted advertising. Allow users to opt-in and opt-out easily.

2. Data Privacy

- ★ **Minimisation:** Collect only the data that is strictly necessary for targeted advertising purposes. Avoid excessive or irrelevant data collection.
- ★ **Anonymisation:** Use techniques to anonymise user data wherever possible, reducing the risk of privacy breaches.

3. Ethical Guidelines

- ★ **Ethical Advertising Standards:** Develop and adhere to ethical advertising standards that prioritise user well-being. Avoid exploiting users' emotional vulnerabilities or psychological weaknesses.
- ★ **Regular Audits:** Conduct regular audits of advertising practices to ensure compliance with ethical guidelines and to identify any potential ethical issues.

4. User Control

- ★ **User Preferences:** Provide users with tools to control the types of ads they see. Allow them to customise their advertising preferences and provide feedback on ads.
- ★ **Ad Transparency:** Make it easy for users to see why they are being shown specific ads and how their data influenced the ad targeting.

5. Monitoring and Accountability

- ★ **Independent Oversight:** Establish independent oversight committees or boards to monitor the ethical use of AI in advertising. These bodies should have the authority to review practices and enforce ethical standards.

- ★ **Accountability Mechanisms:** Create mechanisms for holding companies accountable for unethical advertising practices. This could include penalties, public reporting, and other forms of accountability.

6. Consumer Education

- ★ **Awareness Campaigns:** Run awareness campaigns to educate consumers about how targeted advertising works and how their data is used. Inform them about their rights and how they can protect their privacy.
- ★ **Digital Literacy:** Promote digital literacy to help users understand the implications of targeted advertising and make informed choices about their data.

7. Collaboration with Regulators

- ★ **Regulatory Compliance:** Ensure compliance with all relevant data protection regulations, such as GDPR or CCPA. Stay updated on regulatory changes and adapt practices accordingly.
- ★ **Engagement with Regulators:** Engage with regulators and policymakers to contribute to the development of fair and effective regulations for targeted advertising.

Appendix I

Risk Domains in AI Ethics

Let's examine seven domains where the improper use of AI technologies can lead to negative consequences and explore how to prevent them. Below is a list of case examples that build on the points discussed earlier, serving as a summary appendix.

Risk Domains

1. Bias and Fairness
2. Transparency and Explainability
3. Privacy and Data Protection
4. Autonomy and Control
5. Accountability and Responsibility
6. Job Displacement and Economic Impact
7. Misuse and Malicious Use

Let's expand on each of the above.

1. Bias and Fairness

- Case: An AI recruiting tool systematically favours male candidates over female ones.
- Issue: AI systems can perpetuate and amplify existing biases present in training data, leading to unfair treatment of individuals based on gender, race, age, or other protected characteristics.
- **Solution**

- **Data Collection:** Implement diverse and representative datasets that reflect the demographic diversity of the population.
- **Bias Detection:** Continuously monitor AI outcomes for signs of bias and discrimination.
- **Algorithm Design:** Employ fairness-aware algorithms that minimise bias.
- **Team Diversity:** Involve diverse teams in AI development to ensure various perspectives are considered and biases are identified and mitigated.

2. Transparency and Explainability

- **Case:** A financial institution uses AI to approve loans but cannot explain the decisions to applicants.
- **Issue:** Lack of transparency in AI decision-making processes can erode trust and accountability.
- **Solution**
 - **Model Selection:** Use interpretable models that allow stakeholders to understand how decisions are made.
 - **Documentation:** Provide clear and comprehensive documentation of AI systems, detailing how they work and the rationale behind their decisions.
 - **User Communication:** Develop user-friendly explanations of AI decisions to communicate to non-experts.
 - **Audit Trails:** Implement audit trails to track decision-making processes and identify areas for improvement.

3. Privacy and Data Protection

- **Case:** An AI health app collects and processes sensitive personal health data without adequate user consent.
- **Issue:** AI systems often require vast amounts of data, raising concerns about privacy and data security.
- **Solution**
 - **Data Minimisation:** Collect only the data necessary for the AI to function.
 - **Consent:** Ensure explicit and informed user consent for data collection and processing.
 - **Anonymisation:** Anonymise data wherever possible to protect individual privacy.
 - **Security Measures:** Implement robust data security measures, such as encryption and secure access controls.
 - **Compliance:** Adhere to relevant data protection regulations, such as the General Data Protection Regulation (GDPR).

4. Autonomy and Control

- **Case:** Autonomous vehicles making split-second decisions in life-threatening situations.
- **Issue:** Determining the balance between human control and machine autonomy, especially in high-stakes environments.
- **Solution**
 - **Human Oversight:** Maintain human oversight in critical decision-making processes.

- **Protocols:** Establish clear protocols for human intervention in AI operations.
- **Safety Standards:** Develop and enforce safety and ethical guidelines for AI systems.
- **Redundancy Systems:** Implement redundancy systems to allow human operators to take control if necessary.

5. Accountability and Responsibility

- **Case:** An AI system makes a medical error, leading to patient harm.
- **Issue:** Assigning responsibility when AI systems fail or cause harm can be complex.
- **Solution**
 - **Clear Roles:** Clearly define roles and responsibilities for AI development, deployment, and oversight.
 - **Testing and Validation:** Ensure thorough testing and validation of AI systems before deployment.
 - **Legal Frameworks:** Establish legal frameworks that address liability and responsibility for AI-related outcomes.
 - **Incident Reporting:** Implement incident reporting mechanisms to learn from mistakes and prevent future occurrences.
 - **Expertise:** Medical staff ought to consistently participate in the verification of data and information generated by any type of software and AI applications.

6. Job Displacement and Economic Impact

- **Case:** Automation in manufacturing leading to significant job losses.

- Issue: AI-driven automation can displace workers, leading to economic and social challenges.
- **Solution**
 - Reskilling Programmes: Invest in reskilling and upskilling programmes for affected workers.
 - AI Augmentation: Promote AI applications that augment rather than replace human labour.
 - Stakeholder Engagement: Engage in dialogues with stakeholders about the socio-economic impacts of AI and develop strategies to mitigate negative effects.
 - Economic Policies: Advocate for economic policies that support workers affected by automation.

7. Misuse and Malicious Use

- Case: Deepfake technology used for political manipulation or fraud.
- Issue: AI technologies can be misused for harmful purposes, including misinformation, cyberattacks, and invasion of privacy.
- **Solution**
 - Ethical Guidelines: Develop and implement robust ethical guidelines for AI development and use.
 - Risk Assessments: Conduct regular risk assessments to identify and mitigate potential misuse of AI.
 - Regulation: Collaborate with policymakers to develop regulations that address the misuse of AI technologies.

- **Public Awareness:** Raise public awareness about the potential for AI misuse and educate on recognising and responding to it.

Appendix II

Best Practices for Ethical AI Deployment

1. Ethical Frameworks and Guidelines

- Develop comprehensive ethical guidelines specific to AI projects.
- Regularly update these guidelines to reflect new developments and insights in AI ethics.
- Incorporate ethical considerations into the AI lifecycle, from conception to deployment and beyond.

2. Stakeholder Engagement

- Involve a broad range of stakeholders, including ethicists, legal experts, and affected communities, in the AI development process.
- Foster an open dialogue about the ethical implications of AI systems.
- Ensure that stakeholder input is considered and integrated into AI development and deployment strategies.

3. Education and Training

- Provide ongoing education and training on AI ethics for project managers, developers, and consultants.
- Promote awareness of ethical issues and encourage a culture of ethical reflection and action within organisations.
- Offer workshops, seminars, and courses on AI ethics and responsible AI development.

4. Ethical Review Boards

- Establish ethical review boards to evaluate AI projects throughout their lifecycle.
- Ensure these boards have the authority to enforce ethical standards and halt projects if necessary.

- Regularly review and update the composition and processes of ethical review boards to ensure effectiveness.

5. Monitoring and Evaluation

- Implement continuous monitoring and evaluation of AI systems to detect and address ethical issues promptly.
- Use feedback loops to learn from past mistakes and improve future AI deployments.
- Develop metrics and benchmarks for assessing the ethical performance of AI systems.

6. Transparency and Accountability Mechanisms

- Ensure transparency in AI development and decision-making processes.
- Develop accountability mechanisms that clearly define who is responsible for AI decisions and outcomes.
- Encourage open communication about the limitations and potential risks of AI systems.

Appendix III

Not everything marketed as AI is actually AI

This doesn't directly pertain to the unethical use of AI; instead, it underscores the fact that some tools and services marketed as AI are not AI at all. Thus, if AI is not being used, it cannot be considered an unethical use of AI. I include this appendix to clarify a paradox.

Unfortunately, this is neither the first nor the last time someone has tried to sell something for what it is not. You need to be very cautious because many self-styled consultants, professionals, and companies, in an effort to boost their prestige and profits, market non-AI applications as AI. This is more than an unethical use of technology; it is an unethical commercial practice and constitutes a crime. It is a clear scam against those who cannot assess certain technical aspects of a product or service.

One of the most common practices is to present automation processes as AI-powered systems. A software programme might be excellent on its own, but labelling it as AI certainly increases its commercial value.

Let's explore the differences between traditional software and AI, as well as between automation and AI.

Traditional Software

- **Rule-Based:** Operates based on predefined rules and logic set by developers.
- **Static:** Performs specific tasks as instructed without adapting to new data or situations.
- **Predictable:** Produces consistent outcomes as long as the input remains unchanged.
- **Examples:** Word processors, accounting software, and basic calculators.

AI-Powered Applications

- **Learning Capabilities:** Can learn from data, identify patterns, and improve performance over time.

- **Adaptive:** Adjusts behaviour based on new inputs or changing environments.
- **Dynamic:** Capable of making decisions and providing insights beyond predefined rules.
- **Examples:** Voice assistants, recommendation systems, and image recognition software.

In a nutshell, traditional software follows fixed rules, while AI-powered applications learn and adapt, enabling them to handle more complex and unpredictable tasks.

Difference Between Automation and AI

➤ Automation

- Automation refers to the use of machines or software to perform repetitive tasks without human intervention. It follows predefined rules or scripts to complete tasks efficiently and consistently.
- Examples include assembly line robots in manufacturing, scripts that automate data entry, and scheduling software that automates reminders.

➤ AI-Powered Processes/Tools

- Artificial Intelligence involves machines or software that can learn from data, adapt to new inputs, and perform tasks that typically require human intelligence. Once again, AI systems can make decisions, recognise patterns, and improve over time.
- Examples include voice assistants like Siri or Alexa, recommendation systems used by streaming services, and image recognition software, as mentioned above.

Cases of Non-AI Being Sold as AI

1. Basic Chatbots

- **What They Are:** Simple rule-based chatbots that respond to specific keywords with predetermined responses.
- **Marketed As:** AI-powered conversational agents.
- **Reality:** They lack the learning and natural language understanding capabilities of true AI chatbots, which can comprehend context and improve through interaction.

2. Rule-Based Email Filters

- **What They Are:** Filters that categorise emails based on specific criteria set by the user, such as sender or keywords.
- **Marketed As:** AI-driven email management tools.
- **Reality:** They do not use machine learning or adaptive algorithms to improve filtering based on user behaviour.

3. Static Recommendation Systems

- **What They Are:** Systems that recommend products based on fixed criteria, such as a customer's past purchases or general popularity.
- **Marketed As:** AI-powered recommendation engines.
- **Reality:** They do not analyse complex data patterns or adjust recommendations in real-time based on evolving user preferences.

4. Predefined Analytics Dashboards

- **What They Are:** Dashboards that display data insights based on predefined queries and visualisation templates.
- **Marketed As:** AI-driven data analytics platforms.
- **Reality:** They do not employ AI techniques like predictive analytics or anomaly detection to derive insights from data.

5. Macro-Enabled Spreadsheets

- **What They Are:** Spreadsheets that use macros to automate calculations or repetitive tasks.
- **Marketed As:** AI-enhanced productivity tools.
- **Reality:** They operate solely on user-defined macros and lack the learning capabilities of AI systems to optimise processes dynamically.

These examples illustrate how some technologies are inaccurately marketed as AI to capitalise on the buzz surrounding artificial intelligence. Being able to differentiate between genuine AI and non-AI tools is essential for making informed decisions about technology investments.

Contacts

We are delighted to assist you further for any additional information you may require.

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