Digital Ethics, Morality and Law in the Age of Emerging Technologies

Pablo Banchio
Master's in Digitalisation and Human Rights at the Euro-Mediterranean University (EMUNI)

ABSTRACT
The accelerated digitalisation and deployment of emerging technologies, such as artificial intelligence, big data and blockchain, have radically transformed modern society. Nonetheless, technological progress has also given rise to new ethical, legal and social dilemmas, which have challenged traditional legal frameworks for the protection of human rights. This paper examines the tensions between technological innovation and fundamental rights, proposing an integrated approach that articulates digital ethics, social morality and the law. It proposes the comparative analysis of various theoretical and ethical frameworks, assessing their effectiveness and projecting a comprehensive governance model that combines laws, industry standards, and ethical principles to safeguard human dignity in the digital age. The research concludes with normative and ethical recommendations to address the current challenges of digital technology.

KEYWORDS:
Digital ethics, human rights, artificial intelligence, regulatory framework, fundamental rights, ethical governance.

1. INTRODUCTION

The digital revolution has radically transformed modern society, reshaping economic systems, political processes and cultural interactions at an unprecedented pace. Emerging technologies — from artificial intelligence (AI) and big data to blockchain and the Internet of Things (IoT) — have created extraordinary opportunities for innovation, efficiency and global connectivity. However, this accelerated digitalisation has also created profound ethical, moral and legal dilemmas that challenge the traditional frameworks for the protection of human rights.

The foundations of the digital society are built upon data flows, algorithmic governance, and interconnected systems that challenge the traditional boundaries of space, time, and jurisdiction. In this new landscape, digital ethics, morality, and the law must adapt to strike a balance between innovation and accountability, speed and security, efficiency and justice.

At the heart of the paradox of our digital age lies the tension between technological progress and its social consequences. While AI-driven automation promises economic growth, it also threatens to displace jobs and exacerbate labour precariousness (Brynjolfsson & McAfee, 2014). Social media platforms facilitate global communication, but also amplify misinformation, hate speech and mental health crises (Citron, 2014; Marwick & Lewis, 2017). Governments deploy surveillance technologies in the name of national security, often at the cost of privacy and civil liberties, as evidenced by the Snowden case (Greenwald, 2014). These contradictions highlight the urgent need to reconcile technological advancement with ethical governance, ensuring that digitalisation serves human dignity rather than undermining it.

This paper argues that existing legal and ethical frameworks have failed to keep pace with technological change. Reactive and sectoral regulations — such as the General Data Protection Regulation (Regulation (EU) 2016/679) or the Algorithmic Accountability Act proposed in the United States (115th Congress, H.R.2231) — address symptoms rather than systemic issues. As we have analogously proposed in our previous work on the cyber-subject in the context of artificial intelligence (Banchio, 2022), this field also requires a comprehensive approach that integrates digital ethics (normative principles for technological design), morality (social values in digital spaces) and law (enforceable protections) within a human rights-based framework.

As articulated by the Digital Ethics programme of the Master's in Digitalisation and Human Rights at the Euro-Mediterranean University (EMUNI), this framework must be interdisciplinary, preventive and oriented towards social justice.

Therefore, the theoretical and conceptual framework of this paper is based on a multidimensional approach to understanding digital ethics and its intersection with human rights in the context of emerging technologies. The main aim is to establish a comprehensive understanding of key ethical principles, legal constructs and social implications arising from the use of digital technologies such as artificial intelligence (AI), big data, blockchain and the Internet of Things (IoT), *ex multis*.

2. DIGITAL ETHICS: FOUNDATIONS AND APPROACHES

Digital ethics can be defined as a subdiscipline of applied ethics that deals with the critical analysis of the normative principles that should guide the design, development, implementation, and use of digital technologies. In a context of accelerated technological transformation, this branch of ethics is gaining increasing importance by addressing the moral, legal, and social dilemmas associated with the impact of emerging technologies on human life. This emerging branch is framed as an "information ethics", in which the moral agent is responsible not only for the direct consequences of their actions, but also for the very architecture of the digital environment in which those actions take place (Floridi, 2013). This perspective is framed within the so-called 'Ethics by Design', a theoretical and practical proposal that advocates the need to incorporate fundamental ethical values—such as fairness, transparency, and accountability—from the early stages of technological design (Van den Hoven, 2007).

In this sense, digital ethics is not limited to regulatory compliance or post-development analysis but promotes a proactive and structural ethics. This implies shared responsibility on the part of developers, companies, legislators, and users to ensure that digital technologies effectively contribute to the common good, without infringing on human rights or deepening existing social inequalities.

2.1 Main Paradigms of Digital Ethics

Contemporary digital ethics draws on a pluralistic approach that combines different philosophical traditions to offer complex and contextual responses to the ethical challenges of the digital environment. Among the main paradigms that inform it are technological utilitarianism, digital deontology, and computational virtue ethics. Technological utilitarianism evaluates technologies based on the balance between the benefits and harms they generate,

proving particularly useful in conducting risk analyses and impact models. However, it has been criticised for its tendency to justify negative externalities in the name of aggregate welfare.
Digital deontology, for its part, upholds the existence of inviolable rules and rights, such as privacy, individual autonomy, and informed consent. However, its application may be strained in contexts where value conflicts arise, such as the balance between privacy and public health.
Thirdly, computational virtue ethics advocates for the development of agents and technological systems that embody and promote civic virtues such as honesty, justice, and algorithmic prudence. From this perspective, it is not enough to evaluate technological outcomes; it is also crucial to consider the ethical formation of the involved agents and the moral quality of the processes (Coeckelbergh, 2020). This framework enables a contextual, critical, and proactive digital ethics that can adapt to cultural diversity without renouncing the defence of universal principles such as human dignity, social justice, and the protection of fundamental rights.

2.2 Morality and Digital Culture

Digital morality refers to the set of shared values, norms, and practices that regulate the behaviour of individuals and communities in digital environments. Unlike ethics, which focuses on universal philosophical principles and normative theories, digital morality is more dynamic, emergent, and often conflictive. It is influenced by specific cultural, historical, and technological contexts, giving rise to diverse interpretations and applications of what is considered acceptable in cyberspace.
Recent studies have shown how digital culture produces unique moral tensions, such as the trivialisation of hate speech on social media, algorithmic disinformation, or epistemic polarisation in public deliberation spaces (Zuboff, 2019; Sunstein, 2018). These tensions challenge traditional forms of social regulation and require an intercultural understanding of digital values.
For instance, while in some contexts online anonymity is seen as a protection mechanism against authoritarianism and censorship, in others it is perceived as an obstacle to accountability and public safety. This diversity of perspectives highlights the need for regulatory approaches sensitive to cultural pluralism and oriented towards the design of ethically responsible digital environments (Ess, 2009).

2.3 Law and Algorithmic Governance

Contemporary law faces significant challenges in the face of the complexity of the digital environment. Traditional legal structures, based on principles such as territoriality, causality, and subjective responsibility, prove insufficient to address the implications of algorithmic systems, which operate autonomously, transnationally, and often opaquely.
In this context, the concept of algorithmic governance emerges, understood as the set of rules, practices, and technological infrastructures that directly or indirectly regulate automated decision-making (Yeung, 2018). This new paradigm demands a legal articulation capable of guaranteeing the protection of fundamental rights without hindering technological innovation.
Instruments such as the General Data Protection Regulation (GDPR) of the European Union have introduced significant advances, such as the right to explanation, data portability, and explicit consent (European Parliament, 2016). Likewise, the Artificial Intelligence Act proposed

years ago by the European Commission incorporates a risk-based approach, classifying AI systems according to their potential impact on human rights and fundamental freedoms (Banchio, 2025).

However, these legislative responses remain fragmented and *ex post facto*. Cases such as *"Schrems II"* (2020) or *"Meta vs DPC"* (2023), decided by the Court of Justice of the European Union (CJEU), and *"Data Protection Commissioner vs Facebook Ireland & Schrems"* (2023) by the European Data Protection Board (EDPB), have highlighted the fragility of international data transfer regulatory frameworks. Moreover, the expansion of mass surveillance systems raises serious concerns about the compatibility between security policies and the right to privacy enshrined in Article 8 of the European Convention on Human Rights (ECHR).

Faced with these challenges, there is a pressing need to build an integrated legal framework that combines mechanisms of hard law (binding norms) and soft law (ethical principles and non-binding recommendations), adapted to the global, decentralised, and interconnected nature of current digital systems.

2.4 Ethics, Artificial Intelligence, and Automation

Artificial intelligence (AI) and automation have become central topics in the debate on digital ethics. These technologies promise to radically transform productive systems, public services, and daily life; however, they raise important ethical questions regarding fairness, transparency, autonomy, and labour impact.

One of the critical axes of AI ethics is the evaluation of its moral implications in autonomous decision-making. The delegation of complex decisions to algorithmic systems raises urgent questions about responsibility: who is accountable for the harm caused by an AI? How can we ensure these systems do not reproduce historical biases or deepen structural inequalities?

In addition, the phenomenon of job displacement due to automation demands thinking about technological justice that guarantees fair labour transitions, inclusive education, and the protection of the most vulnerable sectors. Therefore, AI ethics cannot be separated from a broader approach that links technological innovation with social justice.

2.5 Algorithmic Governance and Data Ethics

As digital technologies become embedded in all aspects of human life, the governance of algorithms and data acquires a central ethical dimension. Algorithmic governance refers to the set of processes through which automated systems that influence public and private decision-making are designed, monitored, and regulated.

Although these systems promise efficiency and optimisation, their opaque functioning and unpredictable consequences demand greater transparency and effective accountability mechanisms. At the same time, so-called "data ethics" addresses fundamental issues such as ownership, informed consent, anonymisation, security, and the right to be forgotten. The intensive use of personal data by digital platforms has given rise to new forms of surveillance, manipulation, and commercial exploitation. In this context, the development of robust ethical frameworks that ensure individuals' informational sovereignty and fairness in the use of data becomes essential to the legitimacy of digital transformation.

2.6 A Human Rights Approach to Digital Governance

Human rights provide a fundamental normative framework to guide digital governance in a context of increasing technological transformation. International instruments such as the Universal Declaration of Human Rights (UN, 1948) and the International Covenant on Civil and Political Rights (UN, 1966) enshrine core principles such as dignity, liberty, privacy, and non-discrimination, which must also be protected in digital environments. Furthermore, the UN Guiding Principles on Business and Human Rights (2011) extend these obligations to private actors, emphasising corporate responsibility in upholding fundamental rights.

However, the advance of digital technologies—especially in the realms of big data, artificial intelligence, and automated decision-making systems—poses new challenges that strain these traditional normative frameworks. The mass collection of data by governments and corporations raises legitimate concerns regarding privacy and individual autonomy. Similarly, the use of algorithms in sensitive areas such as criminal justice (e.g. predictive policing) or automated recruitment processes may reproduce biases and exacerbate structural inequalities, directly impacting the principles of equality and non-discrimination.

In response to these challenges, new normative developments have emerged that seek to adapt the protection of human rights to the contemporary digital environment. Notably, the "UNESCO Recommendation on the Ethics of Artificial Intelligence" (2021) promotes principles such as transparency, accountability, inclusion, and respect for fundamental rights in the development and use of AI, advocating for ethical and multilateral governance. Likewise, Spain's "Charter of Digital Rights" (2021), internationally pioneering, recognises and articulates rights such as digital identity, net neutrality, digital disconnection, and protection against algorithmic manipulation, thus establishing a new legal framework for defending rights in the digital age.

These instruments illustrate a trend towards the consolidation of a human rights-based approach to digital governance—one that goes beyond the establishment of positive regulations and also demands effective institutional frameworks, independent oversight mechanisms, and spaces for democratic participation. Only through such a comprehensive approach can we ensure that technological development respects human dignity and contributes to collective well-being without infringing fundamental rights or deepening existing social divides.

3. ALGORETHICS. ETHICS OF ALGORITHMS IN THE DIGITAL SOCIETY

3.1 Concept

The concept of "algorethics", resulting from the fusion of "algorithm" and "ethics", refers to an emerging discipline concerned with the ethical implications of the design, development, implementation, and consequences of algorithms in social, legal, and political contexts. Algorethics focuses on how these technologies impact society, aiming to ensure that they are fair, transparent, and accountable by creating normative frameworks to guide their responsible implementation.

Its objective is twofold: on the one hand, to establish a normative framework that guides the conduct of the human agents involved in the creation and application of algorithms; on the

other, to ensure that automated systems respect fundamental rights and democratic values in their autonomous functioning (Canca, 2022).

The need for an algorethical approach arises from the growing phenomenon of delegating sensitive decisions—in fields such as justice, healthcare, education, employment, and public safety—to algorithmic systems that, in many cases, operate with a high degree of autonomy. This situation raises significant ethical challenges, both due to the inherent opacity of many of these systems and the risk of perpetuating or even amplifying existing inequalities. In this context, algorethics proposes not only to reinforce transparency and accountability but also to embed ethical principles from the earliest stages of algorithm design, in line with the "ethics by design" approach (Floridi & Cowls, 2019).

As algorithms govern fundamental aspects of everyday life—from content curation on social media and targeted advertising to judicial decisions and medical diagnoses—it becomes essential to understand their effects on individual rights, social cohesion, and justice. Algorethics, in this regard, does not limit itself to a technical or functional analysis, but calls for a profound reflection on the responsibilities of developers, tech companies, and States to ensure that algorithms serve the public interest, uphold human dignity, and remain free from discriminatory bias.

Although algorithms have the potential to optimise processes and promote equity, their technical complexity and lack of transparency—often reinforced by patent protections—can create significant ethical dilemmas. These problems are exacerbated when even regulatory bodies have limited access to the internal workings of such systems, hampering oversight and accountability.

3.2 Core Elements

The main components of this emerging discipline include "transparency, fairness and equity, accountability, privacy, security, and social benefit".

In terms of transparency, algorithms should be understandable and explainable to those who use them and those affected by them. Regarding fairness and equity, algorithms must not perpetuate bias or discriminate against any group, making it crucial for designers to consider and mitigate biases present in data or algorithmic processes.

"Accountability" means that developers and organisations implementing algorithms must be held responsible for their impacts, including errors and decisions made by these systems. "Privacy" refers to the ethical and secure handling of personal data, ensuring that individual privacy is respected. "Security" means that algorithms must be designed to withstand attacks and manipulations. Finally, "social benefit" implies that algorithms should be designed to contribute to social well-being and avoid causing harm.

Examples of algor-ethical issues, which will be further explored below, include "bias in AI", such as facial recognition algorithms showing higher error rates for individuals of certain ethnic backgrounds. Another issue is the "opacity of automated decisions", like credit scoring systems that determine loan eligibility without clearly explaining the criteria used. Additionally, "privacy and personal data" remain a concern, with some algorithms collecting and using large amounts of personal data without explicit user consent.

Algorethics could serve as a bridge to translate ethical principles concretely into digital technologies through effective transdisciplinary dialogue. Moreover, in the encounter between

diverse worldviews, human rights constitute a key point of convergence for finding common ground.

3.3 Dimensions of Algorethics

Algorethics operates on three interrelated levels that enable a comprehensive approach to the ethical dilemmas associated with the use of algorithms (Floridi, 2021). First, the “ontological level” examines the nature of algorithmic systems as non-human agents capable of producing significant effects in the social environment. This level questions traditional conceptions of moral agency and redefines the place of algorithms within decision-making structures by recognising their capacity to intervene in processes that directly affect people and institutions. Secondly, the “epistemic level” focuses on transparency, intelligibility, and explainability. From this perspective, it is vital that both users and overseers can adequately understand how and why certain automated decisions are made—especially when such decisions affect important rights or interests (Wachter et al., 2017). Algorithmic opacity represents a substantial risk to public trust and the legitimacy of digital systems.
Finally, the “normative level” encompasses the integration of values such as fairness, justice, non-discrimination, autonomy, and beneficence into algorithmic logic. This level translates into specific legal and ethical obligations, such as the right not to be subject to solely automated decisions—as enshrined in Article 22 of the General Data Protection Regulation (GDPR)—or the principle of proportionality in the collection and processing of personal data. In this way, algorethics not only promotes philosophical reflection on technology but also offers tools for its fair and responsible regulation.
In summary, algorethics represents a crucial field for building a robust digital ethics that ensures algorithms are not only technically efficient but also morally accountable and socially just.

3.4 Philosophical Framework

3.4.1 The "Techno-Human Condition"

The increasing interrelation and dependency between human beings and technology can be better understood through the philosophical perspectives of Aristotle and Martin Heidegger, who offer relevant and profound conceptual frameworks on technique and technology. Their reflections provide a rich field for Algorethics to consider how technique and technology influence human life and our relationship with the world.
Aristotle offers an integrative view of technique aligned with natural human ends, suggesting that technique can contribute to human flourishing if it remains consistent with such ends. Heidegger, on the other hand, warns of the dangers of a technocratic worldview, which may dehumanise us and alienate us from a more authentic existence. Together, these perspectives invite reflection on how modern technology affects our lives and how we might find a balance that respects both our human nature and that of the world we inhabit.
The Greek philosopher, although not addressing technology in the modern sense, introduced the concept of *techné*, which is crucial in his philosophy. *Techné* refers to a type of practical knowledge involving skills and craftsmanship. It is applied knowledge used to create

something—whether a work of art, a tool, or a structure. In his view, this knowledge is fundamentally practical and applied, distinct from pure theory or *episteme* (Banchio, 2024).

Throughout history, humans have developed a variety of inventions and tools to overcome physical limitations, enabling them to carry out tasks that would otherwise be impossible or extremely difficult. Without claws, humans invented knives, axes, and spearheads, which allowed them to cut and pierce hard materials. Stone tools improved human capacity to hunt, process food, and build shelters. Mastery of fire allowed for the cooking of food, making it easier to digest.

Needless to say, the invention of the wheel, ropes, knots, and binding techniques enabled the construction of structures and the manufacture of fishing nets. The bow and arrow enhanced hunting and warfare, increasing chances of survival and improving defence capabilities. The earliest boats—hollowed-out logs—allowed humans to navigate rivers and lakes, expanding geographic reach and facilitating trade and communication between groups. The invention of pottery and the development of weaving provided protection against the elements. The hand-mill and the domestication of animals transformed agriculture and human economies, enabling more permanent settlements and the development of complex civilisations.

These early inventions reflect human creativity and adaptability in overcoming physical limitations and improving living conditions. Each represented a significant step in the technological and cultural evolution of humanity, laying the foundations for future advancements.

For Aristotle, everything in the universe has a purpose or *telos*. This also applies to human technique and tools, which must align with the natural and virtuous ends of human beings. Technique, therefore, should serve human flourishing (*eudaimonia*) and must not deviate from this goal. Aristotle establishes a distinction between nature (*physis*) and technique (*techné*). Technique is considered an imitation of nature, and although it may improve or complement nature, it must not oppose natural ends (Banchio, 2024).

Martin Heidegger offers a more critical and profound view of technology in the modern era, which is particularly relevant to this study. In his essay "The Question Concerning Technology" (*Die Frage nach der Technik*), Heidegger distinguishes between traditional technique (*techné*) and modern technology. For the German philosopher, traditional technique is a form of "unconcealment" (*aletheia*), where human beings collaborate with nature to reveal what is already present within it. In contrast, modern technology is a form of revealing he calls "challenging-forth" (*Gestell*), whereby nature is seen as a resource to be exploited.

Heidegger warns that modern technology poses a significant danger by reducing everything to its utilitarian value, turning both nature and human beings into mere resources. This technocratic "enframing" can dehumanise and alienate the human being, separating them from an authentic relationship with the world. Heidegger suggests that *poiesis*—the poetic revealing—can offer a more authentic relationship with the world, in contrast to technology, which imposes a reductive and utilitarian view.

Comparing Aristotle's and Heidegger's views reveals both contrasts and similarities. Regarding *telos* versus *Gestell*, Aristotle sees technique as aligned with natural and virtuous ends, whereas Heidegger views modern technology as a challenge that may alienate the human being from an authentic relationship with the world. In terms of knowledge and revelation, for Aristotle, technique is a type of practical and applied knowledge, whereas for Heidegger, modern technique is a form of revealing that can be dangerous. Both philosophers are concerned with the relationship between humans and nature, but from different

perspectives: Aristotle sees technique as a natural extension of human activity, while Heidegger critiques modern technology for its tendency to dominate and exploit nature (Banchio, 2024).

3.4.2 Ethics of Algorithms

In recent years, there have been several interesting and relevant studies in this field. Research on the ethics of algorithms explores how they can make moral decisions and the need to design algorithms that reflect human ethical values in relation to the core issues discussed. With regard to algorithmic bias, transparency, and accountability, scholars have examined how search algorithms perpetuate racial bias (Noble, 2018), while other works provide an overview of ethical issues related to artificial intelligence (Wallach & Allen, 2008).

A decisive aspect of algorethics is determining who is responsible for decisions made by algorithms, especially when these decisions significantly affect individuals. The need for accountability and transparency in the design and implementation of algorithms is a recurring theme in the literature.

Studies on the relationship between algorithms and human rights address how algorithms impact privacy, freedom of expression, and equality. It has been discussed how algorithms affect personal and social life in the context of surveillance capitalism (Zuboff, 2019).

Analysing how algorithms can perpetuate or mitigate social and economic inequalities is essential to understanding their impact on social justice. Research highlights the need to design algorithms that promote fairness and inclusion.

Critical and posthumanist philosophical reflections question the relationship between humans and algorithms, redefining concepts such as agency and autonomy. Some works address information ethics and the digital society, examining the social and ethical impact of digital technologies (Floridi, 2014). It is argued that the digital revolution is transforming our understanding of reality and raises new ethical challenges. The concept of the "infosphere" invites us to consider algorithms as ethical agents that shape our interactions and decisions, advocating for an information ethics that promotes transparency and fairness, with direct implications for the legal regulation of algorithms.

In Italy, other researchers have approached the ethics of algorithms from ethical and political perspectives. Research has examined how algorithms influence political decision-making and the regulation of digital rights, emphasising the need to develop public policies that integrate ethical considerations into algorithm regulation, balancing technological innovation with the protection of fundamental rights and values (Bottoni, 2021).

In Latin America, the ethics of digital technologies has been explored by analysing how these technologies may affect human values and education. This approach highlights the need to integrate ethical principles into the design and implementation of technologies, suggesting that legal frameworks should promote critical education on the impact of algorithms on society (Pardo, 2020).

For our part, we have explored how technology, including algorithms, impacts ethics and democracy. In our work, alongside other authors, we highlight several key points: the impact of algorithms on political participation and democratic decision-making, warning of the risk of manipulation and disinformation; the importance of designing algorithms based on ethical principles that respect human autonomy and dignity; and the need to establish clear

accountability mechanisms for algorithm designers and operators (Banchio, 2024, 2024b, 2024c).

Pope Francis has addressed issues related to technology and digital ethics in several documents and speeches. In his encyclical *Fratelli Tutti*, the Holy Father reflects on human dignity and social justice in the context of a globalised and digitalised world. In *Laudato Si'*, he raises concerns about digital exclusion and the technological divide, which may exacerbate inequalities. Francis asserts that technology, including algorithms, must be used to promote the common good and not for exploitation or excessive profit. Digital ethics should be guided by principles of justice and solidarity, emphasising the need for transparency and responsibility in the use of technologies (Banchio, 2024).

In general terms, all these philosophical perspectives offer a comprehensive view of the ethical and legal challenges associated with algorithms. Legal implications include algorithmic transparency, with requirements for companies to disclose how their algorithms function and how they affect users. They also encompass labour rights in the digital economy, protecting platform-based work and recognising employment rights.

Additionally, regulation of bias and fairness is highlighted, implementing mechanisms to prevent and correct algorithmic bias and to ensure social justice. The development of ethical public policies that incorporate ethical considerations into the regulation of algorithms and technology is another crucial aspect, as is the protection of human rights through legal frameworks that safeguard fundamental rights in algorithmic decision-making. Promoting the common good involves ensuring that algorithms serve justice and solidarity, addressing digital exclusion. Transparency and accountability demand clarity in the design and use of algorithms, with accountability mechanisms established. Finally, the preservation of democracy is emphasised, ensuring that algorithms do not threaten democratic participation and individual autonomy, promoting a regulatory framework that upholds these values.

The effective regulation of algorithms must be informed by a deep understanding of their ethical and social implications. By integrating academic perspectives with moral and social principles, it is possible to foster a more just and equitable digital age. The integration of these perspectives into the legal framework will contribute to a fairer and more effective regulation of algorithms, ensuring that they serve the common good and promote justice and equity in the digital society.

3.5 Algorithmic Bias and Discrimination

One of the main ethical concerns in algorethics is algorithmic bias, which refers to the systematic discrimination embedded in algorithms due to biased training data or design decisions with prejudices. As algorithms are often trained with historical data, they may inadvertently reinforce existing social inequalities. For example, in the context of predictive policing, algorithms may disproportionately target minority communities if trained on biased data that reflects past discriminatory practices. Similarly, in hiring algorithms, gender or racial biases can lead to discriminatory hiring practices, even if presented as objective and impartial. Addressing algorithmic bias requires a solid framework to ensure fairness and accountability in algorithmic decision-making. Techniques such as “equity by design”, which involves the explicit incorporation of fairness criteria into algorithmic models, can help mitigate these risks. Additionally, transparency and accountability mechanisms, such as independent audits of

algorithmic systems, are essential to identify and correct biases, ensuring that algorithms are not causing harm to vulnerable populations.

3.6 Transparency and Accountability in Algorithmic Systems

Transparency is another fundamental principle in algorithmics. For algorithms to be ethically sound, it is vital that their processes, inputs, and outputs are transparent and understandable to all relevant stakeholders. This includes not only the developers of the algorithms but also the users affected by them, as well as the regulatory authorities responsible for overseeing their use.

In practice, transparency means that individuals must have the right to know how algorithms are being used to make decisions that affect their lives. For example, if an AI system is used to determine a person's credit score or whether they are eligible for a job, they must be informed about the criteria being applied and have the opportunity to challenge or appeal decisions they deem unfair or biased.

Along with transparency, accountability is a crucial ethical principle. If an algorithm causes harm, there must be a clear line of responsibility. However, in many cases, it may be difficult to assign responsibility, especially when the algorithm is perceived as autonomous or when multiple parties (such as developers, data providers, and users) are involved in the decision-making process. Establishing accountability frameworks, including repair mechanisms and the possibility of holding algorithm developers and the organisations implementing them responsible for the impact of their systems, is essential to prevent harm.

3.7 Ethical Decision-Making and the 'Black Box' Problem

The "black box" nature of many algorithms—where the reasoning behind a decision is not easily understood or accessible—represents a significant challenge for their ethical use. This opacity is particularly problematic in high-risk areas such as healthcare, criminal justice, and finance, where the consequences of algorithmic decisions can have profound effects on people's lives.

The inability to explain how an algorithm arrived at a particular decision undermines the principles of fairness and equity. In the legal context, for instance, automated decisions about sentencing or parole may not be fully explained to the individuals affected, making it difficult for them to understand or challenge the decision. Furthermore, when algorithms are implemented in these contexts without adequate oversight or accountability, they can exacerbate existing inequalities and injustices.

To address the black box problem, support is growing for the development of “explainable AI (XAI)”: algorithms that provide clear and understandable explanations of their decisions. This is essential not only to ensure fairness and accountability but also to empower individuals to challenge unfair decisions and participate more fully in democratic processes.

3.8 Autonomy and Human Agency in Algorithmic Systems

Another ethical concern raised by algorethics is the potential for algorithms to undermine human autonomy and agency. As algorithms become more integrated into decision-making processes, there is a risk that individuals may lose control over aspects of their lives that were

previously governed by human judgment. In areas such as healthcare, finance, and employment, where decisions can significantly affect a person's well-being and future opportunities, the shift from human judgment to algorithmic control raises questions about the preservation of individual autonomy.
From an ethical perspective, it is important to strike a balance between the efficiency brought by algorithms and the need to preserve human agency. While algorithms may be capable of making more objective and data-driven decisions, it is crucial to ensure that they do not replace human judgment, particularly in situations where ethical or moral considerations are at stake. This requires careful design of algorithms that complement, rather than replace, human decision-making, preserving the role of human agency in critical decisions.

3.9 Algorethics and Human Rights

Algorethics contributes to the practical realisation of human rights in the digital age by identifying systemic risks associated with automation. For example, algorithms used to predict criminal recidivism, such as COMPAS in the US (Banchio, 2024), have shown significant racial biases that undermine the right to a fair trial and equality before the law (Angwin et al., 2016). Similarly, automated content moderation systems can affect freedom of speech if not overseen by robust ethical and legal frameworks (Gillespie, 2018).
As previously noted in section 2.6, some international organisations such as UNESCO have begun institutionalising the algorithmic approach in official documents. In its “Recommendation on the Ethics of Artificial Intelligence” (2021), it urges states to establish frameworks for algorithmic impact assessment, ethical codes, and independent audits to ensure accountability in automated decisions.
Furthermore, the “High-Level Expert Group on AI” of the European Commission has outlined a series of key requirements for trustworthy AI, many of which stem directly from the algorithmic approach: human intervention and oversight, technical robustness and security, privacy and data governance, transparency, diversity and non-discrimination, social well-being, and accountability (European Commission, 2019).
The development of global standards for algorithmic ethics is crucial to ensure that digital technologies are used in ways that respect human rights and promote the social good. This includes establishing clear guidelines for transparency, accountability, and fairness in algorithmic systems, as well as ensuring that individuals' rights are protected across borders. Additionally, the involvement of stakeholders from various sectors, including industry, academia, civil society, and governments, is essential to creating a balanced and effective regulatory environment.

3.10 Proposals and Solutions for Effective Algorethics

As we have mentioned repeatedly throughout this work, in an increasingly digitalized world, technologies have the potential to significantly improve efficiency and accuracy, but they pose serious ethical and legal challenges. The proposals and solutions we present for effective "algorethics" allow for the integration of ethical and legal principles in the development and use of AI. The topics addressed by the emerging discipline include fundamental ethical principles, recommended policies and regulations, and technological innovations for ethical moderation. One of these fundamental ethical principles is justice, which implies that AI systems must be

designed and used in a way that does not discriminate against any group based on characteristics such as race, gender, age, religion, among others. A legal example is the Equal Employment Opportunity Law in many countries, which prohibits discrimination in the workplace, and AI systems used in the hiring process must comply with these regulations. Transparency refers to the ability of AI systems to be understood and evaluated by those affected by their decisions. Explainability means that these systems must be able to provide clear and understandable reasons for their decisions. A legal example is the frequently cited EU GDPR, which includes provisions requiring transparency and explainability of automated decisions.

Protecting privacy and data security is crucial in the development and use of AI systems. Personal data must be handled in a way that respects individuals' privacy rights. Again, the aforementioned GDPR establishes strict requirements for the protection of personal data, including informed consent and the right to data portability.

Developers and users of AI systems must be responsible for their actions and decisions. This includes the responsibility to correct any harm caused by these systems and the implementation of accountability mechanisms. Civil liability laws may apply in cases where AI systems cause harm to individuals or property.

It is essential for governments to develop and adopt comprehensive regulatory frameworks that address the various ethical and legal aspects of AI. These frameworks must be flexible and adaptable to evolve alongside technology. A proposal example is the European Commission, which, in the Artificial Intelligence Act, sets specific requirements for high-risk AI systems, including impact assessments and ongoing supervision (Banchio, 2025). Given that AI applications vary considerably across sectors, it is important for regulations to be sector-specific in order to address their unique challenges. A proposal example is sector-specific regulations for the healthcare sector, which may include strict requirements for validating algorithms used in medical diagnoses and treatments.

Data protection laws must be strengthened and rigorously applied to ensure that the data used by AI systems is handled ethically and securely. A proposal example is the implementation of regulations similar to the GDPR in other jurisdictions to establish global data protection standards.

The creation of independent oversight and audit bodies can help ensure that AI systems comply with the established ethical and legal standards. A proposal example is the establishment of an AI Ethics Committee to oversee and audit AI developments in different sectors.

3.11 From Algorethics to Algorithmic Justice

A critical branch of algorethics is algorithmic justice, which aims not only to avoid technical biases but also to question the power structures that shape technological development. Authors like Eubanks (2018) have shown how automated decision-making systems can reproduce and amplify structural inequalities when applied to vulnerable populations without sufficient safeguards.

This approach proposes an intersectional and contextual reading of algorithmic impacts, advocating for the participation of affected communities in the design and evaluation of the technologies that regulate their lives. Thus, algorethics is not reduced to a professional or

technical ethics; rather, it is configured as an ethical-political project defending a just and democratic digitalization.

4. OTHER APPROACHES

4.1 Data Justice: Informational Equity in the Algorithmic Society

Data justice emerges as a critical approach that seeks to correct power asymmetries generated by the collection, processing, and use of data in digital contexts.

This concept refers to the fair and equitable treatment of data as it circulates through digital infrastructures, affecting both individuals and communities. In an increasingly algorithmic society, where data is frequently used to make decisions that affect people's lives—from credit scores to job recruitment—the principles of data justice aim to ensure that privacy rights, access, and control over personal data are respected.

Beyond individual privacy protection, this framework emphasizes the need to ensure equitable distributions of informational benefits and burdens, as well as the participation of marginalized communities in decisions about data that affect them (Taylor, 2017).

At the heart of data justice is the recognition that data is not neutral. It is shaped by historical, social, and economic contexts that can introduce deep biases and inequities. When certain groups—particularly minority populations—are underrepresented in data sets, their needs and perspectives are at risk of being ignored, which can perpetuate and amplify pre-existing structural inequalities. In this regard, the principle of informational equity demands a more inclusive and transparent approach to the collection, processing, and use of data, ensuring that these practices do not cause harm or reproduce forms of systemic discrimination. In this sense, the authors belonging to the School identify three fundamental dimensions of data justice.

The distributive dimension asks who benefits and who is harmed by algorithmic systems; the procedural dimension focuses on the degree of transparency and participation in design and decision-making processes; and the recognition dimension questions which social groups are made invisible, stigmatized, or misrepresented in the data used (Dencik, 2019). From these dimensions, key principles emerge that guide data justice. Among them, equity in access stands out, which implies ensuring that all people—including those in vulnerable situations—have equal opportunities to access platforms and digital tools that collect and process information.

Likewise, transparency and accountability are essential for establishing clear mechanisms that allow understanding and control over how data is used, with organizations assuming concrete responsibilities for its management. Finally, the principle of participation asserts that individuals should have a voice in decisions that affect the use of their data, including the right to consent or reject data collection practices.

Data justice complements algorethics by providing a structural and intersectional perspective, especially relevant for ethical and legal frameworks based on human rights. In contexts such as the automated surveillance of migrant populations, algorithmic discrimination in public services, or biases in credit evaluation systems, data justice demands not only technical adjustments but also profound social and regulatory transformations aimed at building a truly just and inclusive digital infrastructure (Binns, 2018).

4.2 Human-Centred Design and "Ethics by Design"

Human-centred design constitutes a paradigm that places the needs, values, and well-being of individuals at the heart of technological development. Beyond efficiency or profit, this approach proposes that technologies should be conceived to strengthen human agency, dignity, and quality of life (Norman, 2013). From this perspective, technological design becomes a process that prioritises human experiences and social impacts, recognising technology as a tool at the service of humanity, rather than an end in itself.

Within the framework of digital ethics, this paradigm has given rise to concepts such as “ethics by design”, as outlined above, or “value-sensitive design”, (Friedman et al., 2006). This approach emphasises the need to incorporate ethical principles throughout all stages of the technological lifecycle, including conception, coding, implementation, evaluation, and feedback. In this way, ethics ceases to be a secondary or corrective instance *ex post facto* and instead becomes a structural criterion for technological design.

The “Ethics Guidelines for Trustworthy AI”, published by the European Commission in 2019, actively promote a comprehensive approach that links technological development with the respect for fundamental rights.

These guidelines establish a series of technical and legal principles aimed at ensuring that artificial intelligence systems operate in a fair, safe, and accountable manner. Among the key elements is the requirement to ensure meaningful human oversight of automated decisions, thereby avoiding the complete delegation of authority to algorithmic systems.

The guidelines also stress the minimisation of physical, psychological, and social risks arising from the use of emerging technologies, as well as the implementation of effective mechanisms for complaint, review, and redress to ensure accountability for erroneous or unjust automated decisions.

A core component of this approach is the active integration of perspectives from vulnerable groups, such as older people, children, minorities, and other structurally disadvantaged populations.

In this context, the principle of ethics by design assumes a central role, as it translates into the adoption of concrete criteria that pragmatically and proactively articulate technology, ethics, and law.

Key areas of application of this principle include respect for autonomy, through the design of systems that enable informed decision-making and protect personal agency in the face of opaque or coercive automated processes; transparency and accountability, which require the development of technologies that are comprehensible to users and capable of tracing algorithmic decisions back to the ethical guidelines underpinning them; and justice and fairness, which are reflected in the implementation of inclusive systems designed to minimise bias and promote equal opportunities, especially in contexts marked by structural discrimination.

This approach is particularly relevant in the development and deployment of artificial intelligence and machine learning systems, whose decisions can have significant impacts on people’s lives. Integrating ethical considerations from the outset of the design process not only helps to reduce risks and prevent harm but also constitutes a necessary condition for ensuring that emerging technologies effectively contribute to the common good and enhance the protection of fundamental rights in the digital age.

4.3 Philosophy of Technology: Technology as a Social and Moral Construct

The philosophy of technology is concerned with analysing the role technology plays in shaping human societies, not only from a functional or instrumental perspective, but as a phenomenon laden with cultural meanings, moral values, and power structures. In this field, various authors have questioned the traditional conception of technology as a neutral tool, proposing instead that all technology incorporates ideological decisions that reflect and reproduce particular worldviews (Feenberg, 2010).

From this standpoint, technologies cannot be understood as mere neutral artefacts serving human ends, but rather as social and ideological constructs that both reflect and shape power relations. Their impact may be emancipatory or oppressive, depending on the contexts in which they are designed, implemented, and controlled. In this regard, the notion of "technologies that have politics" was introduced, referring to how certain infrastructures — such as mass surveillance algorithms, social credit systems, or opaque digital platforms — not only perform technical functions but also consolidate pre-existing social hierarchies, limit democratic deliberation, and directly affect people's living conditions (Winner, 1980).

This perspective implies that the development and use of emerging technologies must be subject to critical evaluation that goes beyond the merely technical or legal, incorporating a philosophical and ethical lens that interrogates, among other issues: what values are prioritised in design? Which groups gain or lose power? What forms of life are enabled or excluded? How do technological systems shape human behaviour and social norms? What moral implications arise from the design and implementation of new technologies? To what extent are individuals and societies responsible for the unintended consequences of these advances?

From the standpoint of social constructivism, technology is not a set of neutral tools, but the result of human decisions shaped by economic, political, and cultural factors. Consequently, technologies can both reproduce structural inequalities and open up new possibilities for greater justice, equity, and social participation. Understanding technology as a moral and social construct is therefore essential to addressing the ethical challenges posed by phenomena such as artificial intelligence, surveillance systems, or automated decision-making algorithms.

The philosophy of technology offers a critical lens that makes it possible to identify not only the potential benefits of innovation, but also its structural risks and the social externalities that may result from irresponsible use. Ultimately, this approach underpins the need for proactive ethical governance, capable of anticipating and mitigating negative impacts through a comprehensive conception of the human being and of society. It is not merely a matter of reacting to technical failures, but of promoting a model of technological innovation guided by values such as equity, transparency, sustainability, and respect for human dignity.

4.4 Ethics of Care: Relationships, Vulnerability, and Responsibility

The ethics of care, introduces a relational and contextual ethical perspective that contrasts with traditional approaches centred on abstract principles such as justice or universal rights. This approach emphasises human interdependence, vulnerability as a shared condition, and the responsibility to care, recognising that moral decisions occur in specific contexts marked by asymmetrical relationships and concrete needs.

In the realm of emerging technologies, the ethics of care poses a fundamental critique of systems designed with indifference to the actual conditions of their users. In contrast to technocratic models that prioritise efficiency, control, or data optimisation, this ethics advocates for the development of a "caring" artificial intelligence — one capable of listening, adapting, protecting, and accompanying (Van Wynsberghe, 2013). In other words, technologies that do not merely calculate, but also attend.

This framework is particularly relevant in areas such as robotic assistance, mental health platforms, or adaptive educational systems, where care cannot be reduced to performance algorithms but must include sensitivity to users' emotional, social, and physical realities. The ethics of care emphasises the need to consider elements such as informed consent, meaningful participation of those who interact with the technology, and special attention to situations of inequality, dependence, or digital exclusion.

In this context, the fundamental principles of the ethics of care can be integrated into technological design and governance in various ways. Firstly, responsibility requires that designers, developers, and users commit ethically to ensuring that technology actively contributes to human well-being, avoiding harm or marginalisation. Secondly, empathy and understanding must drive the development of technologies that respond to the diversity of experiences, contexts, and needs — especially those of the most vulnerable groups. Lastly, solidarity promotes the creation of digital ecosystems based on mutual support, cooperation, and fairness, in contrast to models of competition or exploitation.

Incorporating this vision entails questioning dominant models of technological innovation, which tend to be impersonal and based exclusively on quantitative metrics. The ethics of care, by contrast, proposes a human-centred approach in which technology is conceived as a tool in service of a dignified life, connection, and mutual respect. From this perspective, digital ethics cannot be reduced to universal rules but must be nourished by a deep understanding of human relationships and their various forms of care.

5. THEORETICAL CONVERGENCE AND ARTICULATION WITH LAW

The theoretical frameworks developed throughout this work —such as algorethics, data justice, ethical design, the philosophy of technology, and the ethics of care— should not be understood as isolated or mutually exclusive approaches, but rather as complementary perspectives that, together, provide a comprehensive understanding of the ethical challenges posed by digitalisation.

All these approaches share a fundamental principle: technology is not neutral, and therefore, its development, implementation, and regulation must be guided by moral and legal responsibilities. This convergence points to the need to build a situated digital ethics, that is, an ethics grounded in universal human rights, but also sensitive to the cultural, social, and technological contexts in which digital systems are embedded.

However, for these ethical principles to have a real impact on social life, they must be articulated with existing legal frameworks. The connection between ethics and law is essential to prevent ethical proposals from remaining merely aspirational or symbolic. The normative translation of these principles requires a revision and update of current legislation, incorporating dimensions such as fairness, transparency, participation, sustainability, and care. For example, while the European Union's General Data Protection Regulation (GDPR) represents a significant step forward in protecting privacy and control over personal data, it still

does not comprehensively address the social justice implications arising from the massive exploitation of data in contexts of inequality. Similarly, the EU Artificial Intelligence Act establishes principles for the trustworthy use of automated systems, but it requires constant updating to remain aligned with new technological developments and emerging ethical debates (Banchio, 2025).

In this regard, a convergent and multidisciplinary approach is proposed, combining collaborative work among ethicists, legal scholars, technology designers, public institutions, and civil society. Such articulation would enable the construction of a legitimate, adaptable, and sustainable regulatory framework, capable of responding to the dilemmas of the digital age without renouncing fundamental democratic values.

6. PLACING HUMAN DIGNITY AT THE CENTRE

A truly ethical technological governance must anticipate risks, balance interests, and promote digital ways of life that respect human dignity, inclusion, and social justice. This theoretical and normative convergence is not only desirable but necessary to face current challenges with coherence, legitimacy, and effectiveness.

To achieve this, it is essential that human dignity be the guiding principle for the design and use of technologies. Dignity, as a fundamental value in various ethical and legal traditions, must serve as the foundation upon which policies and practices related to these technologies are built. To ensure that algorithms respect human dignity, several aspects must be considered. Individuals have the right to understand how and why decisions affecting them are made; thus, algorithms must be transparent, and their functioning should be explained clearly and comprehensibly. This not only allows individuals to challenge unfair decisions but also fosters trust in automated systems.

Furthermore, individuals must have the opportunity to participate in the decision-making processes that affect them, including providing informed consent when algorithms are used to make significant decisions about their lives. It is crucial that individuals are not merely the objects of algorithmic decisions, but active participants in the process.

Algorithms must be designed and used in ways that promote justice and fairness, which entails identifying and eliminating biases that may lead to discrimination. It is the responsibility of developers and users of algorithms to be proactive in ensuring that their systems do not perpetuate existing inequalities.

Moreover, it is essential to establish clear mechanisms to hold those who design, implement, and use algorithms accountable. This includes the ability to correct errors and address complaints from individuals affected by automated decisions, with an accountability system that allows the identification of those responsible for harmful algorithmic decisions and ensures redress for the damage caused.

By considering these principles, we can ensure that algorithms are used responsibly and ethically, respecting human dignity and promoting a fairer and more equitable society. Human dignity must be the compass guiding our path in the age of artificial intelligence.

7. DEVELOPING A SHARED ETHICAL PROPOSAL

Developing a shared ethical proposal entails collaboration among various actors, including technology developers, legislators, academics, and civil society representatives. This proposal

must be based on universal ethical principles that protect human dignity and promote the common good.

In a world increasingly dependent on technology, it is vital to establish a shared ethics to guide the development and use of algorithms. The principles we advocate aim to establish universal foundations that protect human dignity and promote the common good, encouraging collaboration among a range of stakeholders such as developers, legislators, scholars, and civil society.

The fundamental principles include non-maleficence, whereby algorithms must not harm individuals, avoiding discrimination, protecting privacy and the security of personal data, and ensuring that automated decisions do not disadvantage individuals or specific groups. Beneficence requires that algorithms be designed to benefit society and improve people's quality of life, promoting the use of technology for social, economic, and cultural wellbeing, seeking innovative solutions to global problems, and fostering social progress. Autonomy ensures that individuals retain control over their own data and the decisions that affect them, including the right to information, transparency in algorithmic processes, and the possibility of opting out of automated systems that may impact their lives.

Justice demands that the benefits and risks of algorithms be distributed fairly, preventing specific groups from being disproportionately affected by algorithmic decisions, and taking steps to protect the most vulnerable.

Solidarity emphasises that collaboration and mutual support are essential to address the ethical challenges of technology, with stakeholders working together to develop solutions that benefit all, encouraging open dialogue, knowledge exchange, and the pursuit of consensus. Implementing these principles requires a joint and sustained effort, whereby developers apply ethical design practices, legislators create clear and appropriate legal frameworks to regulate algorithmic development and use, scholars investigate and analyse the ethical and social impacts of algorithms by providing evidence and insight for informed decision-making, and civil society actively participates in the public debate on the ethics of artificial intelligence, expressing concerns and demanding transparency and accountability.

By working together, we can ensure that algorithms are used in a responsible and ethical manner, promoting a future where technology benefits all of humanity and respects the fundamental dignity of each person.

8. CONCLUSION

Throughout this work, various theoretical approaches have been presented and analysed to enrich the understanding of digital ethics in a world shaped by emerging technologies, as envisioned by the study programme in Digital Ethics within the Master's in Digitalisation and Human Rights at the Euro-Mediterranean University (EMUNI). From algorethics and data justice to ethical design, the philosophy of technology, and the ethics of care, it has been emphasised that today's technological challenges cannot be addressed solely from a technical or legal perspective but require a transversal and interdisciplinary ethical approach.

These frameworks offer conceptual tools to reshape the relationship between humanity and technology, highlighting the active role societies play in directing technological development towards legitimate, equitable, and sustainable ends. Far from being mere tools, technologies shape realities, mediate human relationships, and distribute power. Therefore, their design and governance must be underpinned by clear and participatory ethical criteria.

Furthermore, the articulation between these ethical principles and the law is essential to transform values into enforceable norms, creating institutional conditions that guarantee respect for human rights, the protection of the most vulnerable, and the promotion of the common good in digital contexts.

The proposals and solutions presented underscore the importance of collaboration among civil society actors to create a future in which AI benefits humanity as a whole. Collaboration and commitment to these ethical values are essential to forge a future where technology serves us all in a fair and equitable manner.

This paper thus lays the foundation for a critical, inclusive, and action-oriented digital ethics — one that not only reacts to harm but seeks to anticipate and prevent it— offering guidance for the responsible design, use, and regulation of technologies. The coherent integration of ethics, law, and technology is not merely a contemporary challenge but an opportunity to reimagine the digital future through the lens of dignity, justice, and care.

9. REFERENCES

9.1 Bibliography (Cited and Complementary)

1. Angwin, J., Larson, J., Mattu, S., & Kirchner, L. (2016). *Machine bias: There's software used across the country to predict future criminals. And it's biased against blacks*. ProPublica.
2. Banchio, P. (2024). *Algorética: Una disciplina para la moderación ética de algoritmos y programas de inteligencia artificial*. Zenodo. https://doi.org/10.5281/zenodo.12806322
3. Banchio, P. (2024b). *Legal framework to combat disinformation and hate speech on digital platforms*. SSRN. https://doi.org/10.2139/ssrn.4879162
4. Banchio, P. (2024c). *Legal responses to disinformation and hate speech in the digital age*. *AI and Human Rights Law Journal*, *2*(4), 26–60. Zenodo. https://doi.org/10.5281/zenodo.12594869
5. Banchio, P. (2022). *Reflections on a legal framework for artificial intelligence*. SSRN. https://doi.org/10.2139/ssrn.4320870
6. Banchio, P. (2025). *La teoría del cibersujeto y el Reglamento Europeo de Inteligencia Artificial (IA Act): Un análisis crítico desde nuestros postulados teóricos y la regulación híbrida de la inteligencia artificial*. Zenodo. https://doi.org/10.5281/zenodo.15127855
7. Banchio, P. (2025). *Reglamento de la Unión Europea sobre Inteligencia Artificial*. Zenodo. https://doi.org/10.5281/zenodo.15127896
8. Binns, R. (2018). Fairness in machine learning: Lessons from political philosophy. *Proceedings of the 2018 Conference on Fairness, Accountability, and Transparency*, 1–10.
9. Bottoni, A. (2021). *Algoritmi, politica e diritti digitali*. Milano: FrancoAngeli.
10. Brynjolfsson, E., & McAfee, A. (2014). *The second machine age: Work, progress, and prosperity in a time of brilliant technologies*. W.W. Norton & Company.
11. Canca, C. (2022). *What is Algor-ethics?* In Luciano Floridi (Ed.), *Ethics, Governance, and Policies in Artificial Intelligence*. Springer.
12. Citron, D. K. (2014). *Hate crimes in cyberspace*. Harvard University Press.
13. Coeckelbergh, M. (2020). *AI ethics*. MIT Press.

14. Dencik, L. (2019). Data justice and the right to protection. *International Journal of Communication*, *13*, 3656–3673.
15. Ess, C. (2009). Digital media ethics. *Polity Press*.
16. Eubanks, V. (2018). *Automating Inequality: How High-Tech Tools Profile, Police, and Punish the Poor*. St. Martin's Press.
17. European Commission. (2019). *Ethics guidelines for trustworthy AI*. Publications Office of the EU.
18. European Parliament. (2016). *General Data Protection Regulation (GDPR)*. Official Journal of the EU.
19. Feenberg, A. (2010). *Between reason and experience: Essays in technology and modernity*. MIT Press.
20. Floridi, L., & Cowls, J. (2019). *A Unified Framework of Five Principles for AI in Society*. Harvard Data Science Review, 1(1).
21. Floridi, L. (2013). *The ethics of information*. Oxford University Press.
22. Floridi, L. (2014). *The Fourth Revolution: How the Infosphere is Reshaping Human Reality*. Oxford: Oxford University Press.
23. Floridi, L. (2021). *The Logic of Information: A Theory of Philosophy as Conceptual Design*. Oxford University Press.
24. Friedman, B., Kahn, P. H., & Borning, A. (2006). *Value sensitive design and information systems*. Springer.
25. Gillespie, T. (2018). *Custodians of the Internet: Platforms, Content Moderation, and the Hidden Decisions That Shape Social Media*. Yale University Press.
26. Gilligan, C., & Tronto, J. (2023). *Ethics of care in the digital age*. Harvard University Press.
27. Greenwald, G. (2014). *No place to hide: Edward Snowden, the NSA, and the U.S. surveillance state*. Metropolitan Books.
28. Heidegger, M. (1977). *The Question Concerning Technology and Other Essays*. Harper & Row.
29. Marwick, A., & Lewis, R. (2017). *Media manipulation and disinformation online*. Data & Society.
30. Noble, S. U. (2018). *Algorithms of Oppression: How Search Engines Reinforce Racism*. New York: NYU Press.
31. Norman, D. A. (2013). *The design of everyday things*. Basic Books.
32. Pardo, J. L. (2020). *La educación del futuro y otros escritos*. Buenos Aires: Fondo de Cultura Económica.
33. Sunstein, C. R. (2018). *#Republic: Divided democracy in the age of social media*. Princeton University Press.
34. Taylor, L. (2017). What is data justice? *Big Data & Society*, *4*(2), 1–14.
35. UNESCO. (2021). *Recommendation on the Ethics of Artificial Intelligence*.
36. Van den Hoven, J. (2007). *ICT and value sensitive design*. Springer.
37. Van Wynsberghe, A. (2013). *Designing robots for care: Care centered value-sensitive design*. Springer.
38. Wachter, S., Mittelstadt, B., & Floridi, L. (2017). *Why a Right to Explanation of Automated Decision-Making Does Not Exist in the General DataProtection Regulation*. International Data Privacy Law, 7(2), 76–99.
39. Wallach, W., & Allen, C. (2008). *Moral Machines: Teaching Robots Right from Wrong*. Oxford: Oxford University Press.

40. Winner, L. (1980). *The whale and the reactor: A search for limits in an age of high technology*. University of Chicago Press.
41. Yeung, K. (2018). *Algorithmic regulation: A critical interrogation*. Oxford University Press.
42. Zuboff, S. (2019). *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power*. PublicAffairs.

9.2 Documents

1. 115th Congress. (2017). *Algorithmic Accountability Act (H.R.2231)*. U.S. Government.
2. European Parliament. (2021). *Digital Rights Charter of Spain*. BOE.
3. UN. (1948). *Universal Declaration of Human Rights*.
4. UN. (1966). *International Covenant on Civil and Political Rights*.
5. UN. (2011). *Guiding Principles on Business and Human Rights*.

9.3 Case Law

1. Court of Justice of the European Union (CJEU). (2020). *Data Protection Commissioner v. Facebook Ireland Ltd and Schrems (Case C-311/18)*.
2. European Data Protection Board (EDPB). (2023). *Meta vs. DPC (Decision on EU-U.S. Data Transfers)*.

10. GLOSSARY OF KEY TERMS

Algorithm: A set of rules to be followed in calculations or other problem-solving operations, especially by a computer.

Algorithmic Governance: The set of rules, practices, and technological infrastructures that directly or indirectly regulate automated decision-making.

Algorethics: An emerging discipline concerned with the ethical implications of the design, development, implementation, and consequences of algorithms in social, legal, and political contexts.

Artificial Intelligence (AI): The theory and development of computer systems able to perform tasks normally requiring human intelligence, such as visual perception, speech recognition, decision-making, and translation between languages.

Big Data: Extremely large data sets that may be analysed computationally to reveal patterns, trends, and associations, especially relating to human behaviour and interactions.

Blockchain: A distributed ledger, meaning data is stored across a network of computers; it is characterised by its transparency and immutability.

Data Ethics: A branch of ethics that addresses the moral problems arising from the collection, recording, sharing, integration, analysis and interpretation of personal data.

Data Justice: A critical approach that seeks to correct power asymmetries generated by the collection, processing, and use of data in digital contexts, aiming for fair and equitable treatment of data.

Digital Ethics: A subdiscipline of applied ethics that deals with the critical analysis of the normative principles that should guide the design, development, implementation, and use of digital technologies.

Ethics by Design: A theoretical and practical proposal that advocates the need to incorporate fundamental ethical values into the early stages of technological design.

Human-Centred Design: A design paradigm that places the needs, values, and well-being of individuals at the heart of technological development.

Internet of Things (IoT): A system of interrelated computing devices, mechanical and digital machines, objects, animals or people that are provided with unique identifiers and the ability to transfer data over a network without requiring human-to-human or human-to-computer interaction.

Morality (Digital): The set of shared values, norms, and practices that regulate the behaviour of individuals and communities in digital environments, often context-dependent and emergent.

Techné: A Greek term referring to a type of practical knowledge involving skills and craftsmanship, used to create something.

Technology (Modern - *Gestell*): According to Heidegger, a form of revealing where nature is seen as a resource to be exploited, potentially dehumanising and alienating.

Technology (Traditional - *Techné* according to Heidegger): A form of unconcealment where human beings collaborate with nature to reveal what is already present within it.

Transparency (Algorithmic): The principle that the processes, inputs, and outputs of algorithms should be understandable and explainable to relevant stakeholders.