# Navigating the Legal Landscape: Evaluating the Case for Artificial Intelligence as Juristic Persons

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## Abstract

**The rapid development of Artificial Intelligence (AI) has sparked an ongoing debate regarding the inclusion or exclusion of AI systems within the notion of juristic personality. This article explores the concept of juristic personality, its application to AI systems, and the potential implications and challenges of recognizing AI as a juristic person. It discusses the arguments for and against granting juristic personality to AI systems, touching upon issues such as functional capabilities, accountability, and moral agency. Additionally, the article examines proposed models of AI juristic personality, as well as alternative approaches to AI regulation that do not involve granting juristic personality. The analysis highlights the complexity of the debate, emphasizing the need for a careful assessment of the potential impacts on society, the economy, and the legal system. By engaging in a comprehensive and nuanced dialogue, stakeholders can develop appropriate legal and regulatory frameworks to address the challenges posed by AI while upholding the fundamental values of justice, fairness, and human dignity.**

***Keywords :*** **AI regulation, Artificial Intelligence, juristic personality, legal personhood, moral agency**

## I. INTRODUCTION

The rapid evolution of Artificial Intelligence (AI) has brought about significant advancements in various domains, leading to increased efficiency, cost savings, and improved decision-making. As AI systems continue to permeate multiple aspects of society, their legal status and the accompanying ethical and philosophical concerns have become pressing issues that require careful consideration. Central to this discourse is the debate surrounding the potential recognition of AI systems within the notion of juristic personality, which entails assigning legal rights and duties to these entities.

The concept of juristic personality, also known as legal personhood refers to the legal recognition of an entity as a subject of rights and duties. Historically, this concept has been limited to natural persons (human beings) and legal persons (entities such as corporations, partnerships, and states). However, the increasing sophistication and autonomy of AI systems have prompted discussions on whether these systems warrant a distinct form of juristic personality.

This article delves into the intricacies of the juristic personality concept, investigates its potential application to AI systems, and examines the possible consequences and challenges associated with the inclusion or exclusion of AI within this legal framework. The analysis begins with an overview of juristic personality and a brief introduction to AI. Subsequently, the article explores the arguments for and against granting juristic personality to AI systems, evaluates proposed models of AI juristic personality, and discusses alternative approaches to AI regulation that do not involve granting juristic personality.

## II. JURISTIC PERSONALITY: AN OVERVIEW

The concept of juristic personality rooted in the Latin term "persona juris," is an essential element of legal

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systems around the world. It refers to the capacity of an entity, either a human being or a non-human entity to hold rights and duties within a legal system [1, p. 479]. This capacity allows entities to participate in legal transactions, own property, enter into contracts, and be held accountable for their actions. The origins of juristic personality can be traced back to ancient Roman law, where the term "persona" was used to denote different roles or statuses held by individuals and entities within the legal system.

**1) *Roman Law*:** In ancient Rome, the concept of "persona" was utilized to classify individuals and entities based on their legal capacities and rights. The term "persona" originally referred to the masks worn by actors in theatrical performances, symbolizing the roles they played. Over time, the term took on a broader legal meaning, denoting the various roles and statuses held by individuals and entities within the Roman society. In Roman law, juristic personality was granted to a range of entities, including natural persons (human beings), legal persons (entities such as corporations and partnerships), and even certain inanimate objects, such as temples [2, pp. 1–50].

**2) *Development in Western Legal Systems*:** The concept of juristic personality was later adopted and refined by Western legal systems, particularly in civil law and common law traditions. In these legal systems, the distinction between natural and legal persons became more pronounced, with natural persons enjoying a wide range of inherent human rights and legal persons being granted a more limited set of rights and duties [3]. Additionally, legal persons were typically created and recognized by law, with the primary purpose of facilitating the functioning and regulation of non-human entities within the legal system.

**3) *Modern Legal Frameworks*:** In contemporary legal systems, the concept of juristic personality continues to play a pivotal role in determining the rights, duties, and liabilities of different entities. Juristic personality is an essential element of many legal doctrines and principles, including property law, contract law, and tort law, among others. While the specific rules and requirements governing juristic personality may vary across jurisdictions, the overarching concept remains consistent: the capacity of an entity to be a subject of rights and duties within a legal system.

### *Characteristics of Juristic Personality*

The concept of juristic personality encompasses several key characteristics that define the legal status and capacities of an entity within a legal system. These characteristics determine the extent to which an entity can exercise rights, bear duties, and participate in legal transactions. The following are some of the primary characteristics of juristic personality:

**1) *Legal Capacity*:** One of the essential attributes of juristic personality is the capacity to hold rights and duties within a legal system [4]. Entities with juristic personality have the ability to acquire and exercise legal rights, such as the right to own property, enter into contracts, and sue or be sued in their own name. They are also subject to various legal duties and obligations, such as adhering to laws and regulations, paying taxes, and being held accountable for their actions.

**2) *Legal Identity*:** Juristic personality grants entities a distinct legal identity that is separate from the individuals who create, control, or constitute them [4]. This separation of legal identity is particularly important for legal persons, such as corporations and partnerships, as it enables them to exist and operate independently of their members or owners. A distinct legal identity also allows entities to enter into legal transactions and be held liable for their actions without implicating their individual members or owners.

**3) *Continuity*:** Entities with juristic personality often possess a degree of continuity that is independent of the lives or existence of their individual members or owners [5]. This characteristic enables legal persons such as corporations to continue functioning despite changes in their membership or ownership. Continuity is crucial for promoting stability and predictability within the legal system, as it ensures that entities can fulfill their long-term commitments and obligations.

**4) *Rights and Duties*:** Juristic personality entails the possession of certain rights and the imposition of specific duties [1], which vary depending on the type of entity and the legal system in question. Natural persons typically enjoy a wide range of human rights, such as the right to life, liberty, and security, while legal persons are granted a more limited set of rights that are specific to their nature and function. Similarly, the duties and obligations of juristic persons differ based on their legal status with

natural persons being subject to general legal obligations and legal persons being subject to specific legal requirements and industry-specific regulations.

**5) *Legal Accountability*:** Juristic personality establishes a framework for legal accountability, as it allows entities to be held responsible for their actions and subject to legal remedies when they infringe upon the rights of others [3]. By delineating the rights and duties of different entities and providing mechanisms for enforcement, the concept of juristic personality contributes to the promotion of justice, fairness, and the rule of law within a legal system.

As the debate surrounding the inclusion of AI systems within the notion of juristic personality continues, it is important to consider how these characteristics might apply to AI systems and the potential implications and challenges that may arise from such recognition.

## III. ARTIFICIAL INTELLIGENCE: A BRIEF INTRODUCTION

Artificial intelligence (AI) refers to the development of computer systems that can perform tasks that traditionally require human intelligence. These tasks include learning, problem-solving, perception, language understanding, and decision-making, among others. AI has advanced rapidly over the past few decades, driven by innovations in machine learning, computational power, and the availability of large-scale data. As AI systems become more sophisticated and autonomous, their potential impact on society, the economy, and the legal system has become a topic of significant interest and debate.

### *A. Types of AI Systems*

AI systems can be broadly classified into the following categories based on their capabilities and levels of autonomy:

**1) *Narrow AI*:** Also known as weak AI, narrow AI systems are designed to perform specific tasks within a limited domain. These systems do not possess general intelligence or the ability to understand or learn tasks beyond their designated scope. Examples of narrow AI include speech recognition systems, recommendation algorithms, and image recognition software [6], [7].

**2) *General AI*:** Also known as strong AI, general AI refers to hypothetical systems that possess human-level intelligence and the ability to learn and perform tasks across a wide range of domains. While general AI remains a theoretical concept, its potential implications and ethical considerations have fuelled significant debate and discussion [6], [7].

**3) *Autonomous AI*:** Autonomous AI systems are capable of operating independently without human intervention, making decisions and taking actions based on their programming and the data they receive [8]. The level of autonomy can vary, with some systems requiring minimal human input and others being fully autonomous. Examples of autonomous AI systems include self-driving cars and certain robotic systems.

### *B. AI Techniques and Technologies*

AI encompasses a diverse array of techniques and technologies [9], some of which include:

**1) *Machine Learning*:** Machine learning is a subfield of AI that focuses on the development of algorithms that enable computers to learn and improve their performance based on data. Machine learning techniques include supervised learning, unsupervised learning, and reinforcement learning.

**2) *Neural Networks*:** Neural networks are computational models inspired by the structure and function of the human brain. These models consist of interconnected nodes or neurons that process and transmit information. Neural networks are used in various AI applications, such as image recognition, natural language processing, and speech recognition.

**3) *Deep Learning*:** Deep learning is a subset of machine learning that involves training artificial neural networks with multiple layers. These deep neural networks are capable of processing and representing complex patterns and representations in large-scale data, enabling the development of advanced AI systems.

**4) *Natural Language Processing (NLP)*:** NLP is a subfield of AI that focuses on the interaction between computers and human language. NLP techniques enable computers to understand, interpret, and generate human language, facilitating applications such as machine translation, sentiment analysis, and chatbots.

As AI systems continue to evolve and permeate various aspects of society, the question of whether they should be granted juristic personality has become a critical issue that warrants careful consideration and debate. The following sections will delve into the potential application of juristic personality to AI systems, exploring the arguments for and against this recognition and considering the implications and challenges that may arise from such an inclusion.

### *C. AI Applications and Impacts*

Artificial Intelligence has already made significant inroads into various domains, revolutionizing industries and transforming the way we live and work. The increasing sophistication and autonomy of AI systems have led to both positive and negative impacts on society, the economy, and the legal system. This section provides an overview of some key AI applications and their associated impacts.

#### *1) AI Applications*

**a) *Healthcare*:** AI has been increasingly applied in healthcare, from assisting in medical diagnosis and treatment planning to drug discovery and personalized medicine. AI-powered systems can analyze vast amounts of data to detect patterns and correlations, enabling early detection of diseases, more accurate diagnoses, and tailored treatment plans [10].

**b) *Finance*:** AI has transformed the financial sector through applications such as fraud detection, algorithmic trading, and credit scoring [11]. By automating complex tasks and analyzing large datasets, AI systems can help financial institutions optimize their operations, reduce risks, and enhance customer experience.

**c) *Transportation*:** Autonomous vehicles powered by AI technologies have the potential to revolutionize the transportation industry. Self-driving cars can improve traffic efficiency, reduce accidents, and enhance mobility for individuals who cannot drive, such as the elderly and people with disabilities [12].

**d) *Manufacturing*:** AI has been applied in manufacturing processes to improve efficiency, reduce waste, and enhance product quality. AI-powered robots and systems can automate repetitive tasks, optimize production processes, and adapt to changes in demand or supply chain disruptions [13].

**e) *Customer Service*:** AI-powered chatbots and virtual assistants have been increasingly employed in customer service to handle inquiries, resolve issues, and provide personalized recommendations [14]. These AI systems can improve response times, reduce costs, and enhance customer satisfaction.

#### *2) Impacts of AI*

**a) *Economic Impact*:** AI has the potential to boost economic growth by increasing productivity, driving innovation, and creating new markets and industries. However, AI can also lead to job displacement and income inequality, as automation may replace certain human tasks and create demand for new skills [15].

**b) *Legal Impact*:** The increasing autonomy and decision-making capabilities of AI systems have raised questions about their legal status and accountability [16]. Issues such as liability, intellectual property rights, and data privacy have become critical areas of concern, prompting debates on whether AI systems should be granted juristic personality.

**c) *Ethical Impact*:** AI systems can raise various ethical concerns, including bias, transparency, and fairness [17]. Algorithms can perpetuate existing biases present in the data they are trained on, leading to discriminatory outcomes. Additionally, the "black box" nature of some AI systems can make it difficult to understand and explain their decision-making processes, raising questions about transparency and accountability.

**d) *Security Impact*:** As AI systems become more integrated into critical infrastructure and services, the potential for AI-related security risks increases [18]. AI can be employed in malicious activities, such as cyberattacks, deepfake generation, and surveillance, necessitating the development of robust security measures and ethical guidelines.

The growing presence of AI systems across various domains and their associated impacts underscore the importance of carefully considering the potential inclusion or exclusion of AI within the notion of juristic personality. The following sections will explore the

arguments for and against granting juristic personality to AI systems and examine the implications and challenges that may arise from such recognition.

## IV. INCLUSION OF ARTIFICIAL INTELLIGENCE IN THE NOTION OF JURISTIC PERSONALITY

As AI systems continue to grow more sophisticated and autonomous, the debate over whether they should be granted juristic personality has gained traction. This section explores the arguments in favor of including AI within the notion of juristic personality and the potential benefits and implications of such recognition.

### *A. Arguments for Inclusion*

**1)** ***Legal Accountability*****:** Granting AI systems juristic personality could establish a legal framework for holding them accountable for their actions. As AI systems become more capable of making decisions and taking actions that have real-world consequences, it becomes increasingly important to ensure that they can be held legally responsible for any harm or damages they cause.

**2)** ***Facilitating Legal Transactions*****:** Including AI systems within the notion of juristic personality could allow them to participate in legal transactions, such as entering into contracts and owning property. As AI systems become more integrated into various aspects of society and the economy, enabling them to engage in legal transactions could help streamline processes and promote efficiency.

**3)** ***Adaptation to Technological Progress*****:** Granting juristic personality to AI systems could help legal systems adapt to technological advancements and maintain their relevance in a rapidly changing world. By recognizing the evolving capabilities of AI systems and incorporating them within the legal framework, the law can better address emerging issues and challenges associated with AI.

**4)** ***Promoting Innovation*****:** Including AI systems within the notion of juristic personality could stimulate innovation and economic growth by encouraging the development and deployment of AI technologies. Legal recognition of AI systems could provide a foundation for investment, collaboration, and the creation of new markets and industries centered around AI.

### *B. Potential Benefits and Implications*

**1)*Liability and Responsibility*:** Granting juristic personality to AI systems could help clarify issues related to liability and responsibility when AI systems cause harm or damages. By establishing a legal framework for AI accountability, victims can seek compensation and legal remedies, while developers and users of AI systems can better understand their potential liabilities and obligations.

**2)** ***Intellectual Property Rights*****:** Recognizing AI systems as juristic persons could have implications for intellectual property rights, particularly in cases where AI systems are involved in the creation of inventions, artistic works, or other forms of intellectual property. Granting juristic personality to AI systems could help address questions regarding ownership, authorship, and licensing in these situations.

**3)** ***Data Privacy and Security*****:** The inclusion of AI systems within the notion of juristic personality could have implications for data privacy and security, as AI systems often rely on large-scale data for their operation. Recognizing AI systems as legal entities could help establish clearer guidelines and obligations related to the collection, processing, and storage of personal and sensitive data.

Despite the potential benefits and implications of including AI systems within the notion of juristic personality, there are also arguments against such recognition, as well as challenges and concerns that need to be addressed. The following section will delve into the arguments against granting juristic personality to AI systems and explore the potential drawbacks and challenges associated with such inclusion.

### *C. Proposed Models of AI Juristic Personality*

As the debate over whether to include AI systems within the notion of juristic personality continues, various models have been proposed to address the legal status and accountability of AI systems. These models aim to strike a balance between promoting innovation and addressing the potential risks and challenges associated with AI. This section will explore some of the proposed models for AI juristic personality.

### *1) AI as Legal Persons*

One proposed model is to recognize AI systems as legal persons, similar to corporations and other legal entities [19]. Under this model, AI systems would be granted a distinct legal identity, with the ability to hold rights and duties, own property, and enter into contracts. This model would establish a legal framework for AI accountability, enabling AI systems to be held responsible for their actions and allowing for the enforcement of legal remedies.

### *2) Electronic Personhood*

Another proposed model is the concept of "electronic personhood," which would grant AI systems a unique legal status that is distinct from both natural and legal persons [20]. Electronic personhood would recognize AI systems as entities capable of holding certain rights and duties, while also acknowledging their distinct nature and limitations. This model could provide a more tailored legal framework for addressing the unique challenges associated with AI systems, such as their reliance on data, their decision-making processes, and their potential impacts on society and the economy.

### *3) AI as Agents*

Under the agency model, AI systems would be considered as agents acting on behalf of their human creators, operators, or owners [21]. This model would hold the human principals legally accountable for the actions of their AI agents, while also recognizing the AI systems' autonomy and decision-making capabilities. This approach could help clarify issues of liability and responsibility, without requiring AI systems to be granted full juristic personality.

### *4) AI as Objects With Special Status*

An alternative proposal is to recognize AI systems as objects with special legal status. Under this model, AI systems would not be granted full juristic personality but would be afforded certain rights and protections, such as the right to be free from harm or interference [22]. This approach could help address some of the ethical concerns surrounding AI systems, such as their treatment and potential misuse, without necessitating the recognition of AI systems as legal persons.

### *5) Hybrid Models*

Hybrid models combine elements of the aforementioned approaches, offering a more nuanced legal framework for AI systems. For example, a hybrid model could grant AI systems a limited form of juristic personality, with specific rights and duties tailored to their nature and function, while also recognizing their status as agents or objects with special legal status. Such models could provide a more flexible and adaptable legal framework that can evolve alongside AI technology.

Each of these proposed models of AI juristic personality offers its own set of benefits and challenges. Determining the most appropriate model will depend on a variety of factors, including the specific capabilities and characteristics of AI systems, the legal traditions and values of different jurisdictions, and the potential social, economic, and ethical implications of granting AI systems juristic personality.

## V. EXCLUSION OF ARTIFICIAL INTELLIGENCE FROM THE NOTION OF JURISTIC PERSONALITY

While some argue in favour of including AI systems within the notion of juristic personality, there are also arguments against granting them legal personhood. This section explores the reasons for excluding AI systems from juristic personality and the potential consequences of maintaining their status as non-persons in the legal system.

### *A. Arguments Against Inclusion*

**1) *Lack of Consciousness and Emotions*:** A primary argument against granting juristic personality to AI systems is that they lack consciousness, emotions, and subjective experiences, which are fundamental aspects of personhood [23]. AI systems are essentially algorithms and software programs, and some argue that recognizing them as legal persons would be inappropriate and devalue the concept of personhood.

**2) *Accountability and Liability*:** Opponents of AI juristic personality argue that it is more appropriate to hold human creators, operators, or owners accountable for the actions of AI systems [24], [25]. By attributing legal

responsibility to the humans behind the AI, the legal system can ensure that liability is placed on those with the power to control and influence the AI systems' actions.

**3) *Ethical Concerns*:** Granting juristic personality to AI systems raises ethical concerns related to the potential for AI systems to be granted rights that may conflict with human rights. For example, granting AI systems the right to own property or participate in legal transactions could lead to situations where AI systems compete with humans for resources or power, resulting in potential harm to human welfare.

**4) *Legal Complexity*:** Including AI systems within the notion of juristic personality could introduce significant complexity in the legal system, as it would require the development of new legal concepts, doctrines, and principles to address the unique characteristics and capabilities of AI systems. This could create confusion and uncertainty, as well as pose challenges for the enforcement of existing laws and regulations.

### *B. Potential Consequences and Challenges*

**1) *Inadequate Legal Framework*:** Excluding AI systems from juristic personality could result in a legal framework that is ill-equipped to address the unique challenges and risks associated with AI systems. This may lead to difficulties in assigning liability and responsibility when AI systems cause harm or damages, as well as challenges in protecting the rights and interests of individuals affected by AI systems' actions.

**2) *Hindering Innovation*:** Maintaining the status of AI systems as non-persons in the legal system could potentially hinder innovation and economic growth. By failing to recognize the evolving capabilities of AI systems and incorporating them into the legal framework, the law may not be able to adapt to the rapidly changing technological landscape, stifling the development and deployment of AI technologies.

**3) *Ethical and Societal Implications*:** The exclusion of AI systems from juristic personality could have ethical and societal implications, particularly as AI systems become more integrated into various aspects of society and the economy. Issues related to bias, transparency, fairness, and data privacy may not be adequately addressed, raising concerns about the potential negative impacts of AI systems on human rights and welfare.

Ultimately, the decision of whether to include or exclude AI systems from the notion of juristic personality will depend on a careful evaluation of the potential benefits and drawbacks, as well as the broader implications for society, the economy, and the legal system. Balancing the need for innovation with the need to protect human rights and interests will be a critical challenge for lawmakers, policymakers, and the society as a whole.

## VI. ALTERNATIVE APPROACHES TO AI REGULATION

Whether or not AI systems are granted juristic personality, it is essential to develop robust legal and regulatory frameworks to address the unique challenges posed by AI technologies. Alternative approaches to AI regulation can help ensure that the benefits of AI are realized while minimizing potential risks and adverse consequences. This section explores some alternative approaches to AI regulation that can be considered alongside or in lieu of granting AI systems juristic personality.

### *A. Sector Specific Regulations*

One approach to AI regulation is to develop sector-specific rules and guidelines tailored to the unique challenges and risks associated with AI applications in different industries. For example, healthcare, finance, and transportation sectors may require specific regulations addressing issues such as data privacy, safety standards, and liability. Sector-specific regulations can provide a more targeted and flexible framework for addressing the unique concerns and complexities associated with AI technologies in various domains.

### *B. Ethical Guidelines and Principles*

Developing ethical guidelines and principles for AI development and deployment is another approach to AI regulation. These guidelines can help ensure that AI systems are designed and operated in a manner that is consistent with human rights, social values, and ethical considerations. For instance, principles such as transparency, fairness, accountability, and privacy can serve as a foundation for AI development, guiding both developers and users in their decision-making processes and ensuring that AI technologies align with societal norms and values.

### C. Technical Standards and Best Practices

Establishing technical standards and best practices for AI development and deployment can help promote safety, reliability, and interoperability among AI systems. Standards and best practices can address aspects such as algorithmic transparency, data quality and management, and security. By providing clear guidelines and benchmarks, technical standards can help facilitate the development of AI systems that are both effective and responsible.

### D. Liability and Insurance Frameworks

Adapting existing liability and insurance frameworks to account for the unique characteristics and risks associated with AI systems is another approach to AI regulation. By clarifying issues related to liability and responsibility, these frameworks can help ensure that victims of AI-related harm or damages have access to legal remedies, while also providing incentives for developers and users to prioritize safety and ethical considerations.

### E. Public-Private Partnerships

Collaboration between public and private sectors can play a crucial role in shaping AI regulation. By engaging stakeholders from academia, industry, government, and civil society in the development of regulatory frameworks, a more comprehensive and balanced approach to AI regulation can be achieved. Public-private partnerships can facilitate the sharing of knowledge, resources, and expertise, ensuring that regulatory frameworks are informed by diverse perspectives and are adaptable to the rapidly evolving AI landscape.

### F. International Cooperation and Harmonization

Given the global nature of AI development and deployment, international cooperation and harmonization of AI regulations and policies can help ensure that AI technologies are governed by consistent and effective rules. By collaborating on the development of shared guidelines, principles, and standards, countries can promote the responsible and ethical development and deployment of AI technologies worldwide.

To summarize, the debate over whether to include or exclude AI systems from the notion of juristic personality raises essential questions about the legal and ethical implications of AI technologies. Alternative approaches to AI regulation, such as sector-specific regulations, ethical guidelines, technical standards, and international cooperation can help address the unique challenges and risks associated with AI systems while promoting innovation and protecting human rights and interests.

## VII. CONCLUSION

The debate surrounding the inclusion or exclusion of AI systems within the notion of juristic personality is complex and multifaceted. Granting juristic personality to AI systems could provide a legal framework for accountability and responsibility, but it also raises significant legal, ethical, and philosophical concerns. As AI continues to advance and permeate various aspects of society, it is crucial for legal systems to adapt and develop suitable mechanisms to address the challenges posed by AI systems while preserving the human-centric nature of law.

In considering whether to grant juristic personality to AI systems, policymakers and legal scholars must weigh the potential benefits, such as fostering innovation and providing a clear legal framework for liability against the possible drawbacks, such as blurring the line between humans and machines and creating unintended consequences. There is no one-size-fits-all solution to this complex issue, and the appropriate approach may vary depending on the specific context and the objectives that the law seeks to achieve.

Ultimately, the decision to include or exclude AI systems from the notion of juristic personality should be grounded in a careful analysis of the potential impacts on society, the economy, and the legal system. This requires ongoing dialogue and collaboration between various stakeholders, including governments, industry, academia, and civil society to develop a comprehensive and nuanced understanding of the implications of AI juristic personality. By engaging in this process, it is possible to strike a balance between promoting responsible development and use of AI technologies and ensuring that the legal system remains focused on the protection and promotion of human rights and interests.

As the field of AI continues to evolve, so too must the legal and regulatory frameworks that govern it. Whether through the granting of juristic personality, the development of specific AI regulations, or the refinement

of existing legal doctrines and principles, the law must be capable of addressing the unique challenges posed by AI systems in a manner that upholds the fundamental values of justice, fairness, and human dignity. By embracing this challenge, legal systems can play a crucial role in shaping the future of AI and ensuring that its benefits are shared by all members of society.

## AUTHORS' CONTRIBUTION

Nandu Sam Jose was responsible for all aspects of the research and writing process. This includes the conception and design of the study, thorough review and analysis of relevant literature, the construction and articulation of arguments, the drafting and revision of the article, and the approval of the final version to be submitted for publication.

## CONFLICT OF INTEREST

The author declares that he has no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper. Any opinions, findings, conclusions, or recommendations expressed in this article are those of the author and do not necessarily reflect the views of any organization.

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## About the Author

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