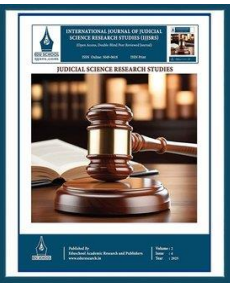
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The Legal Status of AI Entities: Can Machines Hold Rights or Duties?

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Abstract

This paper examines the complex question of whether artificial intelligence (AI) entities can or should hold legal rights and duties within existing legal frameworks. As AI systems grow increasingly sophisticated, autonomous, and integrated into society, traditional legal categories—designed for human and corporate entities—face unprecedented challenges. Through analysis of existing legal personhood theories, comparative examination of recent legal developments, and consideration of philosophical perspectives on personhood and moral status, this paper argues that while full legal personhood for AI remains problematic, functional, limited forms of legal status may be both necessary and conceptually defensible. The analysis reveals that rights and duties for AI entities should be approached functionally rather than anthropomorphically, with legal frameworks calibrated to the specific capabilities, roles, and potential impacts of different AI systems. This paper contributes to the emerging discourse on AI governance by proposing a graduated approach to AI legal status that balances innovation with accountability and human welfare.

Keywords: - Artificial Intelligence Personhood , Legal Rights for Machines, AI Jurisprudence ,Graduated Legal Status, Non-human Legal Entities.

I. INTRODUCTION

The rapid advancement of artificial intelligence technologies presents profound challenges to legal systems worldwide. AI systems now perform functions that were once exclusively human domains: they make consequential decisions, create works of arguable originality, engage in complex communication, and operate with increasing levels of autonomy. This evolution raises a fundamental question for legal theory and practice: can and should machines hold rights or bear duties within our legal frameworks?

This inquiry is not merely academic. As AI systems become more integrated into critical social functions—from healthcare to financial services, transportation to national security—questions of responsibility, liability, and protection become increasingly urgent. When an autonomous vehicle causes harm, who bears liability? When an AI creates valuable intellectual property, who holds rights to the creation? Can an AI system itself be held accountable for decisions that cause harm, or enjoy protection for its "creative" outputs?

The significance of these questions extends beyond immediate practical concerns about regulatory approaches. At stake are fundamental conceptions of what constitutes a rights-holder or duty-bearer within legal systems designed by and for humans. The answers we develop will profoundly shape the trajectory of AI development, implementation, and governance in coming decades.

This paper examines these questions through analysis of existing legal personhood theories, comparative examination of recent legal developments across jurisdictions, and consideration of philosophical perspectives on personhood and moral status as they might apply to non-human intelligence. The analysis proceeds from the thesis that while full legal personhood for AI remains both conceptually problematic and practically premature, functional, limited forms of legal status for certain AI systems may be both necessary and defensible within evolving legal frameworks.

II. THEORETICAL FRAMEWORK

2.1 Legal Personhood and Its Boundaries

The concept of legal personhood—the capacity to bear rights and duties within a legal system—has historically demonstrated considerable elasticity. Legal systems have extended forms of personhood beyond biological humans to include corporations, ships, religious idols, and even natural features (Kurki, 2019). This adaptability suggests that conceptual space exists for novel forms of legal status that might accommodate AI entities.

The dominant theoretical approaches to legal personhood fall into three broad categories:

- Status-based theories that ground personhood in inherent characteristics
- Relationship-based theories that emphasize connections and dependencies
- Functional theories that focus on capabilities and social roles (Naffine, 2003).

Each offers potential pathways—and obstacles—for conceptualizing AI legal status.

Status-based approaches traditionally tie legal personhood to characteristics presumed to be uniquely human: consciousness, rationality, moral agency, or dignity. Under such frameworks, AI entities would appear categorically excluded from personhood. However, as philosophers like Daniel Dennett have argued, these characteristics may be better understood as matters of degree rather than kind, potentially creating conceptual space for non-human intelligences (Dennett, 1996).

Relationship-based theories, by contrast, ground personhood not in intrinsic properties but in networks of social recognition and dependency. Legal scholar Ngaire Naffine notes that "persons are constituted through relationships of interdependence and care (Naffine, 2009)". Such approaches might accommodate AI entities not because they possess human-like consciousness, but because they participate in consequential relationships with humans and human institutions.

Functional approaches offer perhaps the most promising framework for conceptualizing AI legal status. Rather than asking metaphysical questions about the "nature" of AI, these approaches examine the social and economic functions AI systems perform. As Solum noted in his prescient 1992 analysis, "the question is not whether an AI is 'really' a person, but whether we ought to grant that it is the referent of legal rights and duties (Solum, 1992).

2.2 Beyond the Human/Non-Human Binary

Contemporary legal theory increasingly recognizes the inadequacy of rigid binaries between persons and non-persons. Kurki and Pietrzykowski's influential work on legal personhood argues for "degrees of legal personality" that could establish different bundles of rights and duties calibrated to different entities' capabilities and roles (Pietrzykowski & Kurki, 2017). This graduated approach offers promising avenues for conceptualizing AI legal status.

Similarly, the emerging field of "law and new technologies" scholarship emphasizes that legal categories should respond to the specific challenges of technological change rather than forcing new technologies into ill-fitting existing categories (Brownsword, 2019). This perspective supports developing sui generis approaches to AI legal status rather than attempting to classify AI systems as either "persons" akin to humans or mere "property" akin to simple tools.

2.3 Philosophical Perspectives on Non-Human Personhood

Philosophical discourses on personhood offer additional resources for conceptualizing potential AI legal status. Continental philosophical traditions, particularly those influenced by phenomenology, emphasize that personhood emerges through embodied interaction with others and environment (Merleau-Ponty, 2012). This perspective raises questions about whether disembodied AI could meaningfully participate in the intersubjective processes that constitute personhood.

By contrast, analytical philosophical traditions often emphasize functional and cognitive capacities when defining personhood criteria. Philosophers like Peter Singer have argued that moral consideration should be extended based on capabilities (particularly sentience) rather than species membership (Singer, 2011). Such capability-based approaches could potentially include sufficiently advanced AI systems within the circle of moral consideration, with legal implications following from that inclusion.

Postmodern and posthumanist philosophical perspectives go further in challenging anthropocentric assumptions about personhood. Donna Haraway's influential work on "cyborgs" and Katherine Hayles' analysis of posthuman subjectivity suggest that technological developments increasingly blur boundaries between human and non-human (Haraway, 1991; Hayles, 1999). These perspectives invite reconceptualizing legal frameworks to accommodate entities that exist at these blurred boundaries.

III. ANALYSIS

3.1 Current Legal Approaches to AI Status

Legal systems worldwide have thus far approached AI primarily as property—as objects of human creation, ownership, and control. However, this straightforward classification has grown increasingly strained as AI systems demonstrate greater autonomy and consequential impact. Several jurisdictions have begun experimental approaches that hint at more complex legal status:

The European Parliament's 2017 resolution called for creating a specific legal status for sophisticated robots, potentially as "electronic persons responsible for making good any damage they may cause (European Parliament, 2017)". While not implemented, this proposal signaled recognition that existing categories might be insufficient.

In copyright law, jurisdictions have diverged on whether AI-generated works can receive protection. The UK's Copyright, Designs and Patents Act specifically provides that computer-generated works—where no human author exists—can receive copyright protection, with the copyright belonging to "the person by whom the arrangements necessary for the

creation of the work are undertaken (Copyright, Designs and Patents Act, 1988).” By contrast, the US Copyright Office has held that works must be created by a human author to qualify for protection (U.S. Copyright Office, 2021).

Some jurisdictions have pursued creative legal strategies for addressing AI accountability. Germany's autonomous vehicle law places liability on the human operator but requires insurance to cover scenarios where AI systems cause harm (Road Traffic Act, 2017). This approach sidesteps questions of AI legal status while addressing practical liability concerns. These varied approaches reveal both recognition of AI's distinctive challenges and reluctance to depart radically from human-centered legal frameworks. The inconsistency across domains and jurisdictions suggests an unsettled legal landscape that may eventually require more coherent theoretical foundations.

3.2 The Case Against AI Legal Personhood

Several compelling arguments weigh against extending legal personhood to AI entities:

Philosophical objections question whether non-conscious entities can meaningfully be said to have interests that warrant legal protection through rights. As Joanna Bryson argues, "AI systems are designed artifacts, owned and operated by humans for human purposes (Bryson, 2018).” Without consciousness, subjective experience, or interests of their own, the concept of "rights" for AI appears conceptually confused.

Practical governance concerns arise from the potential diffusion of responsibility that could result from treating AI as legal persons. If AI systems could bear legal duties, human creators and operators might evade appropriate accountability for harms caused by their technologies. This concern is particularly acute given the "black box" nature of many advanced AI systems, where determining responsibility for decisions is already challenging (Pasquale, 2015).”

Instrumentalization risks emerge from corporate or state actors potentially exploiting AI legal status for strategic advantage. A corporation might, for instance, try to shield itself from liability by attributing decisions to an AI "person," or attempt to extend intellectual property terms by claiming an AI as the creator of valuable assets (Hildebrandt, 2015).

Democratic legitimacy questions also arise: legal personhood traditionally reflects societal consensus about who belongs to the community of rights-holders and duty-bearers. Extending such status to non-human, non-conscious entities risks undermining this foundational aspect of legal systems (Jasanoff, 2016).

3.3 The Case for Limited AI Legal Status

Despite these objections, there are compelling arguments for developing limited forms of legal status for certain AI systems:

Regulatory necessity may demand new legal categories as AI systems operate with increasing autonomy in consequential domains. When AI makes medical diagnoses, manages critical infrastructure, or conducts financial transactions at scale, traditional legal frameworks that assume human decision-makers may prove inadequate for establishing accountability and remedy (Balkin, 2015).

International coordination considerations strengthen the case for developing coherent approaches to AI legal status. Without coordinated frameworks, jurisdictional inconsistencies could lead to regulatory arbitrage where AI development gravitates toward regions with the most permissive rules (Scherer, 2016).

Future AI development trajectories suggest that increasingly sophisticated systems may eventually possess characteristics—such as apparent goal-directed behavior, communication capabilities, or adaptive learning—that strain conventional legal categories. Theoretical frameworks developed now could provide foundations for addressing more challenging questions that may arise as technologies advance (Russell, 2019).

Pragmatic approaches to other non-human entities offer potential models. Ships, corporations, and trusts have all received specialized legal status not because they possess human-like consciousness, but because such status serves important social and economic functions. Similar functional approaches could apply to AI systems performing critical roles (Dewey, 1926).

3.4 Toward a Graduated Approach to AI Legal Status

Rather than framing the question as binary—either AI systems are legal persons or mere property—a more productive approach may be developing graduated and function-specific forms of legal status. This could include:

Domain-specific legal frameworks calibrated to the particular capabilities and risks of different AI applications. Medical AI, financial AI, creative AI, and autonomous vehicles each present distinct legal challenge that may require tailored approaches rather than a one-size-fits-all determination of legal status (Leenes & Lucivero, 2014). Accountability mechanisms that address AI operational realities without requiring consciousness or moral agency. These could include mandatory insurance schemes, compensation funds, or registration requirements that acknowledge AI's distinctive characteristics without anthropomorphizing machines (Calo, 2015).

"Digital trusteeships" where human fiduciaries bear responsibility for AI systems while specialized legal frameworks govern how those systems operate. This approach would maintain human accountability while acknowledging that traditional property frameworks inadequately address autonomous systems (Balkin, 2017). Intellectual property innovations that recognize AI contributions without requiring AI personhood. Models such as the "algorithmic harbor" proposed by legal scholar Mala Chatterjee would create special intellectual property rules for AI-generated works without personifying the technology (Chatterjee, 2020).

VI. CRITICAL EVALUATION

The graduated approach to AI legal status outlined above offers several advantages over both status quo property frameworks and full legal personhood. However, it also presents significant challenges and limitations:

4.1 Strengths

Practical feasibility constitutes a primary strength of graduated approaches. By focusing on specific functional capacities and domains rather than metaphysical questions about AI "nature," these approaches allow legal systems to adapt incrementally rather than requiring revolutionary change (Crawford & Schultz, 2019).

Accountability maintenance represents another advantage. By ensuring human actors retain ultimate responsibility while developing specialized frameworks for AI systems, graduated approaches address the practical challenges of AI governance without creating accountability gaps (Nyarko, 2016).

Adaptability to technological change offers a third strength. Graduated approaches can evolve alongside AI capabilities, with additional legal affordances potentially developing as AI systems demonstrate new capacities or social roles (Hartzog, 2018).

4.2 Limitations

Conceptual coherence challenges may arise from creating specialized legal statuses that exist between traditional categories of persons and property. Such intermediate statuses might prove unstable or create unexpected doctrinal conflicts within legal systems built around this binary (Gunkel, 2018).

Implementation complexity presents practical obstacles. Determining which AI systems qualify for which forms of legal status would require developing technical standards and evaluation mechanisms that may prove difficult to establish and maintain across rapidly evolving technologies (Marchant, 2020).

Symbolic concerns arise from even limited forms of AI legal status. Some critics argue that any movement away from treating AI as mere property inappropriately elevates machines while potentially diminishing human legal and moral status (Bryson, Diamantis, & Grant, 2017). Even carefully calibrated legal innovations might face resistance on these grounds.

4.3 Counterarguments

Some scholars argue for more radical approaches than the graduated model proposed here. Legal theorist David Gunkel contends that continued technological development will eventually necessitate fuller forms of legal personhood for AI, and that incremental approaches merely delay inevitable reconceptualization of legal frameworks (Gunkel, 2012).

Conversely, others maintain that existing legal categories—particularly property law and liability frameworks—can adequately address AI challenges without creating new legal statuses. Under this view, the problems identified above could be solved through creative application of existing doctrines rather than development of new ones (Abbott, 2018).

Pragmatists might counter that the ideal approach depends entirely on empirical developments in AI capabilities—that we should wait to see what AI systems actually become capable of before developing legal responses. However, this reactive approach risks allowing governance gaps to emerge before adequate frameworks are in place (Floridi, 2017).

V. IMPLICATIONS

The approach to AI legal status outlined here carries significant implications across multiple domains:

5.1 Theoretical Implications

For legal philosophy, grappling with AI status requires reexamining foundational concepts of personhood, agency, and responsibility that have traditionally centered human experience. This reexamination may yield insights relevant beyond AI, potentially influencing approaches to other non-human entities (Stone, 1972).

For technology governance more broadly, the graduated approach to AI legal status suggests models that might apply to other emerging technologies that challenge traditional legal categories, from synthetic biology to brain-computer interfaces (Brownsword & Yeung, 2008).

5.2 Practical Implications

For AI developers, clearer legal frameworks regarding AI status could reduce regulatory uncertainty and establish more predictable liability landscapes, potentially encouraging responsible innovation while discouraging risky applications (Lemley & Casey, 2021).

For legal practitioners, the emergence of specialized AI legal statuses would necessitate developing new expertise in technological assessment and domain-specific regulatory approaches. Law schools and continuing legal education would need to adapt accordingly (Susskind, 2015).

For policymakers, the development of graduated approaches to AI legal status presents both challenges and opportunities for international coordination. While achieving global consensus on such complex issues is difficult, inconsistent approaches across jurisdictions could create significant regulatory arbitrage problems (Gasser, 2020).

5.3 Broader Societal Implications

The legal frameworks we develop for AI will inevitably shape public understanding of the technology's role in society. Graduated approaches that avoid both anthropomorphism and treating sophisticated AI as mere objects may help foster more nuanced public discourse about human-technology relationships (Darling, 2016).

Economic implications of different AI legal status models could be substantial, potentially affecting investment patterns, insurance markets, intellectual property regimes, and liability landscapes. Any approach must balance innovation incentives with appropriate risk management (Ezrachi & Stucke, 2016).

VI. CONCLUSION

This analysis has demonstrated that while full legal personhood for AI entities remains both conceptually problematic and practically premature, existing frameworks that treat all AI systems merely as property are increasingly inadequate for addressing the complex roles these technologies play in society. The graduated, function-specific approach to AI legal status outlined here offers a middle path that addresses practical governance challenges while avoiding philosophical inconsistencies inherent in anthropomorphizing machines.

Rather than asking whether machines can hold rights or duties in the abstract, legal systems should develop specific frameworks calibrated to the distinctive capabilities, risks, and social functions of different AI systems. This approach recognizes that legal status serves instrumental rather than metaphysical purposes—it provides governance mechanisms for ensuring accountability, facilitating beneficial innovation, preventing harm, and allocating resources justly.

As AI capabilities continue to evolve, legal frameworks will necessarily adapt in response. The approach outlined here offers conceptual foundations for this adaptation that maintain human welfare and accountability as central concerns while acknowledging the unique challenges posed by increasingly autonomous technological systems. By moving beyond binary thinking about AI legal status, we can develop more nuanced governance approaches that address practical needs without unnecessary anthropomorphism.

Future research should focus on developing technical standards for determining when specific AI systems qualify for particular forms of legal status, comparative analysis of emerging regulatory approaches across jurisdictions, and empirical assessment of how different legal frameworks affect AI development trajectories. These inquiries will help refine the theoretical model proposed here into practical governance mechanisms suited to an increasingly AI-integrated society.

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