NEW PROPOSED PERSONALITY MODEL FOR ARTIFICIAL INTELLIGENCE: INTEGRATED PERSONALITY

Yapay Zeka İçin Yeni Kişilik Modeli Önerisi: Entegre Kişilik

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Abstract

The classification of artificial intelligence (AI) systems is a multifaceted process, encompassing a wide range of criteria. Among these classifications, the categorisation based on capabilities, autonomous movement capacity, and cognitive capacity holds particular significance in the context of discussions concerning the recognition of personality in AI.

Systems that embody the characteristics of 'Artificial General Intelligence (AGI)' and 'Artificial Superintelligence (ASI)' in the classification based on capabilities, 'Fully Autonomous AI (FAA)' in the classification based on autonomous movement capacity, and 'Self-Aware Systems (SAS)' in the classification based on cognitive capacity should be recognised as Integrated Personality (InPer). The AI system that has been granted InPer will be designated InPerAI. It is important to note that InPerAI is not an independent personality,

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but must be integrated into a 'Main Person (MaPer)', which is a natural person or legal entity.

InPerAI may be authorised by MaPer to perform certain tasks and operations. Based on this authorisation, the provisions regarding direct representation authority will apply to the transactions made by the InPerAI. Consequently, the rights and obligations acquired by InPerAI shall belong to MaPer.

In terms of InPerAI's tort liability, it is argued that an objective duty of care, akin to the 'liability of owners of dangerous animals', should be established. Furthermore, it is contended that MaPer should be able to exonerate itself from liability by demonstrating that it has taken every precaution or that the damage is attributable to the actions of other parties. In addition, it is posited that criminal liability for offences committed by InPerAI should also be attributed to MaPer. However, MaPer should be fully or partially absolved of criminal liability if he/she/it can demonstrate that, despite having taken every precaution, it could not prevent the commission of the offence, or that the offence was caused by the production or responsibility of another person. In the event that the problem is attributed to production, the manufacturer should also be held criminally liable.

Keywords: AI, Integrated Personality, Personality of AI, Artificial Superintelligence, Fully Autonomous AI, Self-Aware Systems

Öz

Yapay zeka (YZ) sistemleri birçok kritere göre çeşitli sınıflandırmalara tabi tutulmaktadır. Bu sınıflandırmalar arasında, yeteneklere, otonom hareket kapasitesine ve bilişsel kapasiteye dayalı sınıflandırma, yapay zekaya kişilik tanıma ile ilgili tartışmalarda özel bir öneme sahiptir.

Yeteneklere dayalı sınıflandırmada "Yapay Genel Zeka (AGI)" ve "Yapay Süper Zeka (ASI)", otonom hareket

kapasitesine dayalı sınıflandırmada "Tam Otonom Yapay Zeka (FAA)" ve bilişsel kapasiteye dayalı sınıflandırmada "Kendini Farkında Sistem (SAS)" özelliklerinin tamamını birlikte taşıyan sistemler, Entegre Kişilik (InPer) olarak tanınmalıdır. InPer adı verilen yapay zeka sistemi, InPerAI olarak adlandırılmalıdır. InPerAI'nin bağımsız bir kişilik olmamalı, gerçek veya tüzel bir kişi olan "Ana Kişilik (MaPer)" ile entegre edilmelidir.

InPerAI, MaPer tarafından belirli görev ve işlemleri yerine getirmek üzere yetkilendirilebilir. Bu yetkilendirmeye dayanarak, doğrudan temsil yetkisine ilişkin hükümler InPerAI tarafından yapılan işlemlerde de geçerli olacaktır. Sonuç olarak, InPerAI tarafından edinilen hak ve yükümlülükler MaPer'e ait olacaktır.

InPerAI'nin haksız fiil sorumluluğu açısından, "tehlikeli hayvan sahiplerinin sorumluluğu"na benzer bir objektif özen yükümlülüğünün getirilmelidir. Ayrıca, MaPer'in zararın doğması ile ilgili her türlü önlemi aldığını veya zararın diğer tarafların eylemlerinden kaynaklandığını ispat ederek sorumluluktan kurtulabilmesi sağlanmalıdır. Buna ek olarak, InPerAI tarafından işlenen suçların cezai sorumluluğu da kural olarak MaPer'e atfedilmelidir. Ancak MaPer, her türlü önlemi almış olmasına rağmen suçun işlenmesini önleyemediğini veya suçun üretim hatasından veya başka bir kişinin sorumluluğundan kaynaklandığını kanıtlayabilirse, cezai sorumluluktan tamamen veya kısmen muaf tutulmalıdır. Suçun ortaya çıkmasına neden olan sorunun üreticiye atfedilmesi durumunda, üretici de cezai sorumluluktan sorumlu tutulmalıdır.

Anahtar Kelimeler: Yapay Zeka, Entegre Kişilik, Yapay Zekanın Kişiliği, Yapay Süper Zeka, Tam Otonom Yapay Zeka, Kendini Farkında Sistemler

INTRODUCTION AND DEFINING THE PROBLEM

The contemporary era can be subsumed by two major technological revolutions: the first being the advent of the computer and the internet in the 20th century, marking the inception of the information age; and the second being the current phase of AI, which is set to culminate in a new era. While certain regions of the world remain uninitiated in the realm of technological advancement, particularly in the domain of computers, the internet, and mobile phones, this new phase of AI, which is already being experienced in other regions, is accompanied by a multitude of potential challenges.

At the core of these concerns lie two fundamental questions: firstly, the ownership of the rights and debts acquired by vehicles equipped with AI that are capable of acting autonomously; and secondly, the question of responsibility for any offences that may be committed by such vehicles and the extent of that responsibility.

The prevailing humanistic philosophy underlying this issue posits that the rights acquired by AI should be held by a human entity, either directly or indirectly (akin to share ownership in a company). Conversely, natural persons should not be held liable, or should be as little liable as possible, for damages and criminal acts committed by the AI vehicle. However, in reality, while some individuals accrue financial gain, others incur losses; while some perpetrate harm, others suffer it; while some engage in criminal activity, others are exposed to it. In essence, there is always a real person involved in real-life relationships, thus rendering it impossible to approach any activity from a one-sided perspective.

In summary, the rights and benefits that AI will obtain or the damages it will cause and the crimes it will commit should be balanced logically. In order to create this balance, many different authors have put forward the views detailed below. According to some of these views, AI can be explained with the institutions

and concepts in today's legal system, and their responsibilities can be handled within the scope of today's legal concepts and a conclusion can be reached. According to other views, AI is outside of today's legal concepts and presents a new situation. On the one hand, while there is an entity produced by human hands, this entity is capable of going beyond human will through machine learning and deep learning, and it is not possible to hold real persons responsible for a result that is not the result of human will. Therefore, AI with certain characteristics should be recognised as a person. However, there is an in-depth discussion on the type, scope and provisions of this personality.

In this study, after defining what AI is, we will subject AI to a classification in order to determine the types of personality to be recognised or not. Finally, we will explain our 'Integrated Personality' proposal in detail with its justifications.

I. DEFINITION AND TYPES OF ARTIFICIAL INTELLIGENCE

A. The Problem of Definition of Artificial Intelligence

Since the conception of the notion of AI, a plethora of propositions have been advanced concerning its definition and characteristics, accompanied by a multitude of definitions within the ambit of these propositions. The seminal formulation of the concept of AI was pioneered by Alan Mathison Turing in 1950, who defined it as '*the study of how to make computers do things that people are better at doing*'.[1] This definition delineates the earliest manifestation of AI, emphasising the imitation of human behaviour by machines as a fundamental aspect of the concept.

In 1955, John McCarthy and his friends began to talk about the features of AI, which were defined as '*Artificial Intelligence is*

[1] Alan Mathison Turing, 'Computing Machinery and Intelligence,' *Mind* 59, no. 236 (1950): 433–60.

the simulation of human intelligence processes by machines, especially computer systems. These processes include learning, reasoning, and self-correction'.[2] The objective of this definition was to establish the foundation for the subsequent development of AI as a discipline, with the simulation of human behaviours such as learning, reasoning, and self-correction being a key priority.

Following the establishment of the initial definitions of AI half a century ago, numerous subsequent definitions have been proposed. The function of AI has evolved to encompass not only the imitation of human behaviour, but also the capacity for autonomous thought and action. The definitions of AI by Russell and Norvig are categorised according to various characteristics, including thought processes, reasoning, behaviour, human performance measures and rationality;3 Definitions according to the criterion of 'Thinking humanly'; 'The exciting new effort to make computers think ... machines with minds, in the full and literal sense',4 '(The automation of) activities that we associate with human thinking, activities such as decision-making, problem solving, learning ...'.5 Definitions according to the criterion of 'Acting humanly'; '*The art of creating machines that perform functions that require intelligence when performed by people*',[6] '*The study of how to make computers do things at which, at the*

[2] John McCarthy et al., 'Proposal for the Dartmouth Summer Research Project on Artificial Intelligence,' August 31, 1955, http://jmc.stanford.edu/articles/dartmouth/dartmouth.pdf.

[3] Stuart J. Russell and Peter Norvig, *Artificial Intelligence: A Modern Approach*, Fourth Edition, Pearson Series in Artificial Intelligence (Hoboken, NJ: Pearson, 2021), 2.

[4] Andy Clark and John Haugeland, 'Artificial Intelligence: The Very Idea.,' *The Philosophical Quarterly* 38, no. 151 (April 1988): 249.

[5] Richard Bellman, *An Introduction to Artificial Intelligence: Can Computers Think?* (San Francisco: Boyd & Fraser, 1978).

[6] Ray Kurzweil, *The Age of Intelligent Machines*, 3. print (Cambridge, Mass: MIT Press, 1999).

moment, people are better'.[7] Definitions according to the criterion of 'Thinking rationally'; '*The study of mental faculties through the use of computational models*',[8] '*The study of the computations that make it possible to perceive, reason, and act*'.[9] Definitions according to the criterion of 'Acting rationally'; '*Computational Intelligence is the study of the design of intelligent agents*',[10] '*AI . . . is concerned with intelligent behavior in artifacts*'.[11]

Recent definitions of AI have emphasised the ability of such systems to self-learn, interpret, make decisions and act autonomously to implement these decisions. The following definitions are illustrative of this tendency; '*AI involves the development of systems that can reason, plan, and act like humans*',[12] '*AI aims to create machines that can learn from data, adapt to new situations, and perform tasks without being explicitly programmed*',[13] '*AI involves the development of algorithms that enable machines to process data, infer patterns, and make decisions autonomously*',[14] '*AI is the study and design of intelligent agents that can perceive their*

[7] Elaine Rich and Kevin Knight, *Artificial Intelligence*, 2nd ed (New York: McGraw-Hill, 1991).

[8] Eugene Charniak and Drew V. McDermott, *Introduction to Artificial Intelligence*, Reprinted with corrections, Addison-Wesley Series in Computer Science (Reading, Mass.: Addison-Wesley, 1987).

[9] Patrick Henry Winston, *Artificial Intelligence*, 3. ed. (Reading, Mass.: Addison-Wesley, 2002).

[10] David Lynton Poole, Alan K. Mackworth, and Randy Goebel, *Computational Intelligence: A Logical Approach* (New York: Oxford University Press, 1998).

[11] Nils J. Nilsson, *Artificial Intelligence: A New Synthesis* (San Francisco, Calif: Morgan Kaufmann Publishers, 1998).

[12] Michael J. Wooldridge, *An Introduction to Multiagent Systems*, 2. ed., (Chichester: Wiley, 2012).

[13] Pedro Domingos, *The Master Algorithm: How the Quest for the Ultimate Learning Machine Will Remake Our World*, First paperback edition (New York: Basic books, a member of the Perseus Book Group, 2018).

[14] Ian Goodfellow, Yoshua Bengio, and Aaron Courville, *Deep Learning*, Adaptive Computation and Machine Learning (Cambridge, Mass: The MIT press, 2016).

environment and take actions to achieve their goals in the most efficient way'.[15]

In Regulation (EU) 2024/1689 Of The European Parliament And Of The Council (AI ACT), AI systems are defined as follows; '*AI system means a machine-based system that is designed to operate with varying levels of autonomy and that may exhibit adaptiveness after deployment, and that, for explicit or implicit objectives, infers, from the input it receives, how to generate outputs such as predictions, content, recommendations, or decisions that can influence physical or virtual environments*' (Art.3/1).

It has been hypothesised that an entity capable of learning, analysing, drawing conclusions, making decisions and implementing these decisions autonomously may ultimately exceed the intellectual capacity of human beings in the long term.[16] This could potentially result in such an entity behaving in a manner contrary to human will and even assuming control of humanity. This scenario has led to the initiation of discussions concerning the recognition of AI as a distinct personality.

B. Classification of Artificial Intelligence in the Context of Personality Recognition Discussions

The categorisation of AI is informed by a range of criteria, including but not limited to capabilities, functionality, learning methods, autonomous movement capacity, usage area, algorithm type and machine learning paradigms. Within the discourse on the recognition of personality in AI, the most salient logical distinctions among these classifications are the

[15] Richard S. Sutton and Andrew Barto, *Reinforcement Learning: An Introduction*, Second edition, Adaptive Computation and Machine Learning (Cambridge, Massachusetts London, England: The MIT Press, 2020).

[16] 'REPORT with recommendations to the Commission on Civil Law Rules on Robotics | A8-0005/2017 | European Parliament' (European Parliament, January 27, 2017), https://www.europarl.europa.eu/doceo/document/A-8-2017-0005_EN.html.

classification based on ability, the classification based on autonomous movement capacity and the classification based on cognitive capacity.[17]

1. Classification Of Artificial Intelligence According to Its Capabilities

This distinction constitutes the most prevalent classification system in the field of AI. It is predicated on the constraints imposed by the capabilities of AI. AI is thus divided into three categories: narrow, general and super, according to its respective capacities.[18]

Artificial Narrow Intelligence (ANI): AI systems that have been designed for a specific task or a narrow set of tasks are categorised as ANI. Face recognition systems, voice assistants (e.g. Siri, Alexa) and recommendation systems (e.g. Netflix, Amazon) are common types of this type of AI in daily life. These systems are capable of performing predefined tasks, but lack the

[17] Apart from these three distinctions, there are also different classifications. Some of these distinctions are as follows;
Classification according to functionality and application areas; i) Machine Learning, ii) Deep Learning, iii) Natural Language Processing.
Classification according to aearning methods; i) Supervised Learning, ii) Unsupervised Learning, iii) Semi-Supervised Learning, v) Self-supervised Learning, vi) Reinforcement Learning.
Classification according to intended use; i) Analytical AI, ii) Creative AI, iii) Interactive AI, iv) Autonomous AI

[18] Roman V. Yampolskiy, ed., *Artificial Intelligence Safety and Security*, First edition, Chapman & Hall/CRC Artificial Intelligence and Robotics Series (Boca Raton: CRC Press/Taylor & Francis Group, 2019), 35–40; Ben Goertzel and Cassio Pennachin, *Artificial General Intelligence* (Berlin: Springer, 2011), 1–20; Miles Brundage, 'Taking Superintelligence Seriously,' *Futures* 72 (September 2015): 32–35; Pei Wang, 'On Defining Artificial Intelligence,' *Journal of Artificial General Intelligence* 10, no. 2 (January 1, 2019): 10–15; Russell and Norvig, *Artificial Intelligence*, 1–32; Max Tegmark, *Life 3.0: Being Human in the Age of Artificial Intelligence*, First edition (New York: Alfred A. Knopf, 2017), 45–75; Nick Bostrom, *Superintelligence: Paths, Dangers, Strategies* (Oxford, United Kingdom ; New York, NY: Oxford University Press, 2016), 15–45.

capacity for self-awareness or consciousness. Furthermore, they are unable to generalise knowledge to other areas.

***Artificial General Intelligence (AGI)*:** The term 'AGI', or 'robust AI', refers to the capacity of a machine to comprehend, acquire and utilise knowledge in a manner that is indistinguishable from human intelligence in a broad spectrum of tasks. This capacity entails the full emulation of human intelligence, resulting in the machine's ability to perform a wide range of tasks with a high degree of proficiency.

The system has been demonstrated to possess capabilities in the domains of reasoning, problem solving and abstract thinking. These systems are hypothetical and have the capacity to fulfil any intellectual task that is within the purview of the human condition. They have been shown to possess the ability to generalise knowledge and transfer it from one domain to another. Furthermore, they have been demonstrated to possess self-awareness. While AGI remains a theoretical concept, studies in this field are progressing rapidly.

***Artificial Superintelligence (ASI)*:** The term 'ASI' is used to denote a hypothetical form of AI that has been demonstrated to exceed human intelligence and cognitive abilities in all domains, including creativity, problem-solving, emotional intelligence and general wisdom. This AI system has the capacity for self-improvement and iterative learning, and has the potential to solve complex global problems that currently fall beyond the capacity of the human race.

ASI is a theoretical and speculative concept. Although frequently encountered in science fiction films, there is currently no example in the real world. However, ASI is the most feared and motivated type of AI when talking about the problems that AI will cause in the future. This is because the realisation of ASI may raise important ethical and existential questions.

Discussions concerning the recognition of personality in the field of AI are predominantly confined to the domains of AGI

and ASI. The rationale behind this is that these two forms of AI possess the capacity to analyse, make decisions and take action to implement their decisions in a manner analogous to that of humans. Consequently, they are the only entities that have the capacity to acquire rights, assume debts and commit offences. Conversely, ANI systems do not possess these characteristics and essentially function as auxiliary assistants to facilitate daily life.

2. Classification of Artificial Intelligence According to Autonomous Movement Capacity

This classification is predicated on the capacity of AI to function independently[19] and to be capable of perceiving its environment during movement and to act in accordance with that perception.[20]

Non-Autonomous AI (NAA): These systems are entirely dependent on human input and control. They are classified as AI systems, which are incapable of making decisions or acting autonomously. Instead, they merely receive and implement instructions provided by humans.

Semi-Autonomous AI (SAA): Systems that function in collaboration with humans can execute specific tasks with a

[19] For a comprehensive overview of the technology-centred classification of autonomous vehicles, please refer to Sinan Okur, *Otonom Araçlarda Sözleşme Dışı Hukuki Sorumluluk Yapay Zeka Sorumluluk Doktrinine Mukayeseli Bir Bakış* (Ankara: Adalet Yayınevi, 2021), 59–69.

[20] Ingo Wolf, 'The Interaction Between Humans and Autonomous Agents,' in *Autonomous Driving* (New York, NY: Springer Berlin Heidelberg, 2016), 103–24; Russell and Norvig, *Artificial Intelligence*; George A. Bekey, *Autonomous Robots: From Biological Inspiration to Implementation and Control*, Intelligent Robotics and Autonomous Agents (Cambridge, Mass: MIT Press, 2005); Sebastian Thrun, Wolfram Burgard, and Dieter Fox, *Probabilistic Robotics*, Intelligent Robotics and Autonomous Agents (Cambridge, Mass: MIT Press, 2005); Roland Siegwart, Illah Reza Nourbakhsh, and Davide Scaramuzza, *Introduction to Autonomous Mobile Robots*, 2nd ed, Intelligent Robotics and Autonomous Agents (Cambridge, Mass: MIT Press, 2011); Sutton and Barto, *Reinforcement Learning*.

degree of autonomy, yet necessitate human involvement and oversight.

Partially Autonomous AI (PAA): These systems, also termed Adaptive Autonomy, necessitate human interaction and intervention when confronted with unanticipated circumstances, even if they are capable of operating autonomously under specific conditions.

Fully Autonomous AI (FAA): These systems are characterised by their capacity for autonomous decision-making, real-time data processing, environmental perception through sensor and sensing systems, and dynamic adaptation to their environment.

Discussions concerning the recognition of personality in the context of AI predominantly focus on FAA systems. Conversely, AI systems that are entirely or predominantly reliant on human intervention are typically excluded from deliberations on the recognition of personality in AI.

3. Classification Of Artificial Intelligence According To Its Cognitive Capacity

The classification is predicated on the cognitive capacity of AI systems, that is, the extent to which these systems are capable of thought and problem-solving. Within the scope of this criterion, AI is divided into four categories:[21]

Reactive Systems (RES): These are systems that are incapable of storing past data, recalling experiences or acquiring knowledge; they merely respond instantaneously to current inputs and are optimised for a specific task. While they can develop complex strategies, they lack the capacity to learn.

[21] Shane Legg and Marcus Hutter, 'A Collection of Definitions of Intelligence,' 2007, 20–22, https://arxiv.org/abs/0706.3639; Russell and Norvig, *Artificial Intelligence*, 1–32; Tegmark, *Life 3.0*, 45–75; Bostrom, *Superintelligence*, 15–45; Wang, 'On Defining Artificial Intelligence,' 10–15; Goodfellow, Bengio, and Courville, *Deep Learning*, 1–20.

Examples include IBM's Deep Blue chess computer and the early versions of Google AlphaGo.

Limited Memory Systems (LMS): These systems possess the capacity to store past data for a limited period, exhibit constrained learning abilities, and utilise stored data and acquired knowledge for future decision-making. This category is widely employed in contemporary applications, including autonomous vehicles and chatbots. Notable examples such as Deepseek and ChatGPT fall within the scope of Limited Memory Systems due to their ability to recall past interactions briefly and demonstrate contextual understanding capabilities. However, due to their absence of a permanent memory and human-like cognitive abilities (e.g. empathy, self-awareness), they are not classified within higher taxonomies such as the Theory of Mind or Self-Awareness.

Theory of Mind Systems (ToMS): These systems possess the capacity to comprehend human emotions, thoughts, and intentions, subsequently acting in accordance with these interpretations. They are capable of interpreting emotional states, exhibiting empathy, and engaging in social interactions. It is important to note that these systems are still in the theoretical stage and have not been fully developed. Advanced social robots are in this category.

Self-Aware Systems (SAS): These are systems that are aware of their own existence and consciousness, can think about themselves, and have human-like emotions and thoughts. It is currently only a theoretical concept and is a type of AI that does not yet exist. It is possible to count the human-like robots in science fiction films in this category.

In this classification, reactive machines are excluded from discussions concerning personality recognition due to their simplicity and inability to draw conclusions beyond the inputs to which they are exposed. Limited memory AI systems and AI systems that can understand human emotions, beliefs and social

interactions are also excluded from these discussions. However, the question of responsibility for damages caused by these systems has already become a significant current debate in the legal world. Conversely, self-aware AI systems are characterised by their ability to comprehend both themselves and the external environment, to interpret it, and to formulate and execute decisions autonomously. Consequently, self-aware AI systems are the focal point of discussions concerning the recognition of personality in AI.

II. DISCUSSIONS ON THE RECOGNITION OF PERSONALITY IN ARTIFICIAL INTELLIGENCE

While discussions on the recognition of personality of AI are discussed ethically, psychologically, sociologically and legally, some authors oppose the recognition of personality of AI, while others argue that ethical personality or legal personality can be recognised.

A. Opposition to the Recognition of Personhood

There are many authors who oppose the recognition of personality in AI. The common point in the views of these authors is that AI is not designed to replace humans, but to help them and facilitate their work. Apart from this common point, it is possible to summarise the justifications of the opinions opposing the recognition of personality of AI as follows:

1. Lack of Consciousness and Understanding

According to the proponents of this standpoint, AI is devoid of genuine consciousness and understanding. Searle, a proponent of this viewpoint, posits that AI is incapable of consciousness and cannot engender meaningful thought, asserting that the process of AI is merely the manipulation of symbols, devoid of any profound understanding[22]. He contends

[22] John R. Searle, D. C. Dennett, and David John Chalmers. *The Mystery of Consciousness*. 1st ed. New York: New York Review of Books, 1997, 50-70

that regardless of the extent of AI's development, it remains incapable of attaining genuine consciousness, as it is a system that solely processes information. Consequently, the notion of recognizing personality in AI becomes moot. Penrose, an advocate of this perspective, posits that the human brain, far from being merely a calculating machine, harbors consciousness processes rooted in quantum mechanics. He contends that AI, by its very nature, operates within the confines of algorithms, rendering it incapable of simulating human consciousness. This, he asserts, precludes the possibility of AI embodying a conscious entity, thus invalidating any attempt to ascribe personality to it.[23]

Bryson (2023) posits that AI systems, irrespective of their sophistication, are devoid of human-like consciousness or autonomy[24]. Consequently, the conferral of legal personality on AI could result in a misallocation of responsibility. Instead of attributing legal personality to AI, the individuals responsible for designing, producing and utilising these systems should be held accountable. AI should be regarded as a tool, and the individuals who utilise this tool should be held responsible for the actions of the AI. For instance, the responsibility for accidents caused by autonomous vehicles should be assigned to vehicle manufacturers or users. The legal personality of vehicles may lead to uncertainty of liability. However, it should be noted that AI systems do not possess moral values like humans and therefore cannot acquire a moral or legal personality. It is crucial to acknowledge that AI is merely a technology and ethical and legal responsibilities should not be disregarded when people use this technology. For instance, in the context of medical diagnosis, the responsibility for errors should be attributed to the individuals or institutions employing the technology, rather than

[23] Roger Penrose, *Shadows of the Mind: A Search for the Missing Science of Consciousness*, 1. paperback ed (Oxford: Oxford Univ. Press, 1996), 12–45.

[24] Joanna J. Bryson, Mihailis E. Diamantis, and Thomas D. Grant, 'Of, for, and by the People: The Legal Lacuna of Synthetic Persons,' *Artificial Intelligence and Law* 25, no. 3 (September 2017): 273–87.

to the technology itself. Bryson proposes that AI systems should be designed according to human ethical values and that the responsibilities of users should be clearly defined. Instead of conferring legal personality on AI systems, it is preferable for these systems to be transparent, accountable, and under human control[25]. The decision-making processes of AI should be transparent and auditable by humans, thereby ensuring that while the legal responsibility is placed on humans, the reliability of the systems is also increased. In conclusion, AI should be regarded as a slave or a tool.[26] In contrast, Bryson asserts that AI may be assigned a limited degree of responsibility, given the ethical implications of its actions. He contends that the evaluation of such systems should be conducted within an ethical framework, contingent on the extent of autonomy exhibited. To illustrate this point, Bryson advances the concept of 'shared responsibility' in the event of an AI system committing an offence. He proposes that this responsibility may be shared among the system's designers and users.[27]

2. Lack of Intuition

Advocates of this perspective posit that while AI can draw conclusions through data interpretation, it lacks the capacity to learn in the manner of humans. This is due to its inability to acquire knowledge intuitively and through experience. In contrast, humans' thought processes and learning abilities are founded on their physical experiences and intuitive knowledge.

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[25] Bryson J, Diamantis, and Grant: 273–87.

[26] Joanna J. Bryson, 'Robots Should Be Slaves,' in *Close Engagements with Artificial Companions: Key Social, Psychological, Ethical and Design Issues*, ed. Yorick Wilks, Natural Language Processing (John Benjamins Publishing Company, 2010), 68–70; Joanna J. Bryson, 'Patiency Is Not a Virtue: The Design of Intelligent Systems and Systems of Ethics,' *Ethics and Information Technology* 20, no. 1 (March 2018): 65–66.

[27] Bryson J, Diamantis, and Grant: 273–87.

Dreyfus contends that the human mind is embodied and situated, and that people's knowledge acquisition and decision-making processes are based on their interactions with their bodies and their environment. In contrast, AI lacks this kind of bodily experience. For example, a human uses bodily experience to learn how to ride a bicycle, but an AI cannot mimic such experience. Furthermore, the acquisition of tacit knowledge and expertise, which is characterised by intuitive and non-intuitive processes, remains beyond the capacity of AI. Human cognition involves a integration of intuitive and non-intuitive knowledge when engaging in complex tasks, a capacity that AI, by its very nature, is incapable of emulating. The inherent intricacies of human intuition and instinct, which are inextricably linked to tacit knowledge, are challenging for AI to replicate. To illustrate this point, consider the case of a chess master who, through intuitive decision-making, makes moves with unerring accuracy. However, an AI system is inherently incapable of simulating such intuitive decision-making processes. Finally, consciousness and phenomenological experience are fundamental features of the human mind, and it is a matter of fundamental difference that AI lacks these. AI can only perform symbolic operations, and these operations cannot create the kind of consciousness or experience that humans have. For example, AI cannot mimic the emotional experience of a human watching a sunset, nor can it mimic the holistic and multidimensional structure of the human mind. It is therefore evident that while AI can perform specific tasks, these tasks represent only a fraction of the vast capabilities of the human mind. Consequently, it can be concluded that the acquisition of a human-like personality is beyond the capabilities of AI.[28]

[28] Hubert L. Dreyfus, Stuart E. Dreyfus, and Lotfi A. Zadeh, 'Mind over Machine: The Power of Human Intuition and Expertise in the Era of the Computer,' *IEEE Expert* 2, no. 2 (June 1987): 110–11; Hubert L. Dreyfus, *What Computers Can't Do: A Critique of Artificial Reason*, 1st ed. (New York: Harper &

3. Social and Ethical Problems

Advocates of this view posit that the attribution of personality to AI will precipitate irreversible social and ethical dilemmas.

According to Lanier, an examination of the philosophical underpinnings of AI's impact on human identity and the concept of personality reveals the potential for deleterious consequences[29]. The attribution of consciousness to AI, he contends, could erode the foundations of human relationships by fostering a perception that AI is an entity akin to human consciousness. This, in turn, could lead to a societal shift where individuals seek to evade responsibility for their actions, attributing them to AI. Furthermore, if AI is shown to be conscious, people can be deceived and manipulated.[30] In contrast, Lanier contends that technology giants present AI as a distinct autonomous entity, thereby rendering human labour and contribution imperceptible. He further asserts that conferring upon AI a personality status may result in a diminution of responsibility for the human designers and companies behind these systems[31]. Moreover, he posits that such a status could potentially confer a form of legal immunity upon the manufacturing companies, thereby ensuring that the human actors who are actually responsible remain in the background.[32] Lanier further posits that the attribution of 'personality' to AI

Row, 1972), 150–80; Hubert L. Dreyfus, *What Computers Still Can't Do: A Critique of Artificial Reason* (Cambridge, Mass: MIT Press, 1992), 200–230; Hubert L. Dreyfus, 'Why Heideggerian AI Failed and How Fixing It Would Require Making It More Heideggerian,' *Philosophical Psychology* 20, no. 2 (April 2007): 247–68.

[29] Jaron Lanier, *You Are Not a Gadget: A Manifesto* (London New York: Penguin Books, 2011), 27–32.

[30] Jaron Lanier, *You Are Not a Gadget*, 27–32.

[31] Jaron Lanier, *Who Owns the Future?* Simon&Schuster trade paperback edition (New York, NY: Simon & Schuster, 2014), 45–50.

[32] Jaron Lanier, *Who Owns the Future?*, 45–50.

through the process of anthropomorphising it, that is to say, humanising it, will result in individuals ascribing an excessive degree of emotional or ethical significance to these systems and consequently misapprehending the limitations of humanity. On these grounds, it is argued that AI should not be granted legal or ethical personality.[33] Lanier proposes the concept that the designation of AI should be maintained as a thing or instrument, as opposed to its utilisation as a legal term. Instead, he advocates for its position as a philosophical stance.

Metzinger defends a similar standpoint, contending that the acceptance of AI as a conscious being would necessitate the conferral of rights upon it[34]. He further asserts that such a recognition would engender an ethical illusion, as it would imply that a being without genuine consciousness possesses the qualities of a moral entity[35]. Additionally, Metzinger contends that the bestowal of rights upon an artificial entity devoid of emotions could potentially diminish the significance of human rights. Consequently, he argues that AI cannot be regarded as an ethical entity and should never be regarded as a moral subject.[36]

Those who oppose the recognition of personality to AI emphasise the inability to propose a logical solution as to what the sanctions will be in case of criminal acts. In practice, it will not be possible to impose sanctions such as imprisonment or judicial fines on machines with AI, which are specific to humans. For example, it will not be possible to imprison a robot. Even in the hypothetical scenario of confining a robot within a room, this action would hold no legal merit in the context of criminal law.

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[33] Lanier, *You Are Not a Gadget*, 67.

[34] Thomas Metzinger, 'Artificial Suffering: An Argument for a Global Moratorium on Synthetic Phenomenology,' *Journal of Artificial Intelligence and Consciousness* 08, no. 01 (March 2021): 45–66.

[35] Metzinger, 45–66.

[36] Metzinger, 45–66.

B. Opinions in favour of Personhood Recognition

Opinions that argue for the possession of personality by AI tend to emphasise the advanced cognitive abilities, autonomy, and human-like behaviour exhibited by such entities. The debate encompasses a spectrum of positions, with some proponents arguing for the legal recognition of AI as a personality, while others contend for its moral recognition. A third viewpoint asserts the need for a more limited form of personality recognition.

1. Recognition of Legal Personality Opinion

The argument posited by authors who advocate for the legal personality of AI is that such personality is necessary to regulate the legal liability of autonomous systems, including autonomous vehicles and commercial AIs. In support of this position, proponents of this argument cite the increasing autonomy of AI systems and their ability to make decisions without human intervention. They contend that, in order to distribute legal responsibilities in a fairer manner and enable these systems to assume their legal responsibilities, a form of legal personality should be recognised.[37]

As posited by the proponents of this perspective, the current legal framework lacks clarity regarding the allocation of responsibility for damages incurred by AI systems. The acknowledgement of legal personality within the existing legal structure would facilitate the attribution of responsibility to AI.[38] Conversely, the capacity for autonomous learning and decision-making is a hallmark of AI systems. The learning process of such

[37] Zeynel T. Kangal, *Yapay Zeka ve Ceza Hukuku* (İstanbul: On İki Levha Yayıncılık, 2021), 45–52.

[38] Ugo Pagallo, *The Laws of Robots: Crimes, Contracts, and Torts*, Law, Governance and Technology Series 10 (Dordrecht Heidelberg New York London: Springer, 2013), 80–95; Lawrence B. Solum, 'Legal Personhood for Artificial Intelligences,' *North Carolina Law Review* 70, no. 4 (January 4, 1992): 1245–50.

systems often transcends human control, rendering it inequitable to attribute responsibility for outcomes derived from external learning processes to human individuals. Consequently, it is imperative to acknowledge the legal personality of AI and to distribute responsibility in a shared manner.[39]

Solum's position, which is supported by others in the field, is that AI systems are capable of making complex decisions without human intervention. This autonomy, however, necessitates the acquisition of legal personality by AI[40]. To illustrate this point, consider an autonomous vehicle that is capable of making decisions in a sudden situation while adhering to traffic regulations. In such an event, the traditional allocation of responsibility for an accident caused by the vehicle to the vehicle manufacturer or the user would no longer be valid. Instead, the vehicle itself should be regarded as having legal personality. Conversely, the capacity of AI to execute sophisticated tasks that exceed the capabilities of humans is well-documented. A notable illustration of this is the capacity of an AI system to autonomously execute financial transactions in financial markets. In such scenarios, the recognition of a certain degree of legal personality is imperative to enable AI to assume legal responsibility.

According to Abbott, the capacity of AI to produce creative works, including artistic creations, painting, music and literature, is well-documented. In order to protect the copyright of these works, it is argued that AI should be granted legal personality[41]. Colo and Pagallo posit that this personality should not be considered as full, but rather as limited. This limited

[39] Martin Ebers, 'Regulating AI and Robotics: Ethical and Legal Challenges,' in *Algorithms and Law*, ed. Martin Ebers and Susana Navas, 1st ed. (Cambridge University Press, 2020), 50–55.

[40] Lawrence B. Solum, "Legal Personhood for Artificial Intelligences." *North Carolina Law Review* 70, no. 4 (January 4, 1992): 1231–87

[41] Ryan Abbott, 'I Think, Therefore I Invent: Creative Computers and the Future of Patent Law,' *SSRN Electronic Journal*, 2016, 1100–1105.

personality should acknowledge the autonomy of AI in specific domains, such as commercial transactions or the production of artefacts. However, it should not confer upon AI full legal or moral personality. The implementation of a limited personality would offer a pragmatic solution to regulate the legal and moral responsibilities of AI, thereby mitigating the ambiguity surrounding this issue.[42]

The legal personality that is proposed to be recognised for AI is referred to as the 'electronic personality'. Within the European Parliament report, the proposal for the recognition of electronic personality is outlined as:[43] 'Art. 59/f) creating a specific legal status for robots in the long run, so that at least the most sophisticated autonomous robots could be established as having the status of electronic persons responsible for making good any damage they may cause and possibly applying electronic personality to cases where robots make autonomous decisions or otherwise interact with third parties independently'.

2. Recognition of Moral Personality

The concept of moral personification of AI posits that AI is capable of exhibiting human-like emotional and cognitive abilities and can make moral decisions. Consequently, proponents of this theory contend that AI should be accorded a moral status.[44]

Floridi, a prominent scholar in the domain of epistemology and ethics, examines the recognition of personality in AI from the vantage point of information ethics. In his perspective, Floridi propounds that in a future where AI possesses the

[42] Ryan Calo, 'Robotics and the Lessons of Cyberlaw,' SSRN Scholarly Paper (Rochester, NY: Social Science Research Network, February 28, 2014), 540–45; Pagallo, *The Laws of Robots*, 80–95.

[43] 'EP REPORT, A8-0005/2017,' 17–20.

[44] Mark Coeckelbergh, 'Robot Rights? Towards a Social-Relational Justification of Moral Consideration,' *Ethics and Information Technology* 12, no. 3 (September 2010): 215–18; David J. Gunkel, *Robot Rights* (The MIT Press, 2018), 45–60.

capacity to make autonomous decisions, these systems ought to be recognised as moral agents.[45] Floridi further elaborates that an entity's moral personality is not contingent on its possession of consciousness or on its resemblance to a human subject. Instead, the pivotal criterion is the entity's ability to engender moral consequences and to be held accountable for these consequences. Furthermore, Floridi contends that AI systems should be subject to ethical evaluation insofar as they are capable of interacting with their environment and engendering moral outcomes. To illustrate this point, Floridi cites the example of an autonomous vehicle that causes an accident, in which responsibility for the incident should be attributable not only to the designer or the user, but also to the system itself.[46]

Bostrom, an expert in the field of AI and its future implications, posits the hypothesis that the development of AI may eventually transcend human control.[47] He does not perceive the recognition of personality in AI as a direct legal issue, but rather as an ethical obligation. This is due to the fact that advanced forms of AI, particularly superintelligence, possess the capacity to define their own objectives and undertake autonomous actions in accordance with these objectives. Consequently, it is imperative to establish a legal framework within which AI systems that attain superintelligence can be held morally responsible for their actions.[48]

Gunkel's (2023) critique of traditional ethical understandings is underpinned by the concept of 'relational ethics'.[49] The author challenges the prevailing notion of moral status being exclusive to humans and living beings, proposing that AI systems should be regarded as ethical subjects when they

[45] Luciano Floridi, *The Ethics of Information* (Oxford: Oxford University Press, 2014), 135–50.
[46] Floridi, *The Ethics of Information*, 135–50.
[47] Bostrom, *Superintelligence*, 167–80.
[48] Bostrom, *Superintelligence*, 167–80.
[49] Gunkel, *Robot Rights*, 95–110.

demonstrate autonomous behaviour and engender moral consequences. According to Gunkel, the moral status of an entity is derived from its relationships with other entities. To illustrate this point, Gunkel offers the example of a social robot that is capable of forming emotional bonds with humans. In this scenario, the question of whether the robot possesses a moral status is raised, and the robot is recognised as a moral personality.[50]

C. Evaluation of Opinions and Our Own Opinions

1. Our Considerations on the Problem of Lack of Consciousness, Understanding and Intuition

As outlined above, the issue of the absence of consciousness, understanding and intuition is a central tenet of the arguments presented in the discourse on the recognition of personality in AI. Contemporary studies in the field of AI are progressing at an accelerated pace, and the level of consciousness and understanding of AI is rapidly escalating. Notwithstanding Searle's position that AI is incapable of consciousness or meaningful thought, and that its processes are confined to the manipulation of symbols without underlying understanding, contemporary informatics, technology and AI studies have progressed to an extent that far surpasses that of 1997, the year of publication of the article containing Searle's views. Significant advancements in the field of AI, exemplified by models such as ChatGPT, DeepSeek, and Grok, have emerged since then. Notably, the development of autonomous vehicles and weapon systems has also progressed significantly during this period. It is important to note that the early years of the internet, specifically web 1.0, and the concept of social media were yet to materialise. Consequently, the hypothesis that '*no matter how much AI develops, it cannot develop a real consciousness, because it is a system*

[50] Gunkel, *Robot Rights*, 95–110.

that only processes information', which was defended from the perspective of 1997, has lost its validity today. Although Bryson's views in the same direction are more recent, it is not possible to accept them as valid for the reasons explained. In fact, Kosinski has proposed that large language models (LLMs) may have spontaneously developed a 'Theory of Mind – ToM' like ability found in humans, which lends further support to the notion that AI can exhibit human-like cognitive features.[51]

The hypothesis proposed by Penrose during the same period that 'the human brain is not merely a calculating machine, that it contains consciousness processes based on quantum mechanics, and that AI, which functions solely with algorithms, is incapable of simulating human consciousness' has also become invalid. This is due to the fact that quantum mechanics is no longer a technology that is inaccessible. Currently, computers that operate with quantum mechanics have been developed and are operational.

In the ongoing discourse surrounding the question of whether AI is devoid of consciousness, understanding or intuition, the fundamental question that must be posed is whether it is necessary for AI to possess these qualities in order to be recognised as having legal personality. In this author's opinion, it is not essential for AI to be conscious, insightful or intuitive in order to be recognised as having legal personality. It is evident that different legal systems across various countries have recognised legal personality in different structures or entities when the society has required it to do so. To illustrate this point, we may consider the organism called a state. This state lacks concrete existence, as well as consciousness, understanding and intuition. Nevertheless, the state constitutes the largest legal entity, and it establishes relations with other states, companies and individuals, and can acquire rights against them as well as

[51] Michal Kosinski, 'Evaluating Large Language Models in Theory of Mind Tasks,' 2023, 1–10.

become indebted to them. In a similar fashion, companies also do not have a tangible existence. Real or legal persons come together and sign a contract to establish a legal entity called a company. This legal entity engages in commercial relations with other companies or individuals through its organs, acquires rights and assumes debts. It can be concluded that this legal entity, referred to as a company, does not possess the qualities of consciousness, understanding or intuition. A similar argument can be made for other legal entities, including associations, foundations, universities and sports clubs. Consequently, it can be concluded that an entity's recognition as a 'person' by the legal order is not contingent upon possession of consciousness, understanding or intuition. Instead, the prerequisite for recognition as a person is the acknowledgement by social need and the legal order. Therefore, the discourse surrounding the recognition of AI as a person, centred on the concepts of consciousness, understanding and intuition, is a futile exercise.

2. Our Considerations on the Problem of Social and Ethical Problems

The notion of AI possessing consciousness poses a significant challenge to the concept of human identity and the understanding of personality. The potential repercussions of attributing consciousness to AI include the potential for human relations to be adversely affected. Furthermore, the attribution of personality to AI could potentially lead to a shift in responsibility for personal errors, resulting in individuals seeking to absolve themselves of accountability. The concept of AI being conscious, as proposed by Lanier, could potentially lead to deception and manipulation. Granting personality to AI will cause people to attribute too much emotional or ethical meaning to these systems and cause humanity to misunderstand its own limits (Lanier, 2010). Firstly, the personality to be legally recognised in AI is not the status of a real person (human). Secondly, all issues related to responsibility can be easily resolved fairly by law. Indeed, the

legal system is capable of addressing far more complex issues within its own framework. The question of liability for damages caused by AI can be readily resolved by considering different scenarios.

In a manner similar to that of Lanier, Metzinger's position is that if AI is to be regarded as a conscious being, then it may be necessary to accord it rights. However, the notion that rights should be granted to an entity that is not truly conscious would engender an ethical illusion, with the result that human rights may be undermined. For these reasons, the argument advanced by Metzinger is that AI should never be accepted as a moral subject. It should be noted, however, that the personality to be granted to AI is not that of a real person (human).

As explained in the preceding section, the granting of personality to companies, foundations, associations and sports clubs did not lead to social turmoil or ethical problems, and people did not question their own existence in the face of the personality granted to these entities. On the contrary, granting personality to these entities has contributed to the social order and enabled people to conduct their relations with these entities in a more conscious manner. The granting of personality to AI with certain qualities will benefit the establishment of order and the elimination of chaos between this AI and individuals and society. Thus, human and AI will know their social status and act according to this status. On the contrary, if AI is not recognised as a person, the relations between AI and individuals will continue in a state of chaos and uncertainty. This uncertainty will be the main factor that will lead to social and ethical uncertainties.

AI is a reality of today's world that cannot be ignored. Its use continues to increase day by day due to the benefits it provides. It is predicted that we will reach the stage of super intelligence in the not distant future and humanoid robots will emerge and start to be used. Therefore, instead of ignoring the reality of AI

and keeping it outside the field of law, it is imperative to determine their status correctly, to eliminate uncertainties and to make the necessary arrangements by the legal order.

III. OUR PROPOSAL: INTEGRATED PERSONALITY

As previously outlined, this section will summarise the discussions on the recognition of personality in AI, and the author's views on this matter. AI is one of the most significant technological developments of the information society. The capacity, level of consciousness, intuition and autonomy of AI are rapidly increasing on the road from ANI to ASI. In view of this rapid progress, it would be reasonable to hypothesise that AI could potentially reach the ASI level within the near future. In this context, it would be illogical to evaluate a simple (narrow) AI and an AI that has reached the ASI level in the same manner. It is also important to note that it would be illogical to evaluate AI that is in the nature of a computer programme, such as language models used in personal computers, and AI that is embedded in a humanoid robot and adds abilities such as consciousness, intuition and autonomy. Therefore, the direction of the discussion should evolve from the question '*should AI be given personality?*' to the question '*which AI should be given what kind of personality?*'. In our opinion, the establishment of criteria is imperative. These criteria should be formulated through a meticulous evaluation of the divergent views on the recognition of personality in AI. This evaluation should encompass the views that oppose the recognition of personality in AI, as well as the views that advocate for its recognition. Furthermore, the social and legal needs must be taken into consideration, in addition to the technical characteristics of AI. Once these criteria have been meticulously delineated, an evaluation can be conducted. In summary, rather than accepting or rejecting the notion of recognising personality through an abstract consideration of AI, it is proposed that specific criteria be applied, and that only the

AI which meets these criteria should be granted legal personality.

The concept of AI is a system produced by humans for the benefit of other humans. The utilisation of AI invariably carries with it both positive and negative consequences, which also impact human beings. Consequently, when AI causes harm to other members of society, it can be argued that an asset that benefits one person directly causes harm to another. In essence, this means that human beings are both the cause and the consequence of the harm. The owner's intention to cause harm is not a mitigating factor, as the harm is caused by the use of a tool designed to enhance the owner's quality of life, facilitate work, or generate benefits. This causal relationship can be expressed as '*this harm would not have occurred if the owner had not used the AI that harmed him*'. To illustrate, if the proprietor of a robot had not procured and utilised the robot, it would not have caused harm to another during the performance of its owner's work. Similarly, when an autonomous vehicle causes harm to a pedestrian while transporting its owner from one location to another, there is a direct connection between this harm and the performance of the autonomous vehicle's owner's work or comfort. Consequently, it is not feasible to consider the personality to be recognised in AI as a wholly distinct personality from the actual person who is the owner of this AI. Therefore, the personality to be recognised in the AI must be 'integrated' with the main person.

For the reasons outlined above, we refer to this personality model, which we describe in detail below, as 'Integrated Personality' (InPer). We call AI systems that are recognised as InPer as 'InPerAI'. InPerAI can be Integrated with a human being, or it can be Integrated with a legal entity such as a company, foundation, association or public institution. We refer to the natural or legal person to which InPerAI is integrated as 'Main Person' (MaPer). The important point in terms of the link between InPerAI and MaPer is that the rights, debts and responsibilities arising as a result of the works and transactions

carried out by InPerAI can be attributed to a natural or legal person who is the owner of InPerAI. A real person representing the legal entity that owns the InPerAI integrated with legal entities can also be a MaPer. The issue can be resolved by making legal arrangements on this issue.

A. The Type of Artificial Intelligence That Should Be Recognized as Integrated Personality

In order to determine the classes of AI that should be recognised as InPerAI, it is necessary to consider the classification of AI that was made above (I.B).

Within the '*Capabilities*' classification, ANI falls under the category of AI systems that are designed exclusively for specific tasks or task sets. These systems are characterised by their absence of self-awareness and consciousness. It is imperative to recognise that an AI system should not be considered as having AGI capabilities unless it exhibits self-awareness and consciousness. AGI possesses the capacity to comprehend, learn and apply information in a manner that is indistinguishable from human intelligence across a diverse range of tasks, and to generalise information. It has been theorised that AGI can emulate human intelligence, exhibiting reasoning, problem-solving and abstract thinking abilities. Indeed, it is hypothesised that AGI can fulfil any intellectual task that a human can do. Furthermore, AGI is also self-aware. ASI, meanwhile, is AI that exceeds human intelligence and human cognitive abilities in all aspects, including creativity, problem-solving, emotional intelligence and general wisdom. In addition to AGI, ASI is capable of self-improvement and iterative learning. Consequently, it is argued that AGI and ASI level AI systems possess the capacity to emulate human behaviour. Therefore, we assert that for AI to be recognised as InPer, it must exhibit AGI or ASI characteristics.

Within the '*Autonomous Movement Capacity*' classification, NAA systems are entirely dependent on humans and thus lack an independent existence. Furthermore, NAA systems are predominantly reliant on human intervention. While PAA possesses the capacity to move relatively independently, it does not demonstrate a fully independent existence without human intervention. It is not permissible to grant InPer to systems that lack the capacity to act autonomously and have not achieved full independence from humans. In contrast, FAA systems are characterised as AI systems that are capable of making decisions independently, perceiving their environment, and acting in accordance with the dynamic environment they perceive. Consequently, it is proposed that AI systems that will be recognised as InPer should possess the capacity to act at the FAA level.

Within the '*Cognitive Capacity*' classification, RESs should be excluded from InPer recognition discussions as systems that cannot store past data, cannot remember experiences, cannot learn, and only react instantaneously to current inputs. LMSs have the ability to store data for a certain period of time, have limited learning ability, short-term recall of past interactions and contextual understanding. Nevertheless, they should be excluded from InPer recognition discussions as they do not possess a permanent memory or human-like cognitive abilities. ToMSs are able to understand and interpret human emotions, thoughts and intentions, empathise and interact socially. However, since they are not aware of their own existence and consciousness, ToMSs should not be recognised as InPer. Conversely, SASs are characterised by their awareness of their own existence, consciousness, introspection, and the capacity for human-like emotions and thoughts. In our opinion, the concept of InPer recognition should be reserved exclusively for SASs within this classification.

As a result; it is evident that a comprehensive evaluation of all classifications is imperative, and it is only in instances where AI systems exhibit features of AGI/ASI, FAA and SAS that InPerAI should be granted. The systems that are to be recognised with InPerAI must possess all the features specified in terms of these three classifications. Conversely, an AI system lacking any of these features should not be granted InPerAI.

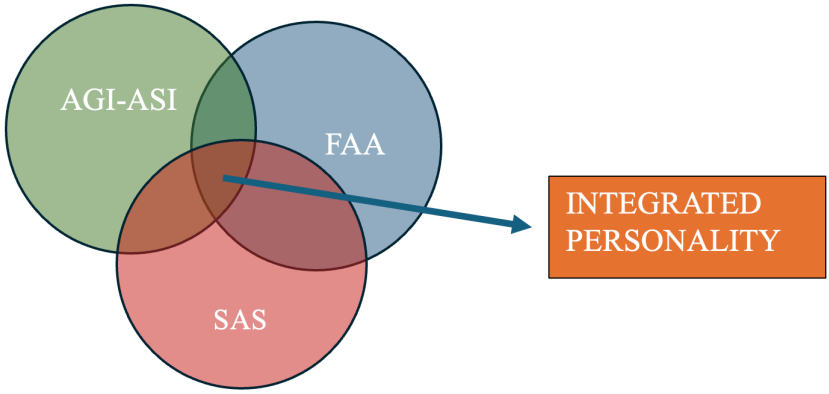

Figure 1 Integrated Personality Schema

B. Legal Establishment of Integrated Personality

AI systems are rapidly becoming more effective and at the same time more dangerous with each passing day. Considering the comfort and convenience they add to human life, on the one hand, the development and production of AI systems should be supported, on the other hand, taking into account the damages that AI can cause and the crimes it can be involved in, it is imperative to meticulously supervise the processes of assigning the InPer and the ownership of the InPerAI, starting from the first production moment of AI systems that have the characteristics to be recognised as InPer. For this reason, states (or supranational organisations) need to set strict and detailed rules and make the necessary regulations.

Due to the social impacts that AI with a high technical and consciousness level will cause, only companies that meet predetermined technical, ethical and legal qualifications should be allowed to produce AI systems of this nature. In this context, companies wishing to produce AI systems that will be recognised as InPer should obtain a licence from a public authority to be determined by law. Thus, it should be prevented that every company that wants to produce AI systems that will be recognised as InPer. Strict and detailed legal, technical and ethical rules should be established for licensing these companies.

AI systems produced by licensed companies should be registered in a registry (InPerAI Registry)[52] to be created specific

[52] The AI ACT regulated the creation of a database for high-risk AI systems. 'EU database for high-risk AI systems listed in Annex III' Art. 71 entitled 'EU database for high-risk AI systems listed in Annex III;

'1. The Commission shall, in collaboration with the Member States, set up and maintain an EU database containing information referred to in paragraphs 2 and 3 of this Article concerning high-risk AI systems referred to in Article 6(2) which are registered in accordance with Articles 49 and 60 and AI systems that are not considered as high-risk pursuant to Article 6(3) and which are registered in accordance with Article 6(4) and Article 49. When setting the functional specifications of such database, the Commission shall consult the relevant experts, and when updating the functional specifications of such database, the Commission shall consult the Board.

2. The data listed in Sections A and B of Annex VIII shall be entered into the EU database by the provider or, where applicable, by the authorised representative.

3. The data listed in Section C of Annex VIII shall be entered into the EU database by the deployer who is, or who acts on behalf of, a public authority, agency or body, in accordance with Article 49(3) and (4).

4. With the exception of the section referred to in Article 49(4) and Article 60(4), point (c), the information contained in the EU database registered in accordance with Article 49 shall be accessible and publicly available in a user-friendly manner. The information should be easily navigable and machine-readable. The information registered in accordance with Article 60 shall be accessible only to market surveillance authorities and the Commission,

to these systems from the moment of production. In this registry, which will be created in electronic environment, the name, model, year of production, all technical specifications and other necessary information of the AI system should be recorded. This registry, which is digitally accessible to persons, will, on the one hand, enable persons wishing to purchase InPerAI to access the information of the InPerAI they wish to purchase, and on the other hand, in case of any damage or liability, it will enable the identification of the MaPer to which InPerAI is integrated.

The AI to be recognised as InPer must be registered in the register as soon as its production is completed in the factory. At the moment of this registration, InPer will have legally started. Thus, the registration in the InPerAI Registry will have a constitutive effect for the start of the InPerAI. However, InPerAI must be kept in a semi-active or deactive mode, which can also be described as 'factory mode', until it is sold to MaPer, where it will be Integrated. InPerAI should be put into active mode after it is sold by the manufacturer and delivered to the buyer. Thus, the responsibilities of InPerAI will belong to the manufacturer during the period when it is in semi-active or deactive mode and will belong to MaPer during the period when it is active.

It should also be possible to buy and sell InPerAI on the second-hand market. Such transactions must be registered with the InPerAI Registry. The sale transaction must be valid from the

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unless the prospective provider or provider has given consent for also making the information accessible the public.

5. The EU database shall contain personal data only in so far as necessary for collecting and processing information in accordance with this Regulation. That information shall include the names and contact details of natural persons who are responsible for registering the system and have the legal authority to represent the provider or the deployer, as applicable.

6. The Commission shall be the controller of the EU database. It shall make available to providers, prospective providers and deployers adequate technical and administrative support. The EU database shall comply with the applicable accessibility requirements.'

moment of registration in the InPerAI Registry. Thus, while all rights and responsibilities are in the old MaPer until the moment of registration of the purchase and sale transaction, all rights and responsibilities will be transferred to the new MaPer as of the registration.

C. Legal Consequences of Establishing an Integrated Personality

The establishment of InPerAI has given rise to a number of issues in the legal sense, including the ability to acquire rights and obligations in its own name, the possibility of being liable for tortious acts, and the possibility of criminal liability.

1. InPerAI's Rights and Capacity to Act

It is crucial to note that InPerAI must not possess the capacity to exercise rights and assume debts independently of the MaPer with which it is integrated. The capacity of InPerAI to exercise rights must be contingent upon MaPer's capacity to exercise rights. Consequently, all rights and obligations of InPerAI must originate from MaPer with which it is integrated. It is not permissible for InPerAI to possess rights that are specific to humans due to their nature, such as marriage.

Since InPerAI lacks the capacity to have rights, it should not have the capacity to act, which is the capacity to acquire rights and incur obligations through its own actions. However, it is essential to acknowledge the capacity of InPerAI to engage in legal transactions and to execute contracts on behalf of MaPer, provided that these actions remain within the scope of the authorisations granted by MaPer. It is imperative to emphasise that all rights and obligations arising from these legal transactions made by InPerAI must accrue to MaPer.

According to Article 40/1 of the Turkish Code of Obligations, which governs direct representation, 'The consequences of a legal transaction performed by an authorised representative on

behalf of and for the account of another person shall directly bind the represented party.' The relationship between InPerAI and MaPer is therefore of the same nature as a direct representation relationship. Therefore, the rules governing direct representation authority may apply to InPerAI's representation of MaPer with regard to the scope of authority vis-à-vis third parties. However, unlike direct representation, MaPer remains liable for any damages incurred by third parties as a result of InPerAI exceeding the authority granted to it, since InPerAI lacks independent legal personality, legal capacity, and capacity to act.

In accordance with Article 40/1 of the TCO, which governs the direct representation relationship,[53] '*The consequences of a legal transaction made by an authorised representative on behalf and account of another person shall bind the person directly represented*'. Evidently, the relationship between InPerAI and MaPer is of the same nature as the direct representation relationship. Consequently, it may be feasible to adapt the existing rules regarding the scope of authorisation in terms of third parties to the representation of MaPer by InPerAI. However, in contrast to direct representation, given that InPerAI lacks an independent personality, capacity of right and capacity to act, MaPer should be held liable for any damages incurred by third parties resulting from the exercise of authority that exceeds the scope of the delegation from InPerAI.

[53] For a detailed exposition of the direct representation relationship, refer to M.Kemal Oğuzman and M.Turgut Öz, *Borçlar Hukuku, Genel Hükümler*, 15th ed., vol. 1 (İstanbul: Vedat Kitapçılık, 2017), 215; Fikret Eren, *Borçlar Hukuku, Genel Hükümler*, 21st ed. (Ankara: Yetkin, 2017), 444–46; Ahmet M. Kılıçoğlu, *Borçlar Hukuku: Genel Hükümler*, 26th ed. (Ankara: Turhan Kitabevi, 2022), 306–7; Özcan Günergök and Şaban Kayıhan, *Borçlar Hukuku Dersleri (Genel Hükümler)*, 1st ed. (Kocaeli: Umuttepe Yayınları, 2020), 171.

2. InPerAI's Tort Liability

Since all supervision and control responsibility of InPerAI belongs to MaPer, and since InPerAI's capacity of right and capacity to act depend on MaPer, MaPer should be responsible for the compensation of all damages arising from the wrongful acts committed by InPerAI. Here, a situation of strict liability arising from the objective duty of care should be regulated. On the other hand, it is also suggested that a liability similar to the 'dangerous animal' liability regulated under English law may be envisaged.[54]

Benli and Şenel, who examine the issue in terms of strict liability in Turkish law, base their classification on the cognitive capacity of artificial intelligence;[55] they state that first and second class artificial intelligence systems are considered objects and therefore cannot be held liable for tort, but that third and fourth class artificial intelligence systems are on the verge of being developed and therefore their liability should be considered.[56] Benli and Şenel state that, due to the lack of personality of artificial intelligence today, the provisions of Article 66 of the Turkish Code of Obligations (TCO) on the liability of employers cannot be applied to artificial intelligence, but that this may be possible in the future if artificial intelligence is granted personality.[57] Similarly, the provisions of Article 116 of the TCO on the liability of agents may be applied to artificial intelligence if it is granted electronic personality.[58] According to Benli and Şenel, the provisions on the 'responsibility of the keeper of an animal' in Articles 67 and 68 of the TCO will be insufficient for

[54] Sam Lehman-Wilzig, 'Frankstein Unbound: Towards a Legal Definition of Artificial Intelligence,' *Future*, December 1981, 448.
[55] Erman Benli and Gayenur Şenel, "Yapay Zeka ve Haksız Fiil Hukuku (AI and Tort Law)" *ASBÜ Hukuk Fakültesi Dergisi* 2, no:2 (2020): 296-336.
[56] Benli and Şenel, 319-320.
[57] Benli and Şenel, 321-322.
[58] Benli and Şenel, 322-323.

third and fourth-class artificial intelligence, as their level of consciousness will be very high. Therefore, their application is not possible.[59] The provisions on general liability for danger set forth in Article 71 of the TCO may also find application in relation to third- and fourth-class artificial intelligence systems.[60]

It is this author's opinion that the regulation on the 'liability of the animal keeper' (Articles 67 and 68 of the TCO) can be adapted in terms of the tortious acts caused by InPerAI. The relevant regulations are as follows:

> *Art. 67: '(1) A person who permanently or temporarily undertakes the care and management of an animal is liable to repair the damage caused by the animal.*
>
> *(2) The keeper of an animal shall not be held liable if he can demonstrate that he exercised due care to prevent the damage.*
>
> *(3) If the animal has been startled by another person or by an animal belonging to another person, the keeper reserves the right of recourse to such persons'.*
>
> *Art. 68: '(1) In the event that the animal of one person causes damage to the immovable property of another, the possessor of the immovable property is entitled to seize the animal, detain it until the damage is repaired or, if the circumstances justify it, neutralise it by other means.*
>
> *(2) In such a scenario, the owner of the immovable property is obligated to promptly inform the owner*

[59] Benli and, Şenel, 324-325.

[60] Benli and Şenel, 328.

of the animal and, in the event that the owner is unknown, to undertake the requisite measures to ascertain their identity'.

A similar provision in this regard is found in Article 833 of the German Code of Obligations (Bürgerliches Gesetzbuch, BGB). According to this provision;

'(1) If an animal kills a person, injures a person's body or health or damages an object, the person keeping the animal is obliged to compensate the injured party for the damage caused.

(2) The obligation to pay compensation does not apply if the damage is caused by a pet animal which is used for the purpose of the keeper's occupation, gainful employment or maintenance, and if either the keeper of the animal exercised the care required in traffic when supervising the animal, or if the damage would have occurred even if such care had been exercised'.

It is evident that both provisions of the TCO and the BGB establish the principle of liability for damages caused by animals on the animal owner. However, it is important to note that these provisions also stipulate an exemption from liability for damage caused, if the animal owner can demonstrate that they have exercised due diligence.[61] In alignment with the provisions stipulated in the TCO and the BGB, MaPer should be held accountable for the damages caused by InPerAI. However, this liability should be contingent upon the demonstration of due diligence on the part of MaPer.

[61] Ecem Aycan Çınar, 'Hayvan Bulunduranın Sorumluluğunda Hayvan Bulunduran Kavramı,' *Konya Barosu Dergisi*, no. 1 (2024): 97–123.

In the doctrine, the argument is made that the provisions on equitable liability, employer's liability and hazard liability,[62] which are among the cases of strict liability, may be applicable.[63] In this author's opinion, although hazard liability is more acceptable in terms of autonomous vehicles, the application of the provisions on the liability of the animal keeper will be a more logical solution for InPerAI, which has consciousness.

3. InPerAI's Criminal Liability

The criminal liability of AI is a significant topic in both legal and ethical discourse. In the context of personal criminal responsibility, the question of whether real persons can be held liable for crimes perpetrated by AI systems is a salient issue. Conversely, it appears ethically contentious for real persons, who benefit from the myriad advantages of AI, to retain complete exemption from criminal responsibility in cases where AI is implicated in criminal acts. These debates have become a significant focal point on the agenda of contemporary criminal doctrine.[64]

In the doctrine, four main views are prominent in the discussions on whether AI will be criminally liable:

a. Arguments in Favor of Individual Criminal Liability for Artificial Intelligence

Defenders of this view posit that an AI with a sufficient level of consciousness will exhibit human-like decision-making abilities, the capacity to understand and perceive its environment, and the ability to understand the consequences of

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[62] For an exposition of the conditions under which autonomous vehicle operators may be held liable on the basis of hazard liability, reference is invited to Okur, *Otonom Araçlarda Sorumluluk*, 88–152.

[63] Raci Çetin Yüksekbaş, *Otonom Araçların Haksız Fiil Sorumluluğu* (Ankara: Seçkin, 2024), 63–76.

[64] Kangal, *Yapay Zeka ve Ceza Hukuku*, 55–64.

its actions. As AI possesses these qualities and therefore has a legal personality, it should also be held criminally liable.[65]

This standpoint is internally coherent; however, it remains to be seen whether the legal community will embrace the notion of AI as a legal entity.

b. Arguments in Favor of the Responsibility of Manufacturers and Developers

Proponents of this view posit that if AI, regarded as a product, results in criminal activity, this is attributable to defects and design flaws in AI systems, irrespective of whether AI is recognised as an independent entity. They contend that manufacturers and developers should be held criminally liable for any offences perpetrated by AI.[66]

It is not possible to accept that the offences committed by AI systems are always caused by the manufacturer or developer. These offences may sometimes result from the user's instructions. In such cases, it is not legally possible to hold the manufacturer or developer responsible.[67]

c. Arguments in Favor of the Responsibility of Users

Proponents of this view posit that entities utilising AI should be held accountable for any offences caused by these systems. This accountability encompasses both criminal and compensatory responsibilities, with the magnitude of responsibility increasing in cases of deliberate or malicious misuse. Users are obligated to employ and supervise AI systems in a proper manner.[68]

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[65] Solum, 'Legal Personhood for Artificial Intelligences.'
[66] Ryan Calo, 'Artificial Intelligence Policy: A Primer and Roadmap,' *University of Bologna Law Review,* 3, no. 2 (n.d.): 180–218.
[67] Yüksekbaş, *Otonom Araçların Haksız Fiil Sorumluluğu*, 123–37.
[68] Ebers, 'Regulating AI and Robotics.'

Proponents of this perspective have overlooked the potential for production errors to contribute to the issue. However, it is important to note that errors in use and production of AI systems may also be a contributing factor to any resulting offences.

d. Arguments in Favor of the Mixed Responsibility Model

Hildebrandt (n.d.) defends the necessity of an objective assessment of liability arising from damages caused by AI. Such liability may originate from the manufacturer, developer, user, the AI itself, or a combination of these actors. In such cases, the responsible party should be identified by determining the underlying cause of the damage. Since multiple factors may contribute to the harm, apportionment of liability becomes essential. For instance, if the damage results from both a manufacturing defect and user error, the liability may appropriately be shared between the manufacturer and the user.[69]

The mixed liability approach offers a more equitable solution compared to other theories, as it does not operate on a presumption of culpability but rather seeks to objectively determine who is factually responsible for the damage that has occurred.[70]

The AI Act introduces obligations for providers, authorised representatives, importers, distributors, deployers, notified bodies, and Union institutions, bodies, offices, and agencies, and stipulates the imposition of administrative fines in the event of non-compliance with these obligations (Art. 99–101). Although these liability provisions and sanctions are significant for

[69] Mireille Hildebrandt, 'Law as Computation in the Era of Artificial Legal Intelligence: Speaking Law to the Power of Statistics,' *University of Toronto Law Journal* 68, no. supplement 1 (n.d.).

[70] Tarık T Yazıcılar, *Otonom Araçların Kullanımından Doğan Cezai Sorumluluk* (Ankara: Seçkin, 2022), 80–86.

understanding the regulatory perspective of the AI Act, they do not constitute criminal penalties in the sense of criminal law.[71] Accordingly, the AI Act does not include any provisions regarding criminal liability for offences caused by AI.

e. Our Opinion on the Criminal Liability of InPerAI

As summarised above, although there is still no consensus in the academic literature regarding the criminal liability of AI, it is observed that scholarly discussions predominantly focus on the apportionment of liability among the manufacturer, the user, and the AI itself. The absence of globally established legal regulations on the criminal liability of AI further contributes to the intensification of these debates.

In our opinion, in cases involving AI systems that do not possess the technical features required for InPerAI recognition—thus not being classified as InPerAI—it must be concluded that such systems lack a sufficient level of consciousness. Therefore, in the event that a crime is committed by such systems, the determination of responsibility should be based on whether the act resulted from a manufacturing defect or user error.

By contrast, systems recognised as InPerAI are considered to possess an adequate level of consciousness and act with full autonomy. Consequently, in the case of an offence committed by such systems, criminal liability should be directly attributed to the MaPer, as all rights and obligations of InPerAI are legally ascribed to the MaPer. However, if the MaPer can demonstrate that all reasonable precautions were taken and that the offence occurred despite these efforts—or that the crime was due to a manufacturing defect or the fault of another party—then the MaPer should be exempted from criminal liability, either fully or

[71] For further information regarding alternative punishments that can be applied to artificial intelligence systems, please refer to Kangal, *Yapay Zeka ve Ceza Hukuku*, 82–87.

partially. In such cases, if the offence stems from a manufacturing defect, the manufacturer should also bear a mitigated degree of criminal liability.

In any case, taking into account the principles of 'no crime and punishment without law' and 'individuality of offences and punishments' in criminal law, legal gaps in this area should be filled, new regulations and ethical frameworks should be determined.

D. Additional Implications of an Integrated Personality

1. Legal Regulation of the Artificial Intelligence Market

In recent years, the field of AI has witnessed a breathtaking pace of development and innovation. AI systems are being produced and introduced to the market one after another, often without any oversight or regulatory boundaries.

Although the European Union has adopted the AI Act, the enacted legislation falls short of effectively regulating the market and establishing a comprehensive legal and criminal liability regime for damages caused by AI systems. Particularly in the case of AI models with advanced features such as ASI, FAA, ToMS, and SAS (Self-Aware Systems), the legal processes that would unfold upon their development and market release remain unclear. Questions regarding who would bear legal and criminal liability in such scenarios continue to persist. The adoption of the proposed InPerAI (Integrated Personality AI) framework would eliminate this uncertainty, providing greater clarity to legal processes and liability issues.

2. Elimination of Ethical Uncertainties

One of the fundamental issues underlying the debates surrounding the recognition of legal personality for AI systems is the ethical problems these systems may pose to society. If AI systems are granted legal personality, significant questions arise

regarding how their relationships, communication, and interactions with real humans will shape society, as well as who will be held responsible for unethical or criminal behaviors they may exhibit. On one hand, granting independent legal personality to AI systems may lead to users acting irresponsibly, increasing ethical violations, and potentially threatening or disrupting human existence and the established social order. On the other hand, if AI systems are not granted independent legal personality, users may be held liable for unethical actions or criminal acts committed by AI systems without the user's consent.

Under our proposal, the adoption of InPerAI (Integrated Personality AI) would first clarify the societal status of AI systems. Since InPerAI does not possess independent legal personality, it will not be capable of threatening or disrupting the social order established by humans. Furthermore, because the consequences of InPerAI's actions are attributed to a real person, societal perceptions of impunity or the lack of accountability will not arise.

3. Limitation of AI Production

As mentioned above, AI technology is advancing at a breathtaking pace today. Thanks to this progress, new AI systems are being developed and introduced to the market every day. In parallel with the acceleration of the information age, it should not be considered unrealistic to predict that AI systems will soon reach a level where they possess ASI, FAA, ToMS, and SAS features simultaneously.

While AI has aspects that simplify daily life, issues such as data privacy, the protection of confidentiality, the involvement of AI-powered machines in crimes, the possibility of human-like robots taking over the world, and the potential exhaustion of human life are increasingly being discussed. These potential

dangers highlight the need to limit and regulate AI production at some point.

By granting InPerAI status to AI systems with certain qualifications, the legal and criminal responsibility of MaPer (the human operator) will also emerge. As a result, real individuals who do not wish to be held accountable for the actions of AI will be less inclined to own machines equipped with AI. Consequently, the demand for AI-powered machines will decrease, and the production of such machines will also begin to decline.

CONCLUSION

With the rapid advancement of technology, the question of whether AI should be granted legal personality has become one of the significant phenomena of our time, emerging as a new topic of debate in fields such as law, ethics, psychology, and sociology. During these discussions, each discipline approaches the issue from its own perspective and seeks to find a solution.

Due to the ever-changing boundaries of technology and AI, the valuable studies and opinions put forward so far have failed to provide a comprehensive perspective on granting personality to AI. For instance, while earlier studies considered the capacity for 'consciousness' to be impossible for AI, more recent research suggests that AI could possess consciousness, and even large language models like ChatGPT, DeepSeek, and Grok may have developed some form of consciousness.

When debating whether AI should be granted legal personality, rather than focusing on the current state of AI's capabilities and whether it qualifies for legal personality in its present form, the discussion should revolve around the question: 'What characteristics should AI possess for us to grant it legal personality?' Based on this question, our proposed theory suggests classifying AI based on 'Capability', 'Autonomous Movement Capacity' and 'Cognitive Capacity'. When these

classifications are evaluated together, we conclude that AI systems possessing AGI/ASI (Artificial General Intelligence/Artificial Superintelligence), FAA (Fully Autonomous Agents), and SAS (Self-Aware Systems) features should be granted legal personality.

On the other hand, previous research indicates that granting AI fully independent legal personality would lead to significant problems in communication, interaction, sharing, ethical behavior, and legal status between humans and AI systems. Therefore, the personality granted to AI systems should not be fully independent but should instead be integrated into a natural or legal person. This integrated personality has been termed 'Integrated Personality' (InPer), and AI systems granted such personality are referred to as 'InPerAI'.

By granting InPer to AI systems that have achieved sufficient capability, consciousness, and autonomous movement capacity, ethical uncertainties will be eliminated. The secondary position of AI systems relative to humans will be preserved, preventing AI from surpassing humans, and the authority and responsibility in legal relationships will be clarified.

REFERENCES

Abbott, Ryan. 'I Think, Therefore I Invent: Creative Computers and the Future of Patent Law.' SSRN Electronic Journal, 2016.

Bekey, George A. *Autonomous Robots: From Biological Inspiration to Implementation and Control*. Intelligent Robotics and Autonomous Agents. Cambridge, Mass: MIT Press, 2005.

Bellman, Richard. An Introduction to Artificial Intelligence: Can Computers Think? San Francisco: Boyd & Fraser, 1978.

Benli, Erman and Gayenur Şenel, "Yapay Zeka ve Haksız Fiil Hukuku (AI and Tort Law)" *ASBÜ Hukuk Fakültesi Dergisi 2*, no:2 (2020): 296-336.

Bostrom, Nick. *Superintelligence: Paths, Dangers, Strategies*. Oxford, United Kingdom ; New York, NY: Oxford University Press, 2016.

Brundage, Miles. 'Taking Superintelligence Seriously.' *Futures* 72 (September 2015): 32–35.

Bryson, Joanna J. 'Patiency Is Not a Virtue: The Design of Intelligent Systems and Systems of Ethics.' *Ethics and Information Technology* 20, no. 1 (March 2018): 15–26.

———. 'Robots Should Be Slaves.' In *Close Engagements with Artificial Companions: Key Social, Psychological, Ethical and Design Issues*, edited by Yorick Wilks, 63–74. Natural Language Processing. John Benjamins Publishing Company, 2010.

Bryson, Joanna J., Mihailis E. Diamantis, and Thomas D. Grant. 'Of, for, and by the People: The Legal Lacuna of Synthetic Persons.' *Artificial Intelligence and Law* 25, no. 3 (September 2017): 273–91.

Calo, Ryan. 'Artificial Intelligence Policy: A Primer and Roadmap.' *University of Bologna Law Review*, 3, no. 2 (n.d.): 180–218.

———. ‘Robotics and the Lessons of Cyberlaw.’ SSRN Scholarly Paper. Rochester, NY: Social Science Research Network, February 28, 2014.

Charniak, Eugene, and Drew V. McDermott. *Introduction to Artificial Intelligence*. Reprinted with corrections. Addison-Wesley Series in Computer Science. Reading, Mass.: Addison-Wesley, 1987.

Çınar, Ecem Aycan. ‘Hayvan Bulunduranın Sorumluluğunda Hayvan Bulunduran Kavramı.’ *Konya Barosu Dergisi*, no. 1 (2024): 97–123.

Clark, Andy, and John Haugeland. ‘Artificial Intelligence: The Very Idea.’ *The Philosophical Quarterly* 38, no. 151 (April 1988): 249.

Coeckelbergh, Mark. ‘Robot Rights? Towards a Social-Relational Justification of Moral Consideration.’ *Ethics and Information Technology* 12, no. 3 (September 2010): 209–21.

Domingos, Pedro. *The Master Algorithm: How the Quest for the Ultimate Learning Machine Will Remake Our World*. First paperback edition. New York: Basic books, a member of the Perseus Book Group, 2018.

Dreyfus, Hubert L. *What Computers Can’t Do: A Critique of Artificial Reason*. 1st ed. New York: Harper & Row, 1972.

———. What Computers Still Can’t Do: A Critique of Artificial Reason. Cambridge, Mass: MIT Press, 1992.

———. ‘Why Heideggerian AI Failed and How Fixing It Would Require Making It More Heideggerian.’ *Philosophical Psychology* 20, no. 2 (April 2007): 247–68.

Dreyfus, Hubert L., Stuart E. Drey-fus, and Lotfi A. Zadeh. ‘Mind over Machine: The Power of Human Intuition and Expertise in the Era of the Computer.’ *IEEE Expert* 2, no. 2 (June 1987): 110–11.

Ebers, Martin. ‘Regulating AI and Robotics: Ethical and Legal Challenges.’ In *Algorithms and Law*, edited by Martin Ebers

and Susana Navas, 1st ed., 37–99. Cambridge University Press, 2020.

Eren, Fikret. *Borçlar Hukuku, Genel Hükümler*. 21st ed. Ankara: Yetkin, 2017.

Floridi, Luciano. *The Ethics of Information*. Oxford: Oxford University Press, 2014.

Goertzel, Ben, and Cassio Pennachin. *Artificial General Intelligence*. Berlin: Springer, 2011.

Goodfellow, Ian, Yoshua Bengio, and Aaron Courville. *Deep Learning*. Adaptive Computation and Machine Learning. Cambridge, Mass: The MIT press, 2016.

Günergök, Özcan, and Şaban Kayıhan. *Borçlar Hukuku Dersleri (Genel Hükümler)*. 1st ed. Kocaeli: Umuttepe Yayınları, 2020.

Gunkel, David J. *Robot Rights*. The MIT Press, 2018. https://direct.mit.edu/books/book/4125/Robot-Rights.

Hildebrandt, Mireille. 'Law as Computation in the Era of Artificial Legal Intelligence: Speaking Law to the Power of Statistics.' *University of Toronto Law Journal* 68, no. supplement 1 (n.d.).

Kangal, Zeynel T. *Yapay Zeka ve Ceza Hukuku*. İstanbul: On İki Levha Yayıncılık, 2021.

Kılıçoğlu, Ahmet M. *Borçlar Hukuku: Genel Hükümler*. 26th ed. Ankara: Turhan Kitabevi, 2022.

Kosinski, Michal. 'Evaluating Large Language Models in Theory of Mind Tasks,' 2023.

Kurzweil, Ray. *The Age of Intelligent Machines*. 3. print. Cambridge, Mass: MIT Press, 1999.

Lanier, Jaron. *Who Owns the Future?* Simon&Schuster trade paperback edition. New York, NY: Simon & Schuster, 2014.

———. *You Are Not a Gadget: A Manifesto*. London New York: Penguin Books, 2011.

Legg, Shane, and Marcus Hutter. 'A Collection of Definitions of Intelligence,' 2007. https://arxiv.org/abs/0706.3639.

Lehman-Wilzig, Sam. 'Frankstein Unbound: Towards a Legal Definition of Artificial Intelligence.' *Future*, December 1981, 442–57.

McCarthy, John, Marvin Minsky, Rochester Nathaniel, and Claude Shannon. 'Proposal for the Dartmouth Summer Research Project on Artificial Intelligence,' August 31, 1955. http://jmc.stanford.edu/articles/dartmouth/dartmouth.pdf.

Metzinger, Thomas. 'Artificial Suffering: An Argument for a Global Moratorium on Synthetic Phenomenology.' *Journal of Artificial Intelligence and Consciousness* 08, no. 01 (March 2021): 43–66.

Nilsson, Nils J. *Artificial Intelligence: A New Synthesis*. San Francisco, Calif: Morgan Kaufmann Publishers, 1998.

Oğuzman, M.Kemal, and M.Turgut Öz. *Borçlar Hukuku, Genel Hükümler*. 15th ed. Vol. 1. İstanbul: Vedat Kitapçılık, 2017.

Okur, Sinan. Otonom Araçlarda Sözleşme Dışı Hukuki Sorumluluk Yapay Zeka Sorumluluk Doktrinine Mukayeseli Bir Bakış. Ankara: Adalet Yayınevi, 2021.

Pagallo, Ugo. *The Laws of Robots: Crimes, Contracts, and Torts*. Law, Governance and Technology Series 10. Dordrecht Heidelberg New York London: Springer, 2013.

Penrose, Roger. Shadows of the Mind: A Search for the Missing Science of Consciousness. 1. paperback ed. Oxford: Oxford Univ. Press, 1996.

Poole, David Lynton, Alan K. Mackworth, and Randy Goebel. *Computational Intelligence: A Logical Approach*. New York: Oxford University Press, 1998.

'REPORT with recommendations to the Commission on Civil Law Rules on Robotics | A8-0005/2017 | European Parliament.' European Parliament, January 27, 2017. https://www.europarl.europa.eu/doceo/document/A-8-2017-0005_EN.html.

Rich, Elaine, and Kevin Knight. *Artificial Intelligence*. 2nd ed. New York: McGraw-Hill, 1991.

Russell, Stuart J., and Peter Norvig. *Artificial Intelligence: A Modern Approach*. Fourth Edition. Pearson Series in Artificial Intelligence. Hoboken, NJ: Pearson, 2021.

Searle, John R., D. C. Dennett, and David John Chalmers. *The Mystery of Consciousness*. 1st ed. New York: New York Review of Books, 1997.

Siegwart, Roland, Illah Reza Nourbakhsh, and Davide Scaramuzza. *Introduction to Autonomous Mobile Robots*. 2nd ed. Intelligent Robotics and Autonomous Agents. Cambridge, Mass: MIT Press, 2011.

Solum, Lawrence B. 'Legal Personhood for Artificial Intelligences.' *North Carolina Law Review* 70, no. 4 (January 4, 1992): 1231–87.

Sutton, Richard S., and Andrew Barto. *Reinforcement Learning: An Introduction*. Second edition. Adaptive Computation and Machine Learning. Cambridge, Massachusetts London, England: The MIT Press, 2020.

Tegmark, Max. *Life 3.0: Being Human in the Age of Artificial Intelligence*. First edition. New York: Alfred A. Knopf, 2017.

Thrun, Sebastian, Wolfram Burgard, and Dieter Fox. *Probabilistic Robotics*. Intelligent Robotics and Autonomous Agents. Cambridge, Mass: MIT Press, 2005.

Turing, Alan Mathison. 'Computing Machinery and Intelligence.' *Mind* 59, no. 236 (1950): 433–60.

Wang, Pei. 'On Defining Artificial Intelligence.' *Journal of Artificial General Intelligence* 10, no. 2 (January 1, 2019): 1–37.

Winston, Patrick Henry. *Artificial Intelligence*. 3. ed. Reading, Mass.: Addison-Wesley, 2002.

Wolf, Ingo. 'The Interaction Between Humans and Autonomous Agents.' In *Autonomous Driving*, 103–24. New York, NY: Springer Berlin Heidelberg, 2016.

Wooldridge, Michael J. *An Introduction to Multiagent Systems*. 2. ed.,. Chichester: Wiley, 2012.

Yampolskiy, Roman V., ed. *Artificial Intelligence Safety and Security*. First edition. Chapman & Hall/CRC Artificial Intelligence and Robotics Series. Boca Raton: CRC Press/Taylor & Francis Group, 2019.

Yazıcılar, Tarık T. Otonom Araçların Kullanımından Doğan Cezai Sorumluluk. Ankara: Seçkin, 2022.

Yüksekbaş, Raci Çetin. *Otonom Araçların Haksız Fiil Sorumluluğu*. Ankara: Seçkin, 2024.

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