Ethical and Theological Problems Related to Artificial Intelligence

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Abstract

Artificial intelligence is defined as the totality of systems and programs that imitate human intelligence and can eventually surpass this intelligence over time. The rapid development of these technologies has raised various ethical debates such as moral responsibility, privacy, bias, respect for human rights, and social impacts. This study examines the technical infrastructure of artificial intelligence, the differences between weak and strong artificial intelligence, ethical issues, and theological dimensions in detail, providing a comprehensive perspective on the role of artificial intelligence in human life and the problems it brings. The historical development of artificial intelligence has been shaped by the contributions of various disciplines such as mathematical logic, cognitive science, philosophy, and engineering. From the ancient Greek philosophers to the present day, thoughts on artificial intelligence have raised deep philosophical questions such as human nature, consciousness, and responsibility. The algorithms developed by Alan Turing have contributed to the modern shaping of artificial intelligence and have put forward the first models to assess whether machines have human-like intelligence, such as the "Turing Test". The study first analyzes the technical infrastructure of artificial intelligence in detail and discusses the current limits and potential of the technology through the distinction between weak and strong artificial intelligence. Weak artificial intelligence includes systems designed to perform specific tasks and do not exhibit general intelligence outside of those tasks, while strong artificial intelligence refers to systems with human-like general intelligence and flexible thinking capacity. Most of the widely used artificial intelligence applications today fall into the category of weak artificial intelligence. However, the development of strong artificial intelligence brings various ethical and theological consequences for humanity. The ethical issues of artificial intelligence include fundamental topics such as autonomy, responsibility, transparency, fairness, and privacy. The decision-making processes of autonomous systems raise serious ethical questions at the societal level. Especially autonomous weapons and artificial intelligence-managed justice systems raise concerns in terms of human rights and individual freedoms. In this context, the ethical framework of artificial intelligence has deep impacts on the future of humanity and human-machine interaction, not just limited to technological boundaries. From a theological perspective, the ability of artificial intelligence to imitate the human mind and creative processes raises deep theological issues such as the creativity of God, the place of human beings in the universe, and consciousness. The questions of whether artificial intelligence systems can gain consciousness and whether these conscious systems can have a spiritual status have led to new debates in theology and philosophy. The ethical principles of artificial intelligence are shaped around principles such as transparency, accountability, autonomy, human control, and data management. In conclusion, determining the ethical and theological principles that need to be considered in the development and application of artificial intelligence is critical for the future of humanity. A comprehensive examination of the ethical and theological dimensions of artificial intelligence technologies is necessary to understand and manage the social impacts of this technology. This study emphasizes the necessity of an interdisciplinary approach for the development of artificial intelligence in harmony with social values and for the benefit of humanity. The study provides an important theoretical framework for

future research by shedding light on the complex ethical and theological issues arising from the development and widespread use of artificial intelligence.

Keywords

Psychology of Religion, Artificial Intelligence, Machine Learning, Ethics, Theology

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Yapay Zeka ile İlişkili Etik ve Teolojik Problemler

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Öz

Yapay zekâ, insan zekâsını taklit eden ve zamanla bu zekâyı aşabilen sistemler ve programlar bütünü olarak tanımlanmaktadır. Bu teknolojilerin hızlı gelişimi, ahlaki sorumluluk, gizlilik, önyargı, insan haklarına saygı ve toplumsal etkiler gibi pek çok etik tartışmayı gündeme getirmiştir. Bu çalışma, yapay zekânın teknik altyapısını, zayıf ve güçlü yapay zekâ arasındaki farkları, etik sorunları ve teolojik boyutları ayrıntılı bir şekilde ele alarak, yapay zekânın insan hayatındaki yerini ve getirdiği sorunları kapsamlı bir bakış açısıyla incelemektedir. Yapay zekânın tarihsel gelişimi, matematiksel mantık, bilişsel bilimler, felsefe ve mühendislik gibi çeşitli disiplinlerin katkılarıyla şekillenmiştir. Antik Yunan filozoflarından günümüze, yapay zekâ üzerine düşünceler, insan doğası, bilinç ve sorumluluk gibi derin felsefi soruları gündeme getirmiştir. Alan Turing'in geliştirdiği algoritmalar, yapay zekânın modern anlamda şekillenmesine katkı sağlamış ve "Turing Testi" gibi kavramlarla makinelerin insan benzeri zekâya sahip olup olmadığını değerlendirmek için ilk modelleri ortaya koymuştur. Çalışmada öncelikle, yapay zekânın teknik altyapısı detaylı bir biçimde analiz edilmekte; zayıf ve güçlü yapay zekâ ayrımı üzerinden teknolojinin mevcut sınırları ve potansiyeli tartışılmaktadır. Zayıf yapay zekâ, spesifik görevleri yerine getirmek üzere tasarlanmış ve bu görevler dışında genel bir zekâ sergilemeyen sistemleri içerirken; güçlü yapay zekâ, insan benzeri genel zekâ ve esnek düşünme kapasitesine sahip sistemleri ifade etmektedir. Günümüzde yaygın olarak kullanılan yapay zekâ uygulamalarının çoğu zayıf yapay zekâ kategorisindedir. Ancak, güçlü yapay zekânın gelişimi, insanlık için çeşitli etik ve teolojik sonuçları beraberinde getirmektedir. Yapay zekânın etik sorunları arasında özerklik, sorumluluk, şeffaflık, adalet ve mahremiyet gibi temel başlıklar bulunmaktadır. Otonom sistemlerin karar alma süreçleri, toplumsal düzeyde ciddi etik sorular doğurmaktadır. Özellikle otonom silahlar ve yapay zekâ tarafından yönetilen adalet sistemleri, insan hakları ve bireysel özgürlükler açısından endişelere neden olmaktadır. Bu bağlamda, yapay zekânın etik çerçevesi yalnızca teknolojik sınırlarla sınırlı kalmayıp, insanlığın geleceği ve insan-makine etkileşimi üzerine derin etkiler bırakmaktadır. Teolojik boyutlar açısından, yapay zekânın insan zihnini ve yaratıcı süreçleri taklit etmesi, Tanrı'nın yaratıcılığı, insanın evrendeki yeri ve bilinç gibi derin teolojik meseleleri gündeme getirmektedir. Yapay zekâ sistemlerinin bilinç kazanıp kazanamayacağı ve bu bilinçli sistemlerin ruhsal bir statüye sahip olup olamayacağı soruları, teoloji ve felsefe alanında yeni tartışmalara yol açmaktadır. Yapay zekânın etik ilkeleri, şeffaflık, hesap verebilirlik, özerklik, insan denetimi ve veri yönetimi gibi prensipler etrafında şekillenmektedir. Sonuç olarak, yapay zekânın geliştirilmesi ve uygulanması sürecinde dikkat edilmesi gereken etik ve teolojik ilkelerin belirlenmesi, insanlığın geleceği açısından kritik bir öneme sahiptir. Yapay zekâ teknolojilerinin etik ve teolojik boyutlarının kapsamlı bir şekilde incelenmesi, bu teknolojinin toplumsal etkilerini anlamak ve yönetmek için gereklidir. Bu çalışmada, yapay zekânın toplumsal değerlerle uyumlu bir şekilde geliştirilmesi ve insanlığın faydasına kullanılması için disiplinler arası bir yaklaşımın gerekliliği vurgulanmaktadır. Çalışma, yapay zekânın gelişimi ve yaygınlaşmasıyla ortaya çıkan karmaşık etik ve teolojik meselelere ışık tutarak, gelecekteki araştırmalar için önemli bir teorik çerçeve sunmaktadır.

Anahtar Kelimeler

Din Psikolojisi, Yapay Zeka, Makine Öğrenmesi, Etik Teoloji

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Introduction

In the digital age, where technology is rapidly evolving, artificial intelligence has become one of today's most significant scientific and technological innovations. Efforts to develop systems that mimic or surpass human intelligence have advanced since the mid-twentieth century through the joint contributions of various disciplines, including computer engineering, neurology, philosophy, psychology, robotics, and linguistics. Initially limited to narrow applications designed solely to perform specific and constrained tasks, artificial intelligence has now evolved into a broad field of research aiming to develop systems capable of exhibiting human-like cognitive abilities and making independent decisions. The revolutionary changes that artificial intelligence brings to various sectors such as healthcare, education, finance, and law not only transcend technological boundaries but also raise important discussions on ethical, legal, and theological levels. The roots of artificial intelligence are based on a long historical process beginning with mathematical logic and cognitive sciences. The philosophical foundations, from Aristotle's laws of logic to Descartes' mind-body dualism, formed the theoretical basis of artificial intelligence. In the early 20th century, Alan Turing's algorithms and symbolic processing theories contributed to shaping artificial intelligence in its modern sense. The "Turing Test" envisioned by Turing was accepted as one of the first models for evaluating whether a machine possessed human-like intelligence. These developments demonstrate that artificial intelligence is not merely a technical field of study but also a multidisciplinary research subject that opens doors to philosophical questions about human nature, consciousness, morality, and responsibility. Artificial intelligence is divided into two fundamental categories: weak and strong artificial intelligence. While weak AI refers to systems designed to perform specific tasks and show high performance in narrow fields, strong AI refers to systems with human-like general intelligence and flexible thinking capacity. While the first category encompasses most of today's widely used AI applications, the second category remains primarily a theoretical research area. However, the question of what ethical and theological implications would arise if strong AI were developed remains central to research in this field. In this context, the social and ethical dimensions of artificial intelligence have become as important as technological development. The ethical problems of AI particularly focus on issues such as responsibility, autonomy, privacy, and bias. The decision-making processes of autonomous systems bring important ethical questions at both societal and individual levels. The ethical framework of AI extends beyond technological boundaries, leaving profound effects on humanity's future, human-machine interaction, and social structure. Additionally, with the development of AI technologies, theological discussions have gained importance. The existence of machines that mimic human minds and creative processes has raised deep theological issues such as God's power of creation, humanity's place in the universe, and consciousness. In particular, questions about whether AI systems can gain consciousness and whether these conscious systems can have spiritual status have sparked new debates in theology and philosophy. In this article, a literature review was employed to examine the ethical and theological problems related to artificial intelligence, and an interdisciplinary approach was adopted. The ethical and theological dimensions of artificial intelligence have been evaluated from philosophical, legal, and social science perspectives. A comprehensive examination of the

ethical and theological dimensions of artificial intelligence technology is vital for understanding and managing its societal impacts. In this context, our study aims to contribute to determining the ethical and theological principles necessary for developing artificial intelligence in harmony with social values and using it for the benefit of humanity. In studies on artificial intelligence ethics in the literature, the impacts of autonomous systems on society are particularly evaluated (Dignum, 2019, 44,102). In discussions regarding the theological dimensions of artificial intelligence, topics such as the possibility of AI gaining consciousness and its spiritual status are addressed (Bjork, 2008, 101; Descartes, 1999, 17-22). Compared to existing studies in the literature, the article emphasizes the necessity of an interdisciplinary approach by addressing the effects of artificial intelligence from a broader perspective.

1. Artificial Intelligence

Artificial intelligence (AI) is defined as a scientific field encompassing various disciplines such as computer engineering, neurology, philosophy, psychology, robotics, and linguistics, and includes computer software and robot designs that exhibit human intelligence-specific behaviors such as perception, reasoning, thinking, learning, comprehension, intuition, and design (Budak, 2005, 797). Its scope includes a wide range of areas, from playing chess to proving and making medical diagnoses. The main objectives of artificial intelligence research include developing computer programs capable of learning from experiences, solving problems, processing natural language, and interpreting visual data (Ertel - Mast, 2017, 1). In 1958, Alan Turing introduced a model known as the "Turing Test," which established the criteria for determining whether a machine could be considered intelligent. According to Turing, for a machine to be considered intelligent, it must possess the ability to mimic human behavior. Turing expects a machine to pass the Turing Test with capabilities in natural language communication, information storage and processing, query response, new inference making, sensory perception, and movement ability. Artificial intelligence also encompasses systems capable of logical thinking and inference. The purpose of these systems is to mimic or surpass human intelligence in rational decision-making and problem-solving processes. The fundamental principles of artificial intelligence are based on the basic laws of thought established by the ancient Greek philosopher Aristotle (Oguike, 2021, 2-4). However, although artificial intelligence is perceived as a copy of human intelligence, its working mechanisms differ significantly from human intelligence. AI systems possess higher processing speeds and broader storage capacity compared to human intelligence. The logical processes used by some advanced computer systems can be so complex that even experienced programmers cannot comprehend them. These systems have the ability to develop and use a unique language that can only be understood by other computers (Thomas, 2005, 40). The most significant advantage of artificial intelligence over human intelligence is its ability to perform extremely complex analyses within milliseconds and make rapid decisions. While the fastest nerves in the human brain can transmit impulses at approximately 90 meters per second, fiber optic connections can transmit these impulses at 300 million meters per second. While a human neuron fires in one-thousandth of a second, a computer's transistor can fire in less than one-billionth of a second. The knowledge source of artificial intelligence is large data sets known as "Big Data" (Iafrate, 2018, 6). This concept, referring to large and complex data sets that cannot be processed with traditional data

management methods, can be stored, processed, and analyzed to derive meaningful results. Big Data is an important technological development that enables dealing with diverse and complex data sets that affect corporate decision-making processes. Artificial intelligence systems demonstrate the ability to scan this vast data pool within milliseconds and make quick and effective decisions (Saxena at al., 2021, 3). In this context, artificial intelligence not only mimics human intelligence but also possesses capabilities that exceed human abilities in certain areas. This situation raises important questions in both technological and ethical contexts and creates a broad field of study for future research.

Artificial intelligence is divided into two main categories: weak (narrow) and strong (general). Weak artificial intelligence refers to systems designed to perform specific tasks and cannot exhibit general intelligence beyond these tasks. For example, they can show high performance in specific areas such as analyzing meteorological data or medical imaging; however, these capabilities cannot be applied to different domains (Yao et al., 2017, 23). Weak AI systems can improve their performance over time through methods such as deep learning. However, since they cannot function in entirely new areas, they are still considered weak AI. While these systems offer ideal solutions in practical applications, strong artificial intelligence is necessary for flexibility and the ability to handle unforeseen problems (Coppin, 2004, 6). Strong artificial intelligence (Artificial General Intelligence, AGI) refers to systems with human-like general intelligence and flexible thinking capacity across various fields. Strong AI not only performs programmed tasks but can also exhibit abilities such as consciousness, strategic thinking, logical inference, decision-making under uncertainty, and natural language communication (Chang, 2020, 299). Self-awareness, learning, collaboration, and the capacity to produce intelligent entities like itself are also among the characteristics of strong AI. To date, fully-fledged strong AI has not been developed; however, research in this field is advancing rapidly (Ekmekci - Arda, 2020, 21-22). Various tests have been proposed by researchers to evaluate the development of strong AI. One of the most well-known tests is the Turing Test. In this test, artificial intelligence and a human communicate in writing with an evaluator without revealing their identities, and the evaluator is expected to determine which is human and which is machine. Other tests include the Coffee Test proposed by Steve Wozniak, the Furniture Assembly Test involving the assembly of dismantled furniture, and the Kurzweil-Kapor Test developed by Ray Kurzweil and Mitch Kapor (Frana - Klein, 2021, 161; Taulli, 2019, 4). These tests are used to assess whether strong AI has reached human-like intelligence levels, and passing these tests in the future will initiate a new era in human-machine interaction.

Machine learning and deep learning are the fundamental mechanisms that enable artificial intelligence to evolve beyond programmed procedures into a dynamic cognitive system capable of autonomous learning and knowledge generation. Machine learning, a significant subfield of artificial intelligence, focuses on developing systems with data analytics and pattern recognition capabilities. This concept, introduced to literature by Arthur Lee Samuel in 1959, draws its epistemological foundations from mathematical disciplines such as statistics, probability theory, and optimization, allowing systems to optimize their decision-making processes by learning from examples (Suguna et al., 2021, 76). The primary goal of machine learning is to discover patterns and rules in data by adapting to continuously changing data streams. Working with

large datasets, it is used in various applications such as automating repetitive tasks, identifying patterns, and predicting future outcomes. Machine learning is applied across various sectors, including healthcare, finance, transportation, and education, enhancing artificial intelligence's capacity to adapt to real-world problems. The broad application area of this technology demonstrates artificial intelligence's central role in the modern technology ecosystem (Pickover, 2019, 203). Deep learning, on the other hand, is a specialized branch of machine learning that uses multi-layered artificial neural networks inspired by the biological structure of the human brain. This system, capable of automatic feature extraction from complex data structures and creating high-level abstractions, has a hierarchical structure consisting of an input layer, multiple hidden layers, and an output layer (Neapolitan - Jiang, 2018, 7; Say, 2018, 100). Deep learning systems are successfully applied in various areas such as computer vision, object recognition, natural language processing, machine translation, speech recognition, and synthesis. The system's most important advantage is its ability to automatically extract features from raw data and recognize complex patterns with high accuracy. However, it also faces significant challenges, such as the requirement for large amounts of labeled data, high computational costs, and difficulty in interpreting decisions due to its black-box nature (Iafrate, 2018, 35).

2. Ethical Problems Related to Artificial Intelligence

Ethics, derived from the Greek word "ethos" meaning custom, is a philosophical discipline that examines the values, moral norms, and behavioral rules in people's individual and social relationships, questions the concepts of “good” and “right”, and investigates the principles of moral behavior (Cevizci, 2002, 3). Morality, another concept related to ethics, is the sum of moral behavioral rules, laws, and principles adopted by certain human communities in a particular period that regulate individuals' relationships with each other (Arslan, 2012, 17). Ethics and morality concepts are frequently used interchangeably in everyday discourse and express normative obligations and responsibilities that shape individuals' behaviors. However, in philosophical literature, these two concepts carry different epistemological and ontological meanings. While ethics encompasses the theoretical framework and systematic philosophical inquiry regarding right and wrong actions, morality examines the practical life manifestations of this theoretical foundation. In this context, while ethics exists on a principled plane, moral phenomena occur on a behavioral dimension. In other words, ethics deals with the normative value system, while morality addresses the reflections and applications of these values in daily life practice (Demirkasımoğlu, 2020, 3).

The surpassing of human capabilities by artificial intelligence and the development of autonomous humanoids have made the societal impacts of these technologies more prominent. For example, Saudi Arabia's granting citizenship to Robot Sophia indicates that states are taking the ethical status and legal responsibilities of robots more seriously. The development of artificial intelligence and robotic technologies has brought new ethical discussions to the forefront. Among the fundamental questions raised are whether artificial intelligence can have moral capacity, whether machines having the ability to think is desirable, and how this situation will affect human perception. Furthermore, ongoing debates revolve around the accountability of artificial intelligence systems, the ethical validity of autonomous weapons, and the

recognition of human rights for artificial entities. These questions are being addressed across different disciplines, including philosophy, law, ethics, engineering, and social sciences, and play a crucial role in shaping the social and legal framework of artificial intelligence and robotic technologies. In the literature and social sphere, the main topics most discussed in the context of AI ethics are responsibility, privacy, bias, and transparency. These elements are not limited to merely ensuring the protection of individuals' rights but also aim to support the production of social benefit by AI technologies and their sustainable development.

Responsibility is one of the most important topics of discussion regarding AI ethics. Similar to holding humans accountable for their actions, responsibility mechanisms need to be established for the behaviors of AI-enabled products. The first AI-related death occurred in 1981 at the Kawasaki heavy industry facility in Japan, where engineer Kenji Udhara lost his life due to a production robot not being shut down (Guardian, 16 January 2024). Similarly, an incident in 2021 at the Tesla Giga factory in the USA, where a robot attacked and injured an engineer, has brought security concerns about AI back to the forefront (Dailymail, 06 January 2024). AI safety risks become particularly important in systems that directly interact with the physical world, such as autonomous vehicles. "Trolley problem"-like ethical dilemmas have led to discussions about which moral rules should be followed in the decision-making processes of autonomous vehicles. For an autonomous vehicle to make a moral decision, it must be able to identify ethical situations, apply legal and moral principles, and make concrete decisions (Dignum, 2019, 44). Other areas where AI interacts also raise significant issues regarding moral responsibility. AI can easily access individuals' personal data and make various predictions based on this data, potentially leading to personal rights violations. Particularly, the lack of user consent in data collection processes creates trust issues and causes privacy violations. This situation is further deepened by companies like Google and Facebook using user data for commercial purposes (Suguna, 2021, 86). The question of who will be responsible for damages caused by AI is an issue that needs to be resolved both legally and ethically. While AI manufacturers can be held responsible for material and software errors, as AI systems develop independent learning and decision-making capabilities, proving this responsibility may become more difficult. Weak AI systems are thought to have no moral responsibility because these systems must behave as they are programmed. However, with the development of strong AI systems, these approaches need to be re-evaluated (Dignum, 2019, 99; Lee, 2020, 374).To develop the responsibility of AI systems, it is suggested to establish professional ethical rules for experts working in this field. However, considering the interdisciplinary nature of AI, creating and implementing these rules is a complex process. To address AI ethics and legal responsibility more comprehensively, experts from different disciplines, such as social scientists, philosophers, and legal experts, need to be included in AI development processes.

Privacy has become a significant topic of discussion in the context of AI ethics with the development of AI technologies. AI algorithms' access to individuals' personal data and unauthorized use of this data can lead to privacy violations. Particularly, machine learning systems' need for large datasets further increases privacy concerns. In addition to AI systems' data access capacity, their advanced pattern recognition capabilities create potential risks that could jeopardize individual privacy even without direct access. For example, modern facial

recognition systems can detect and track individuals unnoticed, threatening personal privacy in public spaces. Today's rapid development of digital technologies has made it more challenging to discern who has access to personal data and its usage. According to the Cyber Threat Status Report published by Defense Technologies Engineering and Trade Inc. (STM) in 2023, ChatGPT, an AI-based language model, was found to have leaked personal and financial information. The report stated that an outage in ChatGPT Plus, the paid version of ChatGPT, was caused by security vulnerabilities in the system, allowing users to access each other's chat histories and payment information (CNN, 25 July 2024). Furthermore, the Italian Data Protection Authority temporarily banned the application in 2023, stating that ChatGPT violated regulations in its user data collection and storage processes. Following this decision, the European Data Protection Board decided to establish a task force to examine ChatGPT. This step indicates the European Union's proactive approach to data security and personal data protection regarding AI technologies (Dünya, 24 July 2024; NTV, 24 July 2024). Privacy violations are not limited to individual data leaks; AI's potential to detect and influence mass behavior also raises the risk of this technology being used as a social control tool. In particular, China's social credit system stands out as an example where AI monitors and scores individuals' social and economic behaviors (Stahl, 2021, 24). Privacy protection technologies such as anonymization and encryption can be used as solutions against privacy violations. These technologies can contribute to protecting privacy by obscuring the identities of individuals or groups. However, such solutions require additional cost and effort.

Bias is another significant ethical issue concerning AI technologies. It is frequently reported that machine learning algorithms perpetuate problems such as gender-based discrimination in human resources processes or racial biases in audit mechanisms. If an algorithm is trained with biased datasets, it will inevitably reflect these biases in its decisions. In this context, the lack of transparency in AI systems' data analysis-based results leads to these systems being characterized as a kind of “black box.” In these increasingly complex systems, understanding why a particular decision was made becomes difficult, and insufficient responsibility is taken to identify potential biases in training data (Stahl, 2021, 42). The issue of bias in artificial intelligence technology stems from the data sets and the design of the algorithms that underpin the system. Algorithms can reflect the societal and historical biases of their developers, leading to injustices against certain groups. For example, AI-based facial recognition systems tend to misidentify Afro-American and Latino individuals, which undermines the understanding of justice among individuals of different races (Akgun - Greenhow, 2022, 434). Additionally, when considering factors such as insurance type, race, or gender, some AI models have been found to produce unfair results for different patient groups (Karimian et al., 2022, 544). Comprehensive research conducted by the European Union Data Protection Commission and the United States Pew Research Center shows that current AI algorithms produce discrimination in data collection, classification, ranking, and interpretation processes regarding age, gender, and race (Li et al., 2021, 2-3).

Transparency is becoming an increasingly critical concept in the development and implementation processes of AI technologies. Transparency is addressed across a broad spectrum covering different components of AI systems. These components include data sources,

design methods, algorithmic structures, and the actors and stakeholders involved in these processes. It is of great importance that the factors affecting AI systems' decision-making processes are clearly understandable by all stakeholders who develop, use, regulate, and are affected by these systems. However, the inherently non-transparent nature of machine learning systems is a significant problem. These systems are generally protected by trade secrets, which further reduces the level of transparency. In particular, AI algorithms learn based on the data presented to them and make decisions with this data. In this process, algorithms may not question the accuracy of the data and may sometimes ignore incorrect or biased data (Dignum, 2019, 61). Such deficiencies in machine learning systems can be addressed through proper implementation of software engineering procedures in AI development processes. Continuous and open reporting of development processes can increase transparency by facilitating the analysis and re-evaluation, when necessary, of these systems' decision-making mechanisms. This approach will also contribute to strengthening trust in AI by providing clarity and control at every stage of learning and training processes. Transparency is not just about understanding how the system works but also requires knowledge about how external factors affecting the system can be controlled.

The reliable and humane development of artificial intelligence necessitates the integration of human values and ethical principles into technological development processes. This integration requires an interdisciplinary approach and a multi-layered evaluation process. The moral development of artificial intelligence requires a multidisciplinary approach that encompasses philosophical, sociological, and cultural dimensions rather than being merely a technical intervention. In this context, the integration of ethics education into artificial intelligence curriculum holds strategic importance. The inclusion of ethics education in artificial intelligence development processes can potentially make critical contributions in areas such as raising ethical awareness, developing an interdisciplinary perspective, strengthening social responsibility consciousness, ensuring compliance with ethical design principles, and developing cultural sensitivity.

3. Theological Problems Related to Artificial Intelligence

Rapid technological developments in artificial intelligence and robotics are redefining epistemological and ontological boundaries within the framework of human-machine interaction, bringing theological, philosophical, and ethical debates to the forefront. The development of human-like artificial intelligence challenges traditional concepts such as creation and humanity's relationship with God, while necessitating a theological evaluation of humanity's creative role. The integration of artificial limbs and implants shakes traditional religious understandings of the body-soul relationship, while issues such as marriage and sexuality with humanoid robots require a reexamination of moral and religious norms. Furthermore, the increasing consciousness and reasoning capacity of artificial intelligence raises the question of whether it can be considered a religiously responsible entity. This multi-layered transformation necessitates the reconstruction of the philosophical foundations of moral and legal responsibility. While technological developments redefine the existential parameters of humanity, they also test the flexibility and interpretative capacity of religious thought.

Today, artificial intelligence's increasingly complex structure and consciousness-like features have led to reinterpretations of the concept of God and discussions about technology's potential to assume religious functions. The development of digital technologies, especially alongside the secularization process in Western societies, has brought about the sanctification of science and technology. In this context, technology can assume the meaning, ritual, and community functions traditionally provided by religions, thus giving rise to new non-transcendent belief systems based on sensory experience. Virtual reality, artificial intelligence, and robotic technologies play important roles in the development of new belief systems such as "data-centrism" and "techno-humanism" (Chornomordenko et al., 2022, 136; John Rivers, 2006, 517). The fact that generative artificial intelligence possesses attributes traditionally ascribed to God, such as superior intelligence, unlimited knowledge, and creativity, can cause some users to perceive these systems as supreme beings. Technologies like the Internet of Things, with their all-knowing and omnipresent nature, have come to mimic God's omniscience (The Conversation, 2023). From the perspective of Christian theology, artificial intelligence's claim to represent God is an illusion. Humans, with their desire to establish dominion over a being they created, unconsciously substitute their own selves for God, which is considered a modern form of idolatry in Christian tradition (Gaudet et al., 2024, 136-139). Baloğlu (2022, 215), emphasizes that advanced technologies trigger humans' tendency to deify themselves, leading to ethical problems. Baloğlu argues that this tendency results in the monopolization of scientific knowledge and disregard for ethical boundaries, and advocates for establishing a "civilization of morality" and freeing humanity from being objects of digital technology.

From a theological perspective, human moral responsibility is built upon the concept of free will. Humans can be held accountable for their choices because they make these choices consciously and with free will. However, today's narrow artificial intelligence systems do not possess such free will. This raises a theological problem. If artificial intelligence can make rational decisions, but these decisions are based on programmed algorithms and predetermined datasets, can AI then be considered a moral agent? That is, from a theological perspective, it is debatable whether artificial intelligence, as a being without free will, can have moral responsibility (Nath - Sahu, 2020, 106). Furthermore, when operating solely with programmed algorithms without human-like free will, how these systems can assume moral responsibilities remains a question to be answered. While some theologians like Hubert Dreyfus, Yusuf el-Kardavi, and Joseph Ratzinger argue that artificial intelligence lacks these human-specific qualities, other thinkers like Noreen L Herzfeld, Anne Foerst, and William Clocksin suggest that with technological advancement, such qualities might one day be instilled in AI. However, such development would require a theological and philosophical reassessment of artificial intelligence (Graves, 2022, 186-188). In Abrahamic religions, God is the source of moral laws, and humans follow these laws to perform moral actions. However, the question of whether artificial intelligence can be subject to such divine law to make moral decisions remains unclear. Theologically, it is challenging to accept an unconscious and programmed entity that is not subject to God's moral order as a moral agent. In this context, how artificial intelligence relates to God's moral order emerges as a theological issue (Nath - Sahu, 2020, 107).

The transformation of human experience through technological advances highlights the limitations of traditional religions' understanding of human nature. Considering that human identity is shaped by interactions with its environment, the proliferation of computer technologies is increasingly transforming humans into cybernetic beings. The concept of cyborg, despite its origins in the 1920s, has become a metaphor for the blurring boundaries between humans and technology with the widespread use of computer technology. Cybernetic science gained significant momentum with Norbert Wiener's 1948 work "Cybernetics: or, Control and Communication in the Animal and the Machine" and brought together scientists from various disciplines including biology, engineering, and anthropology. This field has produced effective results in many areas, particularly artificial intelligence, psychology, and economics, through the study of neural networks and information processes. Cybernetics pioneers Norbert Wiener and Warren McCulloch argued that cybernetics could reinterpret religion and place it on a more rational foundation. According to them, cybernetics has the potential to bridge blind faith and technological thinking (Modern, 2021, 49,56). Abrahamic religions such as Islam, Christianity, and Judaism are facing challenges posed by cybernetic entities. These religions' teachings directed at physically embodied humans are becoming increasingly ambiguous as the brain begins to be perceived as a computer processor and the boundaries between mind and machines blur. In Christianity, it is believed that humans are created in God's image, and this creation gives humans characteristics such as reason, consciousness, free will, and moral responsibility. However, the idea that artificial intelligence can mimic human intelligence raises questions about whether humans are God's special creation (Nath - Sahu, 2020, 108). The question of whether artificial intelligence will replace humans in the future holds an important place in philosophical and religious discussions. While some thinkers like Yuval Noah Harari, Jacques Ellul, and Theodore Roszak claim that the development of artificial intelligence will deprive humans of being God's only intelligent creation, others like Ray Kurzweil, Timo Honkela, and Demis Hassabis suggest that artificial intelligence will serve humanity's good and contribute to its development. The potential effects of artificial intelligence technologies on religious ritual and thought also raise the possibility of traditional religious leadership roles being transformed by AI-supported systems. This situation poses a significant challenge for religious institutions and leaders. The scenario of advanced artificial intelligence surpassing human intelligence and rising to a divine position has the potential to radically shake traditional religious understanding (Sturgill, 2019, 63).

In the field of artificial intelligence ethics, debates about whether machines can possess thinking ability hold an important place. In this context, the view that thinking is a function tied to humanity's immortal soul emerges as a noteworthy argument. According to this view, the immortal soul, bestowed by God only to humans, has not been given to other living beings or machines; therefore, animals or machines lack the ability to think. The belief that human spiritual characteristics are unique to humans is a reflection of traditional religious perspectives in these discussions (Descartes, 1999, 17-22; Flanagan, 2002, 163). However, famous artificial intelligence researcher Alan Turing opposed this view and proposed a broader perspective. According to Turing, creating intelligent beings through machines should be thought of as a process similar to human procreation and should be considered not as an interference with God's creative power but as an attempt to provide a host for souls created by God (Turing, 1950,

442).Turing's perspective sets the groundwork for theological discussions, particularly in the context of artificial intelligence and transhumanism. The idea that humanity will transform into a perfected species through technology raises a series of theological issues. Transhumanist discourses parallel some heterodox Christian thought movements with goals such as humanity's search for perfection, desire for immortality, and unlimited will. In this context, some approaches reminiscent of Manichaeism's body-soul dualism are noteworthy; here, the body is perceived as a kind of prison, and the liberation of the soul or will is targeted. The claim of Pelagianism, considered heretical in Christian theology, that humans can achieve perfection through their own efforts, finds echo in transhumanist thoughts. Similarly, as in Gnosticism, knowledge is presented as a salvific secret. However, such approaches generally conflict with mainstream Christian teachings. Waters (2016, 197-204) emphasizes that the pursuit of immortality in transhumanism is incompatible with Christian teachings and considers human lifespan as an opportunity to prepare for eternal life with God. According to this perspective, humanity's mortal nature should be seen as an opportunity to connect with God.

One of the current debates in artificial intelligence ethics is whether artificial intelligence can possess a soul. This question gains importance in terms of technological developments forcing a reassessment of religious and philosophical paradigms. The concept of the soul is accepted as the essence and determining element of human existence in many religious and philosophical traditions. In Western thought, the soul is generally understood as an immortal, non-material being representing an individual's core self. In this context, Plato and Aristotle's understanding of the soul has paradigmatic importance in the history of philosophy. Plato conceptualized the soul as ontologically separate and different from the body. According to him, the soul is the source of existence and the fundamental element of vitality. In Plato's system, the soul has an existence independent of the material world and is immortal; the body is seen as a temporary and material structure, a worldly manifestation of the soul. Aristotle, however, defined the soul not as a substance independent of the body but as a form inherent to the body or bodily functionality. According to Aristotle's approach, the soul is not a separate entity from the body, but rather the body's form and functionality (Ödemiş, 2022, 61). In many dualists philosophical and religious teachings, it is argued that humans consist of a material body and a spiritual soul. According to this approach, the soul is accepted as a divine element that distinguishes humans from other living beings, giving them reason, will, consciousness, and moral responsibility. The human soul is assumed to come from a divine source and be immortal. Especially in Christianity, the soul is seen as part of the relationship with God and the center of human spiritual life. Christian thinkers interpret transhumanists' goal of separating mind from body and transferring it to artificial environments as a rejection of the soul. This situation is evaluated as a departure from the natural form in which God created humans and as a "second fall" (Herzfeld, 2016, 125). The relationship between artificial intelligence and the concept of the soul also causes significant discussions in the context of the Islamic thought tradition. From an Islamic perspective, the soul is accepted as a divine essence bestowed upon humans by Allah and is seen as the carrier of moral and spiritual qualities. Various views have been put forward among Islamic thinkers regarding the nature of the soul and its relationship with the body. The fundamental discussion in the Islamic thought tradition has focused on the ontological status of the soul and its relationship with the body. Some thinkers treat the soul as a material form and

define it as a subtle body, while others accept it as an abstract entity or accident. This second approach considers the soul as a substance separate and independent from the body. The view that the soul is a divine substance is accepted as a quality unique to humans, and it is thought that such a spiritual entity does not exist in artificial intelligence systems. Transhumanist approaches aim to transform the human body and mind through science and technology, overcoming limitations such as disease, aging, and death. In this context, transhumanism's approach to the concept of soul differs significantly from traditional religious and philosophical perspectives. While transhumanists view the soul as a scientifically understandable and transformable phenomenon, traditional approaches generally treat the soul as an integrated and supernatural entity with the body, emphasizing the determining effect of the soul on human identity (Lilley, 2013, 25). There are also views trying to reconcile artificial intelligence and the concept of the soul. For example, computer science professor Russell C. Bjork (2008, 101) suggests that artificial intelligence can have a soul and this would not diminish human theological value. According to Bjork, there is no fundamental theological conflict between artificial intelligence studies and the Bible's understanding of humans. On the contrary, Christianity's understanding of intelligence concepts can guide the development and understanding of the limits of artificial intelligence. In conclusion, the relationship between artificial intelligence and the concept of soul is a complex and multidimensional area of discussion from both an Islamic perspective and other religious and philosophical traditions. These discussions necessitate approaching fundamental philosophical questions such as human nature, consciousness, moral responsibility, and the meaning of existence in a new context. The rapid progress of technological developments indicates that these discussions will deepen further and the relationship with human religious and philosophical foundations will be reassessed.

Conclusion

While the rapid development of artificial intelligence technologies is transforming human life in many areas, it has also brought significant ethical and theological issues to the forefront. Within the scope of this study, the technical infrastructure of artificial intelligence, the distinction between weak and strong artificial intelligence, and these technologies' efforts to imitate human intelligence have been examined in detail. Fundamental ethical issues such as autonomy, responsibility, transparency, and justice in artificial intelligence's decision-making processes demonstrate that technology must be addressed not only from technical but also social and legal perspectives. Autonomous systems, particularly lethal autonomous weapons and decision-making mechanisms controlled by artificial intelligence, pose serious risks in terms of human rights and individual freedoms. Additionally, theological debates such as whether artificial intelligence can gain consciousness and whether these conscious systems can possess spiritual status necessitate a deep reflection process on human-machine relationships. The association of artificial intelligence with human creation and God's power of creation raises new theological questions through concepts of humanity’s place in the universe and free will. Consequently, the development of artificial intelligence is considered not only as scientific and technological progress but also as a metaphysical and philosophical challenge for humanity. Developments in artificial intelligence and robotics necessitate the revision of traditional

religious and ethical understandings. In this context, disciplines such as theology, philosophy, ethics, and technology need to come together to examine these issues in depth with an interdisciplinary approach and develop new paradigms. Developing technology in harmony with social values will play a fundamental role in building artificial intelligence systems that will advance humanity. A comprehensive examination of the ethical and theological dimensions of artificial intelligence is vital for overcoming potential future challenges and utilizing these technologies for the benefit of humanity.

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