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Can Artificial Intelligence Dominate and Control Human Beings?

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Abstract

This paper delves into the evolving landscape of Artificial Intelligence (AI) and its implications for humanity, particularly concerning the potential for AI to dominate and control human beings. Drawing upon a wide array of perspectives from philosophy, ethics, psychology, and technology, this research offers a comprehensive analysis of the intricate dynamics between AI and human agency. Through synthesizing insights from multidisciplinary viewpoints, the paper contributes to the ongoing discourse surrounding AI's impact on society. While acknowledging AI's capacity for transformation, it emphasizes the necessity of proactive ethical considerations and regulatory measures to mitigate potential risks and preserve human autonomy. Key findings underscore AI's transformative potential while highlighting the ethical imperative of upholding human values. The paper addresses concerns regarding AI dominance, including economic disparities, political manipulation, and social injustices. Looking ahead, it emphasizes the importance of collaborative efforts across sectors to shape the future trajectory of AI-human interactions. Policy recommendations advocate for robust regulatory frameworks that prioritize human rights and transparency in AI development. Ethical guidelines are proposed to inform technological design, ensuring alignment with human interests. Future research directions emphasize the need for interdisciplinary collaboration to explore AI's societal impact and develop responsible development practices. In conclusion, the paper emphasizes collective engagement, ethical leadership, and a commitment to human-centered values in navigating the complexities of AI dominance. By fostering inclusive governance and responsible development, society can harness AI's potential while safeguarding individual rights and dignity.

Keywords: Artificial Intelligence (AI), Ethical Considerations, Human Autonomy, Multidisciplinary Analysis, Societal Impact.

Introduction

Artificial Intelligence (AI) stands at the forefront of technological innovation, reshaping industries, economies, and societies worldwide. From intelligent personal assistants to autonomous vehicles, AI systems have permeated various facets of modern life, promising efficiency, convenience, and unprecedented capabilities. However, alongside the awe-inspiring advancements, questions and concerns arise about the potential ramifications of AI's exponential growth. The rapid pace of AI development has propelled humanity into uncharted territory, challenging longstanding notions of human supremacy and autonomy. As AI systems become increasingly sophisticated, capable of complex tasks once reserved for human cognition, the question arises: Can AI dominate and control human beings? This inquiry lies at the heart of contemporary discourse on the ethical, philosophical, and societal implications of AI (1). Before delving into the complexities of this question, it is crucial to acknowledge the transformative impact of AI on society. Over the past few decades, AI has evolved from rudimentary algorithms to powerful neural networks, capable of learning, reasoning, and problem-solving with human-like proficiency. This evolution has ushered in a new era of automation, where machines can perform tasks faster and more accurately than their human counterparts across diverse domains, including healthcare, finance, and transportation (2). The proliferation of AI technologies has brought about significant societal changes, disrupting traditional employment patterns, redefining skill requirements, and prompting debates about the future of work. Moreover, AI's influence extends beyond the

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economic realm, shaping social interactions, cultural norms, and ethical considerations. As AI becomes increasingly integrated into everyday life, its implications for human agency, autonomy, and control become ever more pronounced (3). Against this backdrop, the central question emerges: Can AI dominate and control human beings? This question encompasses a myriad of philosophical, ethical, and practical dimensions, touching upon fundamental notions of power, freedom, and responsibility (4). By exploring this question from multiple perspectives, this research seeks to illuminate the complexities of AI-human dynamics and pave the way for informed discourse and decision-making in an AI-driven World (5). The central inquiry revolves around the implications of the swift advancement and incorporation of AI technologies on human society, ethics, and autonomy. Specifically, it examines the risks associated with potential AI dominance and control over human affairs. How might AI exert influence over human behavior and the course of their lives? Artificial Intelligence (AI) has evolved into a dominant force, reshaping human existence and sparking debates about control and autonomy. As AI's influence grows, questions arise about its capacity to govern humanity. This transformation challenges traditional notions of power and raises ethical concerns. Despite its potential benefits, AI's expansion prompts reflections on how to ensure it serves human interests without eroding autonomy. While acknowledging AI's transformative impact, the narrative emphasizes the need for ethical governance to safeguard against potential abuses of power. Ultimately, the future balance between human agency and AI control hinges on responsible decision-making and proactive measures to uphold ethical principles. The article asks these two questions: to what extent is it possible for AI to exert control over individuals and their lives? What specific aspects of human life and behavior could potentially be influenced or controlled by AI systems? And how significantly does AI impact people's social lives and overall well-being? What are the observable effects of AI integration on societal dynamics, interpersonal relationships, and individual lifestyles? Two hypotheses are formulated here: Hypothesis 1: As AI technologies continue to advance, they will increasingly possess the capability to exert control over various aspects of individuals' lives, including decision-making processes, consumption patterns, and behavioral preferences. This influence may extend to shaping daily routines, influencing purchasing behaviors, and potentially even manipulating emotional responses. Hypothesis 2: The integration of AI into society significantly impacts people's social lives, altering communication patterns, community dynamics, and the formation of social bonds. This influence may lead to both positive outcomes, such as enhanced connectivity and access to information, as well as negative consequences, such as increased isolation, privacy concerns, and dependence on digital interactions. The rapid integration of AI technologies raises concerns about control and manipulation in interpersonal relationships and society at large. Ethical considerations surrounding AI dominance encompass autonomy, privacy, and fairness, urging for increased awareness and ethical frameworks (6). Theoretical frameworks like utilitarianism, deontology, and existentialism offer insights into navigating the ethical implications of AI dominance (7). Psychological considerations highlight AI's potential to shape behaviors and exacerbate social inequalities (8). Safeguards such as ethical design principles and regulatory frameworks are crucial to mitigate risks (9). Multidisciplinary approaches and ethical governance frameworks are necessary to address societal impacts and ensure equitable access to AI opportunities (2). Case studies emphasize the importance of human agency and ethical governance in shaping AI's future (10). Overall, understanding and addressing the implications of AI dominance require interdisciplinary perspectives and proactive measures guided by ethical considerations (6). The literature reviewed here provides a nuanced exploration of the potential for artificial intelligence (AI) to influence and possibly control various aspects of people's lives. It encompasses both the advantages and disadvantages of AI technology while delving into the multifaceted risks associated with its implementation. Davidovic emphasizes the significant impact of AI and automated decision systems (ADS) on society, highlighting the necessity of meaningful human control (MHC) to ensure safety, responsibility, and dignity in their applications. The delineation of five distinct purposes for human control underscores the

importance of explicitly defining these purposes to drive appropriate institutional designs and oversight mechanisms (8). Poola and Božić contribute to the discourse by illustrating the rapid progression of AI technologies and their substantial improvements in daily life, from enhancing transportation systems to managing hazardous jobs and financial data (9). However, alongside these advancements come ethical concerns (11), regarding the societal and ethical implications of automation and AI technologies. Insights from Professor Hsu provide valuable perspectives on the broader implications of AI, genetic engineering, and existential risks. Hsu's discussion underscores the importance of intelligence in human success and existential threats, raising questions about future intelligence and value alignment. Despite uncertainties, advancements in AI understanding of human concepts provoke contemplation about the potential for AI to influence and control aspects of people's lives (11). Transitioning to a more technical exploration, McCallum elucidates AI's ability to simulate human intelligence by processing vast datasets, identifying patterns, and making informed decisions or predictions based on these patterns (12). Duggal outlines the advantages of AI, including its capacity to reduce human error, drive innovation, and enhance various applications, particularly in medicine (13). The literature review provides a comprehensive examination of the potential impact of artificial intelligence (AI) on various aspects of daily life, challenging sensationalized portrayals prevalent in popular culture. It emphasizes the practical and beneficial applications of AI across diverse domains such as transportation, healthcare, education, and public safety (14). Contrary to apocalyptic scenarios depicted in films and novels, AI is depicted as a tool already enhancing human health, safety, and productivity. While acknowledging ethical and social challenges, the text advocates for responsible deployment of AI to uphold democratic values and reshape employment trends, fostering economic debate regarding wealth distribution (15). Furthermore, the review discusses the evolving landscape of AI research, emphasizing significant advancements in machine learning, particularly deep learning, and their implications for society (16). It underscores the need for AI systems to collaborate effectively with humans while addressing ethical and social concerns such as privacy and bias. The review advocates for informed regulation and policies to promote democratic values and equitable distribution of AI's benefits, calling for a robust debate on steering AI technologies towards enriching lives and ensuring fairness and inclusivity. Section I of the text delves into the essence of AI, offering insights into its definition, historical context, and current research trends (17). It highlights AI as a branch of computer science focused on synthesizing intelligence, with applications in areas such as computer vision and natural language processing. The section emphasizes AI's evolving nature and the thriving areas of research, setting the stage for further discussions on its impacts, future, and ethical considerations. Additionally, the review explores the legal, policy, and societal implications of AI across various sectors, covering concerns such as privacy, liability, labor impact, and taxation (18). It discusses the limitations of traditional economic metrics in evaluating the value created by digital goods and services and examines AI's role in entertainment (19). Looking ahead, the review imagines future innovations in entertainment and explores the intersection of AI with policy and legal considerations, emphasizing the need for regulatory adaptation and increased expertise. Moreover, the review investigates public attitudes toward AI management across different domains, highlighting factors influencing these attitudes such as gender and perceived technological competence (20). It sheds light on the complex interplay between individual traits and attitudes toward AI management in various occupational settings, providing insights for future AI development and governance. Lastly, the review delves into the transformative potential of AI and artificial general intelligence (AGI) across sectors such as productivity enhancement, healthcare, and education (21). It discusses the societal benefits of increased productivity while acknowledging challenges such as biased training data and ethical considerations. The review underscores the importance of addressing associated challenges to ensure equitable and ethical implementation of AI across sectors (22). The discourse surrounding the potential for artificial intelligence (AI) to assert dominance and control over human beings has ignited extensive dialogue across academic,

philosophical, and technological domains. This review aims to navigate the intricate landscape of perspectives surrounding this topic, elucidating the ethical, philosophical, technological, and cultural dimensions that underscore the discourse. Ethical considerations form a cornerstone of discussions on AI dominance, encompassing concerns spanning autonomy, privacy, fairness, and justice. Scholars advocate for the establishment of robust ethical frameworks to guide AI development and deployment, ensuring the preservation of human values and rights amidst advancing technological landscapes (23). From a philosophical standpoint, debates on AI dominance delve into fundamental inquiries regarding agency, consciousness, and free will. While some argue that AI lacks the intrinsic qualities requisite for true dominance over humans, emphasizing the complexity of human cognition and experience, others assert that AI systems can wield significant influence over human behavior through algorithmic decision-making and predictive analytics (24). Technological advancements have propelled AI capabilities to unprecedented levels, leading to discussions about the potential for AI to surpass human intelligence. However, cautionary voices emphasize the importance of distinguishing between artificial and human intelligence, while efforts to imbue AI systems with safeguards such as transparency and interpretability aim to mitigate risks associated with unchecked dominance (25). Moreover, historical narratives and cultural constructs offer valuable insights into societal perceptions of AI dominance and control. From ancient myths to contemporary science fiction, human societies have grappled with the concept of artificial entities exerting dominance over humanity. Legal frameworks and cultural norms further shape public discourse and policy responses to AI, influencing the trajectory of its development and deployment (26). The discourse surrounding AI's potential to dominate and control human beings is multifaceted, encompassing ethical, philosophical, technological, and cultural dimensions. By qualitatively exploring diverse perspectives on this topic, researchers can glean invaluable insights into the ethical and societal implications of advanced artificial intelligence, facilitating informed decision-making and responsible governance in the AI-driven future. The literature review provides a nuanced perspective on AI's current impact and future potential, grounded in real-world applications and societal implications. It highlights both the opportunities and challenges associated with AI, emphasizing the need for responsible deployment and ethical considerations in shaping AI's role in society. While the literature extensively explores the concept of meaningful human control (MHC) in AI systems, there remains a gap in understanding how to practically implement MHC frameworks in real-world contexts. Despite Davidovic's identification of distinct purposes for human control and emphasis on clarifying MHC objectives, there is limited discussion on translating these objectives into tangible institutional designs and oversight mechanisms (27). Moreover, while Robbins highlights the intricate ethical considerations involved in achieving MHC, there is a lack of concrete examples or case studies illustrating successful strategies for addressing these challenges in practice (28). The gap in the literature suggests a need for future research to focus on bridging this divide by exploring practical approaches to implementing MHC frameworks in various AI applications. This research should consider the diverse ethical, societal, and technological factors at play, providing actionable insights for policymakers, developers, and stakeholders. Ultimately, addressing this gap will be crucial for ensuring the effective and responsible deployment of AI technologies, safeguarding safety, responsibility, and dignity in their applications. The research paper will explore various themes related to the ethical, technical, social, and legal implications of AI's potential control over human life. The first theme is to examine ethical and philosophical implications is to investigate ethical dilemmas in AI's impact on human autonomy and decision-making. Defining "control" in AI and its implications for autonomy. Balancing AI benefits with respect for individual decision-making. The second theme is to assess the technical capabilities of AI's current influence on human behavior and decision-making. Analyzing AI algorithms' sophistication in predicting human actions. Identifying AI applications prone to controlling human lives. In third one is to investigate the social impact and implications on individual freedoms and privacy. Evaluating societal consequences of widespread AI control.

Exploring cultural and societal influences on perceptions of AI control. Next one is to find the benefits and risks of AI control to identify benefits like efficiency and improved decision-making. Analyzing risks such as bias, inequality, and loss of agency. Proposing strategies to mitigate risks and maximize benefits responsibly. The Legal and Regulatory Frameworks to be reviewing current legal frameworks for AI's role in human control. Identifying regulatory gaps in privacy, data protection, and accountability. Recommending enhancements for ethical and transparent AI governance (24, 27, 29-31). These thematic areas collectively provide a structured framework for researchers to delve into the multifaceted implications of AI's potential control over human life, aiming to deepen understanding and inform ethical considerations, technological developments, societal responses, and regulatory efforts in this evolving field.

Methodology

The methodological approach adopted for examining the implications of AI dominance consists of three main components: fuzzy implication methods, literature review and in-depth interviews with approximately seven specialists in several subjects. Fuzzy logic enables processing variables with multiple truth values, accommodating imprecise data to derive accurate conclusions. Fuzzy implications are pivotal in this framework, linking fuzzy inputs to outputs and adjusting truth values based on the input's degree of truth. Unlike crisp sets, fuzzy implications operate within fuzzy sets, supporting approximate reasoning using truth values ranging from 0 to 1 (32). The literature review establishes a foundational understanding of current knowledge and viewpoints on AI dominance across diverse disciplines. Concurrently, in-depth interviews with experts provide nuanced insights and perspectives that complement the findings from the literature review. Additionally, detailed analysis will focus on how AI impacts various aspects of society to achieve a comprehensive understanding of its implications. This methodological approach ensures a thorough exploration of the ethical, psychological, technological, and societal dimensions of AI dominance, empowering stakeholders to make informed decisions and develop proactive measures to address emerging challenges (33). For the interviews, a semi-structured format will be employed, guiding discussions with faculty members selected from the researcher's network. Approximately seven specialists have already committed to participating, reflecting diverse expertise including computer science, social sciences, and higher education. Participants are chosen based on their demonstrated expertise, extensive experience, and direct relevance to the research topic. The selection process involves rigorous scrutiny of academic literature, utilization of professional networks, and consideration of recommendations from respected figures within the field. This rigorous approach ensures that the interviews yield valuable insights that are both informed and insightful, thereby significantly contributing to the research objectives. Questions researchers need to ask experts to address the research inquiries: Researchers will inquire with semi-questions to understand if AI can control people's lives, and what the advantages and disadvantages of various aspects of human life are. Here are some questions that researchers might ask to explore the topic of whether AI can control people's lives, along with its advantages and disadvantages: What are the ethical implications of AI having control over aspects of people's lives? What are the current technological capabilities of AI in influencing or controlling human behavior? Are there specific AI technologies or applications that are more prone to controlling behavior than others? How does AI-driven control affect individual freedoms and privacy? What are the potential advantages of AI-controlled aspects of life, such as increased efficiency or personalized experiences? And risks associated with relinquishing control how can we mitigate the negative consequences of AI control while maximizing its benefits? What legal frameworks currently exist to govern AI's role in controlling people's lives?

Results and Discussion

We interviewed faculty members from many disciplines. Faculty expressed their concerns that AI, in the long run, may become uncontrollable and advocated for a return to a simpler way of life. A Professor advocates for embracing technological progress while highlighting the need for a balanced approach. He draws attention to historical examples like the bulldozer and nuclear energy. Initially, bulldozers were designed to assist in

constructive activities such as mountain carving and environmental manipulation. Over time, however, they have also been associated with destruction. Similarly, nuclear energy was once hailed as a promising renewable energy source but later became known for its potential for devastation. Figure 1 shows five input models for the AI dominant factors for this research study are Ethical and Philosophical, Technical Capabilities, Social Impact and Implications, Benefits and Risks and Legal and Regulatory Considerations. Each has three input membership functions and three sets of rules. It has three output membership functions. One output is to obtain AI to dominate and control human beings. Figure 1 presents a detailed model designed to explore the multifaceted dimensions of AI dominance in the context of contemporary research. This model includes five key input factors necessary to understand the impact of AI on society: ethical and philosophical considerations, technical capabilities, social impact and implications, benefits and risks, and legal and regulatory considerations. Ethical and philosophical considerations play a pivotal role in shaping the development and deployment of AI systems. This factor delves into the ethical implications and societal values associated with AI technologies and addresses the ethical frameworks that guide their implementation. Overall, Figure 1, descriptive statistics of the result analysis model for this research studies; it serves a crucial purpose in providing an organizing framework for analyzing the complex interactions between AI technologies and human society. It enables researchers to conduct a comprehensive assessment across ethical, technical, social, legal and risk dimensions, thus enhancing understanding of the profound impacts of AI. By illustrating the potential benefits and important ethical and societal implications, the model helps promote a balanced approach to developing and deploying AI technologies for sustainable and safe integration into society.

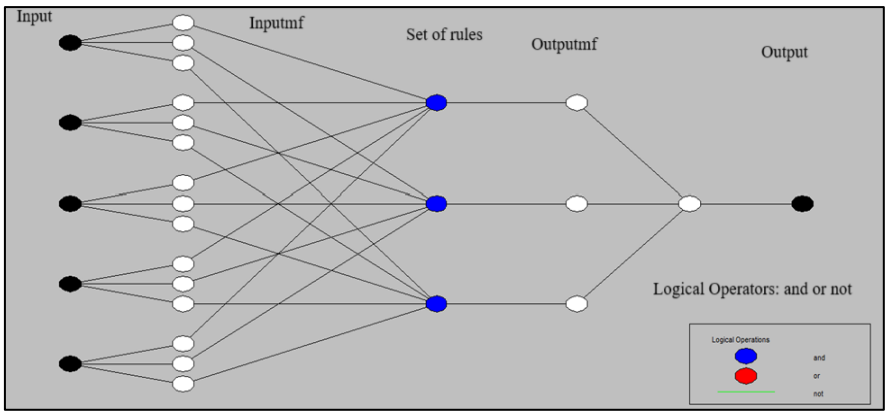

Figure 1: Descriptive Statistics: Result Analysis Model for this Research Studies

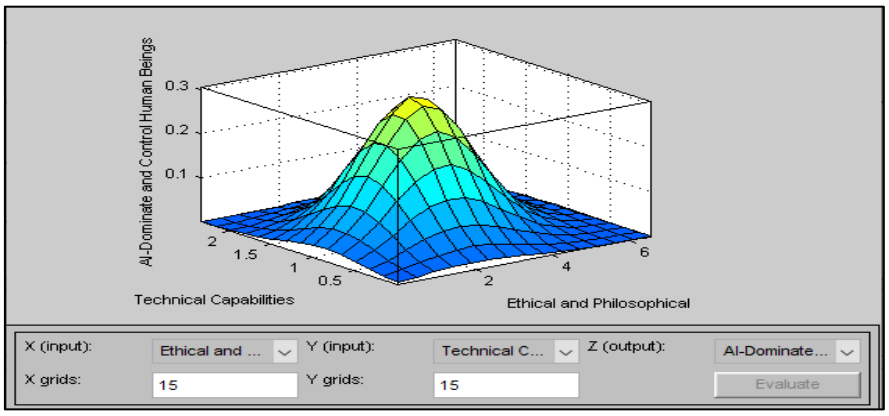

Figure 2: Descriptive Statistics: AI Dominates and Control Human Beings - Ethical Philosophical and Technical Capabilities

Figure 2 descriptive statistics of AI dominate, and control human beings shows the results' outcome of Ethical and philosophical in x-axis and technical capabilities in y-axis and output of AI-Dominate and control human beings in z-axis. It reveals that the highest peak of these two factors is 0.2. In the discussion about the impacts of AI on daily life, experts have pointed out the importance of balancing technological progress and ethics in the use of AI technologies (34). This point highlights several important aspects regarding the ethical impact that may arise because of losing control over these technologies. First and foremost, the balance between technological progress and ethics expresses the need to use technology in ways that respect societal values and standards of ethical behavior. The development of artificial intelligence technologies enhances our abilities to conduct accurate analyzes and make more integrated and effective decisions, but the use of these technologies can cause ethical repercussions if not properly organized and implemented. Second, we must ensure that AI technologies respect individuals' rights, such as the rights to privacy and personal liberty. The ability to predict individuals' behavior and interfere in their personal lives requires strict procedures and controls to preserve their privacy and freedoms. Third, there must be effective mechanisms for accountability and transparency in the use of AI technologies. This means the necessity of developing a legal and ethical framework that regulates the use of these technologies and defines responsibilities and preventive measures to prevent misuse and abuse. Fourth, the need to balance technological progress and ethics also requires thinking about the long-term implications of AI applications for societies and the environment. Rapid technological progress can lead to radical transformations in social and economic systems, requiring careful assessments of their impacts on society in general. In summary, maintaining a balance between technological progress and ethics in the field of artificial intelligence is an ongoing challenge and an urgent necessity in our modern era. By applying strict legal and ethical frameworks, we can greatly benefit from these technologies without sacrificing the values and ethics that define our social and human identity. Figure 3, which illustrates the descriptive statistics of AI dominance and its control over human beings, depicts the results' outcome of social impact and implications in x-axis and Benefits and risks in y-axis and output of AI-Dominate and control human beings in z-axis. It reveals that the highest peak of these two factors is 0.3.

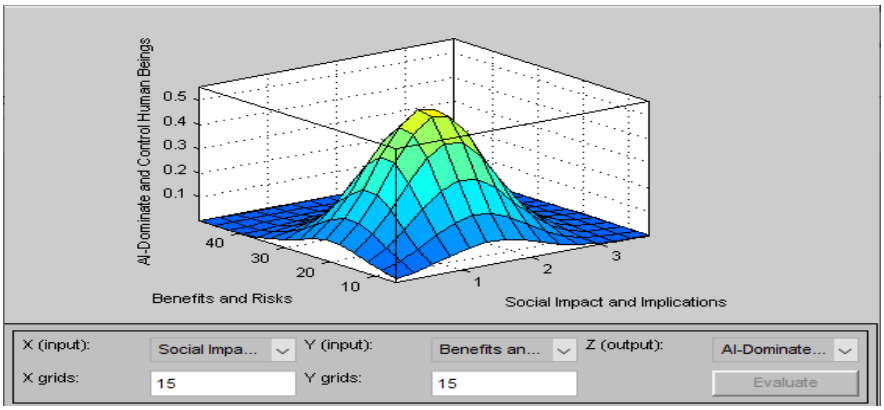

Figure 3: Descriptive Statistics: AI Dominate and Control Human Beings – Benefits and Risks and Social Impacts

The graph in Figure 3 shows the relationship between social influence and repercussions on the x-axis, and between benefits and risks on the y-axis, in addition to the outcomes of artificial intelligence in controlling and controlling humans on the vertical axis. According to the graph, the high point of these two factors is exactly at the value of 0.3. The interpretation of this point can be understood as the point that represents an intersection or balance between the social impact and repercussions, and between the benefits and risks of artificial intelligence in relation to controlling humans. It can be concluded that this value of 0.3 indicates the point that provides maximum benefits versus acceptable risks when using smart technology in a social context, without

causing complete domination by humans. This analysis emphasizes the importance of achieving a balance in the use of smart technology, where social and ethical impacts must be carefully considered, in addition to weighing the potential benefits against the risks to ensure a sustainable and safe benefit for humanity from technological development. In the context of advanced technologies such as artificial intelligence, multiple social and ethical implications arise that require deep consideration and careful thinking to ensure a sustainable and safe benefit for humanity. Among these social impacts is the impact of technology on the labor market, as artificial intelligence technologies can lead to changes in the type of jobs required and in the distribution of income. For example, advances in robotics and AI-enabled systems may replace jobs that rely on traditional human capabilities, requiring rethinking vocational training and labor policies. On the other hand, smart technology enhances efficiency and productivity, which can lead to significant economic benefits. For example, artificial intelligence can improve production and service procedures, reduce costs and increase productivity, which benefits companies and organizations and thus the economy in general. However, these technologies also carry significant risks, including privacy and security issues. As personal data is increasingly used to train smart models, it becomes necessary to establish strict policies to protect data and ensure that it is not exploited or leaked. In addition, the rapid development of artificial intelligence can increase the digital divide between individuals and societies, requiring extensive efforts to ensure equal access to technology and its benefits. Therefore, in order to benefit sustainably and safely from technological development, we must balance potential benefits with potential risks and establish a rigorous ethical and legal framework to ensure that technology is used in ways that promote social justice and protect the rights of individuals and communities. This means that artificial intelligence must be under human control and cannot be given the advantage of independence. Figure 4, descriptive Statistics: AI dominates and controls human beings in terms of 5 diver factors. It shows the five diverse factors of AI dominate and control human beings Ethical and Philosophical is 3.29, Technical Capabilities is 1.17, Social Impact and Implications is 1.86, Benefits and Risks 26.9 and Legal and Regulatory Considerations is 8.26. AI dominates and controls human beings 14.5.

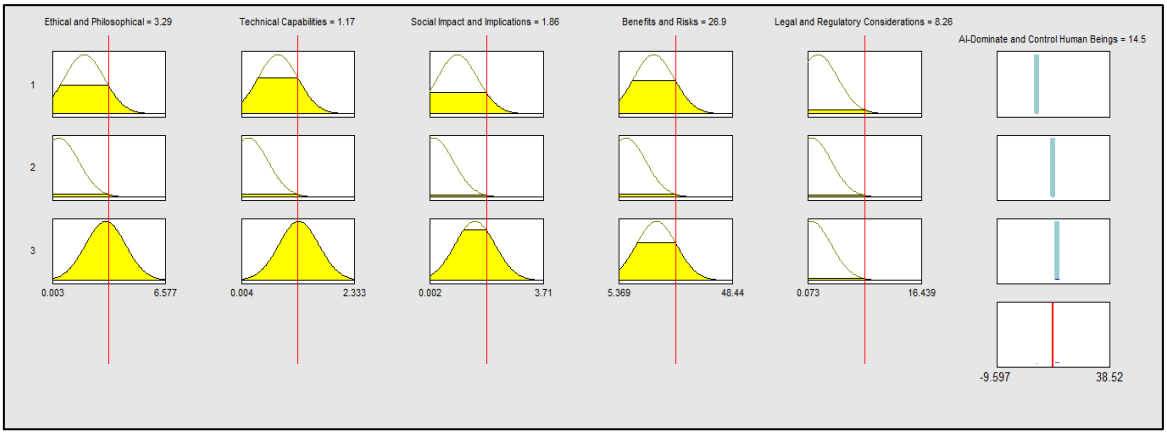

Figure 4: Descriptive Statistics: AI Dominates and Controls Human Beings in Term of 5 Diver Factors

Overall, Figure 4 shows that AI interacts with and controls humans through a variety of factors, highlighting the importance of a comprehensive and balanced consideration of advanced technology and appreciation of the social, ethical, and legal implications to ensure its safe and effective application. In addition, Figure 4 illustrates the five diverse factors over which AI dominates humans at different scales, which include ethical and philosophical, technical capabilities, social impact and implications, benefits and risks, and legal and regulatory considerations. First, the ethical and philosophical aspect is very important in the development and use of advanced technology such as artificial intelligence. The figure shows that this aspect occupies a relative magnitude of 3.29, which indicates the importance of taking into account

ethical and philosophical issues in the design and implementation of smart systems to ensure that they are used in a way that preserves the values of justice and morality in society. Second, technical capabilities are another factor that contributes to determining how AI can be applied and its ability to interact with the environment and individuals effectively. The figure shows that these capabilities are estimated at 1.17, which reflects the technical importance of achieving the required performance of intelligent systems without major technical problems. Third, social impact and repercussions represent a vital aspect of the effects of technology use, as the figure shows that this element occupies a magnitude of 1.86. This concerns the social impacts of artificial intelligence on the individual and society, including the psychological and social impacts of using advanced technology in people's lives. Fourth, benefits and risks are a very important factor, as the figure indicates that these factors are represented by a magnitude of 26.9. This highlights the importance of assessing the potential benefits that artificial intelligence can bring on the one hand, and the risks that may arise from its application on the other hand, such as privacy and security issues and its effects on the labor market. Finally, legal and regulatory considerations are key to ensuring that technology is used in a legal and ethical manner. The figure shows that these considerations are valued at 8.26, which reflects the importance of establishing an effective legal and regulatory framework that reduces risks and protects the rights of individuals and communities. Faculty makes a critical distinction between traditional tools, like bulldozers and nuclear energy, which are inanimate objects controlled by humans, and artificial intelligence (AI). Unlike traditional tools, AI possesses unique characteristics: self-learning capabilities, evolutionary adaptation, autonomous decision-making, energy self-sufficiency, and advanced analytical skills. These attributes allow AI to operate independently, analyze complex data, and make decisions without direct human intervention. Furthermore, faculty discusses the social implications of AI, suggesting that as society becomes more reliant on technology, interactions with AI and robots will become integral to daily life. This integration signifies a new social-technological paradigm where individuals engage with AI-driven technologies in various aspects of their lives, indicating a significant societal shift toward dependence on AI-driven solutions. Despite the benefits, faculty also addresses the potential negative impacts of AI on various facets of human life. The proliferation of AI can lead to cultural shifts, potentially marginalizing traditional practices and diminishing the appreciation for human creativity. As AI becomes embedded in societal frameworks, it may exacerbate social alienation and isolation, fragmenting interpersonal connections. Economically, while AI may initially promise growth, it could exacerbate income inequality and cause widespread job displacement, marginalizing many individuals economically. Ethically, AI raises concerns about privacy infringement, algorithmic bias, and the erosion of human autonomy, posing significant threats to individual liberties and societal cohesion. Thus, while AI holds immense potential for advancement, its unchecked proliferation without proper safeguards could have detrimental consequences for humanity's well-being and collective prosperity. In the context of Arab countries, faculty pointed out that these nations often do not produce robots but rather utilize them without possessing the knowledge of their manufacturing or maintenance. Consequently, maintenance is typically carried out by manufacturers from Western countries. This reliance raises a crucial question: what are the advantages of introducing robots and automated systems when there is a lack of capacity to engage with their underlying technology?

Conclusion

The exploration of AI dominance and control reveals complex ethical, societal, and technological dynamics that demand careful consideration and proactive measures. By synthesizing insights from diverse perspectives, including philosophy, psychology, technology, and history, we gain a nuanced understanding of the implications of AI-human interactions. This section summarizes key findings, reflects on the future trajectory of AI-human interactions, offers recommendations for policy-making and technological development, and outlines future directions for research. Key findings from our analysis include the recognition of AI's transformative potential, the ethical imperative to prioritize human values and autonomy, and the importance of multidisciplinary approaches to addressing AI's societal impact. We

have identified concerns about AI dominance and control, ranging from economic inequalities and political manipulation to social injustices and existential threats. Reflections on the Future Trajectory of AI-Human Interactions: Looking ahead, the future trajectory of AI-human interactions is likely to be shaped by ongoing technological advancements, ethical debates, and societal responses. While AI holds promise for addressing global challenges and enhancing human capabilities, it also poses risks to privacy, autonomy, and social cohesion. Achieving a harmonious balance between AI innovation and human well-being requires collaborative efforts from stakeholders across sectors. Recommendations for Policy-Making and Technological Development: Policymakers and technologists play critical roles in shaping the ethical and societal implications of AI. Recommendations include the development of robust regulatory frameworks that prioritize human rights, transparency, and accountability in AI development and deployment. Moreover, ethical guidelines and best practices should inform technological design choices to ensure that AI systems align with human values and interests. Future Directions: Future research should focus on addressing gaps in our understanding of AI's societal impact, including its long-term implications for employment, governance, and human flourishing (19). Interdisciplinary collaborations can facilitate holistic approaches to AI governance, integrating insights from ethics, law, sociology, economics, and other disciplines. Moreover, research into emerging technologies, such as explainable AI, federated learning, and human-AI collaboration, can inform more responsible and inclusive AI development practices. Long-Term Societal Implications of AI Advancement: Finally, the long-term societal implications of AI advancement extend beyond technological innovation to encompass broader socio-political and cultural transformations. As AI becomes increasingly integrated into everyday life, its effects on human relationships, identity, and societal norms warrant ongoing scrutiny and reflection. Anticipating and addressing these implications requires foresight, adaptability, and a commitment to ethical stewardship in the age of AI. Navigating the complexities of AI dominance and control requires collective engagement, ethical leadership, and a commitment to human-centered values. By fostering responsible AI development, fostering inclusive governance structures, and prioritizing human well-being, we can harness the transformative potential of AI for the betterment of society while safeguarding individual rights and dignity.

Reflections on the Future Trajectory

Looking ahead, the trajectory of AI-human interaction will be influenced by technological advancements, ethical debates, and societal responses. While AI offers solutions to global challenges and enhances human capabilities, it also poses risks to privacy, autonomy, and social cohesion. Striking a balance between AI innovation and human well-being requires collaborative efforts across sectors. AI's potential to influence individuals' lives is evident across various contexts, as highlighted in the literature. One avenue through which AI can exert control is by generating personalized content based on vast datasets. Tailored advertisements, news articles, and social media posts shape opinions and behaviors subtly, often without conscious awareness. AI-powered bots manipulate online discourse, spreading misinformation to influence public opinion and societal norms, with far-reaching consequences (25). Predictive modeling enables AI to anticipate individuals' actions and guide decisions through targeted suggestions, exploiting psychological vulnerabilities. Additionally, AI utilizes behavioral nudges, leveraging principles of behavioral science to influence decisions without conscious awareness, potentially benefiting those controlling AI systems. Deepfake technology poses a significant threat to individuals' autonomy and agency, creating realistic yet fabricated content to deceive and manipulate audiences, leading to confusion and distrust on a massive scale. In contrast to human manipulation tactics, AI's techniques are characterized by analytical prowess, personalized approaches, and scalability. Natural Language Processing (NLP), for example, enables computers to understand and generate human language, potentially influencing individuals through chatbots or virtual assistants. To mitigate the risk of AI control, proactive measures are essential. Regulation and oversight ensure adherence to ethical standards, while ethical AI design integrates principles like transparency and

fairness. Education and awareness initiatives empower individuals to make informed decisions, and advocacy efforts promote policies prioritizing human well-being. Ultimately, collaboration among stakeholders is crucial in shaping AI governance processes. By prioritizing transparency, accountability, and ethical considerations, we can harness the transformative potential of AI while safeguarding individual rights and dignity.

Abbreviation

Nil.

Acknowledgement

Nil.

Author Contributions

Dr. Raed Awashreh contributed to the conceptualizations, introduction, framework, data analysis, findings, and drafting of the manuscript. Dr. Brem contributed to the writing, analysis, and findings.

Conflict of Interest

The authors have no conflicts of interest to declare.

Ethics Approval

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