Tuijin Jishu/Journal of Propulsion Technology
ISSN: 1001-4055
Vol. 45 No. 2 (2024)

Ethical Considerations in the Deployment of AI

Aaryan Gupta, Amrit Raj, Mayank Puri, Jayesh Gangrade
Department of Artificial Intelligence and MachineLearning, Manipal University Jaipur, Jaipur, India

Abstract:- Artificial intelligence (AI) technologies provide a plethora of opportunities for efficiency and innovation, and they are increasingly being incorporated into business operations. However, the application of AI in business settings raises significant ethical concerns that must be addressed to ensure moral and sustainable leadership practices. This review research examines the potential effects of ethical concerns with AI use on organisational leadership. It summarises the current economic applications of artificial intelligence while highlighting the need for moral guidelines and laws to limit its usage. The research discusses the role of business leadership in promoting transparency, accountability, and responsible use of AI technology. It also looks at a number of ethical frameworks for AI deployment. It also looks at potential risks associated with using AI and offers solutions to lessen them. The study concludes by emphasising how important it is to prioritise ethical concerns while utilising AI in order to boost confidence, lower risks, and promote the long-term success of corporate leadership.

Keywords*: Ethical AI, Business Leadership, AI Deployment, Social Inclusion, Homelessness Prevention*

1. Introduction

Artificial intelligence (AI) technologies, which promise increased productivity, efficiency, and creativity, have changed a number of corporate industries with their rapid growth and broad adoption. Beyond the benefits, however, incorporating AI into business operations raises significant ethical concerns that should not be ignored. Ethical considerations are critical to the growth of trust, accountability, and long-term success in business leadership. This review article explores the environment of AI deployment in business settings, focusing on the moral ramifications and the part CEOs play in helping companies navigate these challenges.

In this introduction, we summarise the objectives and structure of the review article. We will begin by discussing the current status of artificial intelligence (AI) in business, highlighting its applications and the need for moral frameworks to regulate its application. Next, we look at the ethical standards and frameworks that are now in place for the use of AI, emphasising ideas like accountability, openness, and fairness. Through a comprehensive case study on artificial intelligence in HR, we investigate the ethical quandaries and potential biases associated with AI-assisted HR practices.

Furthermore, we discuss strategies for risk reduction and ethical practice promotion, and we look at how moral leadership supports the responsible use of AI. Finally, we project the potential effects of ethical AI deployment on business performance and social well-being, outlining potential future directions for both practice and research.

This review paper serves as a call to action for business leaders to prioritise ethical challenges in AI deployment in the age of AI-driven business operations, fostering a culture of responsible innovation and ethical leadership.

2. State of AI in Business

Artificial intelligence (AI) is becoming a commonplace presence in many corporate areas, revolutionising traditional labour processes and offering previously unheard- of opportunities for creativity and efficiency. AI technologies are being utilised to assist data-driven decision-making, automate laborious tasks, enhance consumer expe- riences, and expedite operational procedures across a range of industries, including banking, healthcare, manufacturing, retail, and more[1].

Algorithms driven by artificial intelligence (AI) are revolutionising fraud detection, risk management, and trading practices in the financial industry. This allows finan- cial businesses to navigate complex market settings with more accuracy and agility. In the healthcare sector, artificial intelligence (AI) applications are transforming diag- nosis, patient care, and medication creation[2]. This will improve treatment outcomes and enable personalised medicine. Through the optimisation of resource utilisation, reduction of downtime, and simplification of production lines, AI-driven automation in manufacturing is raising productivity and cost-effectiveness. In a similar vein, artificial intelligence (AI) algorithms find use in retail to assess consumer behaviour, predict market trends, and tailor marketing campaigns to boost customer engagement and loyalty[3].

Fig1: deployment process of AI in business leadership

But even with these amazing advancements, concerns regarding the ethical impli-cations of AI use persist. Unsupervised AI systems run the danger of perpetuating biases, widening socioeconomic gaps, and jeopardising data privacy[4]. Therefore, busi- nesses need to put ethical frameworks and guidelines in place to guarantee fairness, accountability, and transparency in AI-driven decision-making processes. As we go deeper into this review paper, we will look at the complicated business context around artificial intelligence (AI), examining both the transformative potential of AI and the ethical imperatives that enable its responsible deployment. Through in-depth research and case studies, we hope to shed light on the critical role that moral leadership plays in navigating the complex intersection of business ethics and AI technology[5].

3. Ethical Frameworks for AI Deployment

In the rapidly evolving field of artificial intelligence (AI), businesses are relying more and more on AI technology to enhance customer experiences, streamline operations, and fortify decision-making processes. However, in addition to its benefits, adopting AI has ethical implications that cannot be disregarded. This section goes into great length about the intricate web of ethical concerns that facilitate the integration of AI in business settings[6].

3.1. Foundational Principles

Integrity, responsibility, and openness are the pillars of an ethical AI implementation. AI systems must not promote discrimination or treat individuals differently based on their gender, race, or any other protected characteristic in order to be considered fair. Transparency requires clarity so that stakeholders may understand the AI algorithms and decision-making process. Since accountability holds companies accountable for their actions, it necessitates oversight and procedures for making amends in the event that AI systems make mistakes or harm[7].

3.2. Regulatory Landscape

Companies that want to safely use AI must negotiate the regulatory landscape. Inter- national regulatory bodies are developing frameworks and procedures to monitor AI usage, addressing concerns about algorithmic transparency, data security, and ethical AI use. Respecting these guidelines not only shields companies from legal liability but also increases stakeholder and customer confidence[8].

3.3. Industrial Standards

Legislative restrictions are not as significant in defining ethical AI activities as indus- try standards. Organisations usually adhere to industry-specific guidelines and best practices that have been developed by advocacy organisations and professional bodies. These recommendations promote moral conduct and social responsibility while offer- ing helpful guidance for the application of AI. These include moral dilemmas specific to sectors including healthcare, finance, and self-driving automobiles[9].

3.4. Ethical Decision-Making Frameworks

Methods for evaluating the moral implications of AI usage are arranged by using frameworks for ethical decision-making. Diverse philosophical perspectives, including virtue ethics, deontology, and utilitarianism, impact decision-making procedures and assist organisations in balancing competing goals and interests. By including these ideas into AI governance frameworks, businesses may assess the ethical implications of AI initiatives in greater detail[10].

3.5. Practical Considerations

Businesses must consider practical concerns rather than just theoretical frameworks when implementing ethical AI. This means creating a compliant and moral cor- porate culture, educating and training staff members on AI, and putting in place procedures for moral oversight and accountability. Having multidisciplinary teams con-sisting of data scientists, ethicists, and legal experts can facilitate the development of all-encompassing plans for the moral use of AI[11].

3.6. Case Studies and Examples

Practical applications of ethical AI deployment in diverse business contexts are demon- strated through empirical case studies and examples. These narratives shed light on the advantages and challenges of using ethical AI, including stakeholder participation, algorithmic bias avoidance, and responsible data governance. Businesses that learn from both their triumphs and failures might get valuable insights for their own AI efforts[12]. Through critical analysis and dialogue, this area gives business executives the knowledge and tools they need to address the moral dilemmas raised by the use of AI, lower risks, and foster stakeholder trust. By embracing ethical principles and best practices, businesses may embrace the transformational promise of AI while upholding their commitments to social responsibility and ethical conduct[13].

Table1 Comparison of Ethical Frameworks for AI Deployment

Ethical Framework	Principles	Regulatory Consid-erations	Industry Standards
IEEE Global Initiative on Ethics of Autonomous and Intelli-gent Systems	Transparency, accountability, fairness, inclusively, privacy, security	Compliance with Data protection regulations, ethical risk assessments	IEEE P7000 series stan-dards

European Commis- sion's Ethics Guidelines for Trust- worthy AI	Human agency and oversight, technical robustness and safety, privacy and data governance, transparency, diversity, non- discrimination, societal and environmental well-being	Compliance with GDPR, Ethical impact assessments, human-centric AI design	ISO/IEC 27701, ISO/IEC 27001

4. Case Study: AI in Human Resources Management

The management of human resources (HR) is one important area where AI technolo- gies are being used more and more to improve efficacy, impartiality, and efficiency. This section explores the complex effects of implementing AI in HR procedures, including everything from hiring and talent management to performance reviews and worker welfare[14].

4.1. Recruitment and Talent Acquisition

AI-driven recruitment systems provide advanced capabilities for sourcing, screen- ing, and selecting applicants; they also promise to improve candidate matching and speed up hiring procedures. However, there are still serious problems with algorith- mic bias, equality, and privacy[15]. Uncertain algorithms and biased training data might encourage biased tendencies, which can lead to unfair candidate selection pro- cesses and detrimental outcomes for marginalised communities. Strict validation of AI algorithms, continuous bias monitoring, and transparency in decision-making are nec- essary for ethical recruitment procedures to deliver fair and equitable results for all candidates[16].

4.2. Performance Evaluation and Management

Performance evaluation is another area where AI technology is transforming tradi- tional HR procedures. Automated performance management systems assess produc- tivity, offer performance feedback, and identify training needs based on employee data analysis. While AI-powered systems offer objective evaluation and immediate reaction, concerns about algorithmic transparency, employee surveillance, and privacy also arise[17]. Ethical performance management requires the following: employee permission for data collection, clear disclosure of performance goals, and safeguards against improper use of personal information for punitive purposes[18].

Table2 Comparison of Ethical Frameworks for AI Deployment

HR Practice	Ethical Considerations
Recruitment	Transparency in AI-driven hiring procedures, candidate data privacy, and avoiding bias in algorithmic decision-making
Performance evalu- ation	Fairness in performance measures, openness in the AI algorithms employed for assessment, and reduction of decision-making bias
Employee Well- being	safeguarding worker privacy, using AI for monitoring and assistance in an ethical manner, and addressing possible biases in AI-driven interventions

4.3. Employee Well-being and Engagement

Employers are increasingly turning to AI-driven solutions that offer personalised guid- ance on work-life balance, stress reduction, and career advancement in order to boost worker happiness and engagement[19]. However, utilising AI to monitor employee con- duct and emotions raises ethical questions about breaches of privacy and

psychological manipulation. Permission, confidentiality, and employee autonomy are highly valued in initiatives promoting ethical well-being. This guarantees that AI interventions honour workers' right to privacy and provide them the autonomy to make decisions on their health and well-being[20].

4.4. Mitigating Ethical Risks

To address the ethical concerns associated with AI deployment in HR, a comprehensive plan encompassing technological, organisational, and regulatory safeguards is required. Organisations must use responsible AI techniques, such as algorithmic audits, bias identification, and algorithm explain ability, in order to ensure fair and transparent HR decision-making[21]. Developing a culture of ethical awareness and accountability is another way that HR professionals may uphold ethical norms and foster trust among employees. The General Data Protection Regulation (GDPR) and the Ethical AI Guidelines for Trustworthy AI are two additional legislative frameworks that provide support for guaranteeing ethical AI implementation in HR management[22].

4.5. Case Studies and Best Practices

Insightful information regarding the possibilities and challenges of utilising ethical AI is provided by analysing real-world case studies and best practices in AI-driven HR management. In order to lessen discrimination, promote diversity, and uphold moral standards in HR procedures, organisations are actively developing frameworks and resources. IBM's AI Fairness 360 toolkit and Google's AI for Social Good initiatives are two examples of similar initiatives. By examining these case studies, organisations may get practical insights into integrating ethical concerns into their HR processes and developing a culture of ethical AI adoption[23].

Through critical analysis and reflection, this part elucidates the complex interaction between AI technology and ethical challenges in HR management. By implementing ethical standards, organisations may take advantage of AI's revolutionary potential to minimise risks, provide positive outcomes for both workers and the business, and uphold their commitments to responsibility, transparency, and justice[24].

5. Ethical Leadership in AI Deployment

As AI technology continues to permeate many areas of business operations, ethical leadership plays a critical role in ensuring that it is used properly. This section explores the duty of CEOs to ensure that AI projects adhere to ethical principles, promote transparency, and uphold accountability throughout the whole company[25].

5.1. Leadership Responsibilities in Ethical AI Deployment

It is the responsibility of business executives to foster an honest and accountable culture inside their organisations and to advocate for moral AI practices. Leaders provide clear ethical guidelines and standards for the application of AI technology, ensuring that they serve the interests of all stakeholders. As a result, a framework for making ethical decisions is established. Leaders must also act properly and make moral decisions in order to set an example for others[26].

5.2. Promoting Transparency and Accountability

Transparency is essential to ethical AI deployment because it helps stakeholders under- stand how AI technologies are used, the data they rely on, and the implications of their decisions. Business leaders have a crucial role to play in promoting transparency so that AI algorithms and decision-making processes are transparent and easily understood by both internal teams and external stakeholders[27]. In order to make individuals and organisations accountable for the ethical ramifications of their AI initiatives, leaders must also establish accountability frameworks[28].

5.3. Ethical Decision-Making Frameworks

Ethical decision-making frameworks must be developed and implemented in order to guide the application of AI in line with corporate values and ethical standards. By util- ising existing frameworks, such as the IEEE Ethically Aligned Design framework or the Ethical AI Toolkit developed by the Institute for Ethical AI and Machine Learning, business leaders can assess the ethical implications of AI initiatives, identify potential risks, and mitigate

negative effects on stakeholders[29]. Leaders can ensure the appropriate and ethical application of AI technology by including ethical considerations into the decision-making process[30].

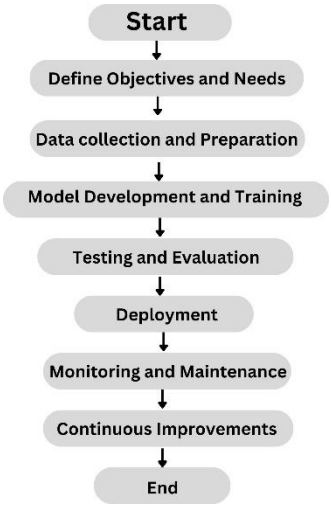
5.4. Building Ethical Awareness and Competencies

The foundation of ethical leadership in AI usage is creating a culture of ethics in the workplace and assisting employees in developing ethical skills. Business leaders may facilitate training programmes, workshops, and discussions on ethical AI practices to assist workers in making ethical decisions[31], raising awareness of ethical issues, and navigating ethical challenges in their AI initiatives. By supporting the moral development of their workforce, leaders may foster a culture of responsible innovation and provide a strong ethical foundation for the use of AI[32].

5.5. Stakeholder Engagement and Collaboration

Stakeholders must be included in the deployment process to ensure that AI initiatives align with their interests, values, and concerns. Business executives must engage with employees, clients, regulators, and other relevant stakeholders in a proactive manner to solicit feedback, address concerns, and build trust in AI technology[33]. Collaborating with external partners such as academic institutions, industry groups, and civil society organisations may improve the ethical discourse around the application of artificial intelligence and facilitate the development of best practices and standards[34].

Fig2 deployment process of AI in business leadership



5.6. Leading by Example

Leaders must ultimately set an example by acting and speaking in a way that pre- serves moral standards in order to exercise ethical leadership when using AI. Leaders that instill trust and confidence in their AI initiatives by demonstrating a commitment to transparency, accountability, and integrity cultivate a culture of ethical excellence throughout the business[33]. By fostering positive change via their innovative leader- ship, corporate leaders may take use of AI's revolutionary potential to help society while upholding moral obligations[35].

Table 3 Risks Associated with AI Deployment in Business Settings

Risk Cate-gory	Description	Mitigation Strategies
Job Displacement	Possibility of employment losses as a result of automation and AI-driven procedures; workforce retraining and upskilling	job transition initiatives

Algorithmic Bias	AI algorithmic biases producing biassed results	strategies for detecting and mitigating bias, a variety of datasets
Data Privacy Breaches	AI systems' unauthorised access to or misuse of private information	adoption of strong data security protocols and encryption technologies

6. Risk Analysis and Mitigation Strategies

The increasing use of artificial intelligence (AI) technology by businesses calls for the identification and alleviation of potential risks associated with AI implementation. This section thoroughly examines the risks and challenges associated with using AI in business settings and looks at solutions to lower these risks in order to ensure the ethical and responsible deployment of AI[36].

6.1. Identifying Potential Risks of AI Deployment

There are certain risks and challenges associated with integrating AI technology into business operations, which must be carefully evaluated and managed. A significant concern is the potential loss of jobs due to automation and AI-driven processes, which might render some professions obsolete and result in unemployment and economic instability[37]. Algorithmic biases in AI systems can also perpetuate discrimination and injustice, particularly in the areas of hiring, lending, and resource allocation. Additionally, because to the massive amounts of data that AI systems require, there is a significant risk of data privacy breaches from unauthorised access, data leaks, and confidentiality violations[38].

6.2. Understanding the Ethical Implications of AI Risks

It is crucial to recognise that the moral implications of the risks associated with using AI call for careful consideration and attention. For example, the loss of a job raises questions of social justice and economic equality, highlighting the need for action to mitigate the harm to affected individuals and communities[39]. Algorithmic prejudices not only undermine the objectivity and integrity of decision-making processes, but they also reinforce systemic unfairness and underlying imbalances. Violating people's rights to privacy and autonomy through data privacy undermines public trust in AI technology and puts people's faith in organisations at risk[40].

6.3. Mitigation Stratigies for Ethical AI Deployment

Businesses need to have strong governance frameworks in place and take proactive approaches to risk management in order to reduce the risks related to AI adoption and encourage moral behaviour. To find possible hazards and vulnerabilities at every stage of the AI lifecycle—from data collecting and model building to deployment and monitoring—one strategy is to carry out comprehensive impact assessments[41]. Addi- tionally, companies should give justice, accountability, and transparency top priority when implementing AI efforts. To do this, they should put in place algorithmic audit- ing procedures, explain AI-driven choices, and set up supervision and accountability systems[42].

6.4. Promoting Diversity and Inclusion in AI Development

To overcome algorithmic biases, it requires a concerted effort to promote inclusivity and diversity in AI development teams and processes. By promoting a variety of perspectives and experiences, businesses may lessen the risk of biassed AI systems and ensure that AI technologies are created and used equitably[43]. In order to raise awareness of algorithmic biases and provide AI developers the resources they need to identify and successfully address prejudice in their systems, businesses should also continuously engage in training and education[44].

6.5. Enhancing Data Privacy and Security Methods

Data security and privacy must be maintained if AI technology is to continue inspir- ing confidence in people. Businesses must have robust data governance processes in place to guard sensitive data against misuse and unauthorised access. Access controls, anonymization, and encryption are some of these processes[45].

Accountability and transparency in data management practices should also be given top importance by companies to ensure informed consent and regulatory compliance. This may be accom- plished by providing clear information about the objectives, methods, and use of data collection[46].

6.6. Engaging Stakeholders and Building Trust

Building trust with stakeholders is crucial to incorporating AI technology into business operations successfully. To gather feedback, address problems, and increase confidence in AI initiatives, businesses must communicate with employees, clients, regulators, and other relevant stakeholders[47]. By encouraging open and transparent communication channels, businesses may demonstrate their commitment to ethical AI practices and gain the credibility and confidence of stakeholders. To ensure that AI technologies align with the interests and values of stakeholders, firms must also actively seek feed- back from a variety of perspectives and incorporate stakeholder input into their AI governance frameworks[48].

6.7. Conclusion

In summary, the risks associated with AI use in business settings emphasise the need of proactive risk management and ethical governance. By identifying potential risks, understanding the ethical ramifications of those risks, and implementing mitigation strategies, businesses may effectively manage the complexities of AI deployment and ensure that AI technologies serve the interests of all stakeholders[49]. Companies may also boost trust and confidence in their AI initiatives and promote sustainable innova- tion for the benefit of society by working with stakeholders, promoting diversity and inclusion, and strengthening data privacy and security protocols[50].

7. Project Impact and Future Directions

As organisations continue to employ AI technology, it is imperative to comprehend the anticipated implications and map out future strategies in order to ensure ethical and sustainable AI deployment in business leadership[51]. The finest approaches for integrating ethics into AI-driven business leadership are covered in this section, along with emerging trends and potential research avenues. It also looks at how deploying ethical AI could affect societal well-being, commercial success, and reputation[52].

7.1. Projected Impact of Ethical AI Deployment

The ethical use of AI has several benefits for businesses, including increased operational efficiency, greater decision-making abilities, and higher customer satisfaction. Through AI initiatives that emphasise justice, transparency, and accountability, businesses may forge stronger bonds with stakeholders and boost brand loyalty by building trust and confidence[53]. Deploying ethical AI may also lessen implementation-related risks and weaknesses, shielding against potential legal, financial, and reputational consequences. From a social perspective, diversity, inclusion, and social equality may be supported by the ethical use of AI, leading to more equitable and long-lasting outcomes for all[54].

7.2. Future Directions in Erthical AI Leadership

Numerous emerging themes and lines of inquiry will influence the direction of ethical AI leadership in business. One notable trend is the increasing emphasis on human- centered AI design, which prioritises end users' needs, preferences, and values in the development and usage of AI technology. Businesses may combine the ideas of user experience design and human-computer interface to create AI systems that are inclu- sive, intuitive, and easy to use. Users will be happier and more engaged as a result[55]. Businesses are also incorporating AI ethics into their business education and training programmes more frequently as they realise how crucial it is to give aspiring lead- ers the knowledge, skills, and ethical awareness required to effectively navigate the challenges of AI deployment[56].

Table 4 Impact of Ethical AI Deployment on Business Performance

Performance Metric	Impact of Ethical AI Deployment
Customer Satisfaction	Enhanced trust and loyalty, improved customer experience
Employee Engagement	Increased job satisfaction, higher productivity
Operational Effeciency	Reduced errors, streamlined processes, cost savings
Reputation Management	Positive brand image, improved corporate reputation

7.3. Best Practices for Ethical AI Leadership

Establishing best practices that prioritise transparency, responsibility, and conscien- tious innovation may help businesses cultivate ethical leadership in AI. Setting clear guidelines and standards for AI development and usage, conducting regular audits and assessments, and promoting an ethically aware and accountable culture throughout the entire organisation are all necessary to guarantee adherence to ethical norms[57]. Furthermore, it is imperative for corporations to engage with various entities such as industry associations, regulatory bodies, and civil society organisations to stay informed about recent legislative modifications, developing patterns, and ethical best practices for AI governance. Companies may encourage teamwork and the adoption of moral AI practices across a wide range of sectors and industries by collaborating with pertinent parties and sharing knowledge and expertise[58].

7.4. Conclusion

Finally, businesses that wish to effectively leverage the transformative power of AI technologies have a plethora of opportunities as well as challenges in terms of using AI in an ethical manner. By focusing on ethics and incorporating justice, accountability, and transparency into their AI initiatives[59], businesses may promote sustainable innovation, lower risks, and benefit all stakeholders. By embracing innovative trends, new research directions, and ethical AI leadership best practices, organisations may position themselves as ethical leaders in the digital era. Value will be created for society and there will be positive social effects from this[60].

8. Conclusion

In this comprehensive review research, we have looked at the nuanced interaction between the application of AI and moral dilemmas in corporate leadership. Artificial Intelligence (AI) technologies have revolutionised several business fields and created unprecedented opportunities for innovation, productivity, and growth. However, these possibilities also bring with them ethical concerns and difficulties that need to be carefully explored in order to ensure the long-term and ethical usage of AI.

Throughout our study, we have underlined how important it is to incorporate moral ideals like accountability, transparency, and fairness into AI deployment approaches. We began by discussing the current state of artificial intelligence (AI) use in business, emphasising the breadth of applications of AI technology across many industries and the significance of using ethical frameworks to guide its application.

The ethical frameworks now in place for the use of AI were then examined, along with the ideas and guidelines intended to promote moral AI conduct in business settings. We also conducted a detailed analysis of the implications of AI for HR man- agement, revealing possible ethical concerns and biases associated with AI-driven HR practices.

Table 5 Emerging Trends in Ethical AI Deployment

Trend	Description
Explainable AI	Focus on developing AI models that are transparent and interpretable
Federated Learning	Collaboration of multiple parties to train AI models without sharing sensitive data
AI Ethics Committees	Establishment of internal committees to oversee ethical AI practices within organizations

Furthermore, we underlined the crucial role that moral leadership plays in the use of AI and offered strategies for promoting accountability, transparency, and respon- sible innovation. We also performed a comprehensive risk analysis, identifying any roadblocks and offering workarounds to effectively reduce them. We looked at how ethical AI deployment is expected to affect company performance, reputation, and social well-being in the future. We also spoke about new developments and potential paths for ethical AI leadership. Businesses may fully use AI technology while promoting trust, accountability, and long-term success in corporate leadership by putting ethics first and adopting best practices.

To sum up, ethical issues should always be at the forefront of AI deployment initiatives. This will help businesses move towards a future in which technology will be a constructive force in society, generating value for all parties involved and driving societal impact. Let us respect the ethical and responsible standards as we negotiate the rapidly changing commercial environment of artificial intelligence, making sure that our deeds are a reflection of our dedication to creating a more just, inclusive, and sustainable future.

Refrences

[1] Konda, S.R.: Ethical considerations in the development and deployment of ai-driven software systems. INTERNATIONAL JOURNAL OF COMPUTER SCIENCE AND TECHNOLOGY **6**(3), 86–101 (2022)

[2] Huriye, A.Z.: The ethics of artificial intelligence: examining the ethical considera- tions surrounding the development and use of ai. American Journal of Technology **2**(1), 37–44 (2023)

[3] Nassar, A., Kamal, M.: Ethical dilemmas in ai-powered decision-making: a deep dive into big data-driven ethical considerations. International Journal of Responsible Artificial Intelligence **11**(8), 1–11 (2021)

[4] Burr, C., Leslie, D.: Ethical assurance: a practical approach to the responsible design, development, and deployment of data-driven technologies. AI and Ethics **3**(1), 73–98 (2023)

[5] Safdar, N.M., Banja, J.D., Meltzer, C.C.: Ethical considerations in artificial intelligence. European journal of radiology **122**, 108768 (2020)

[6] Garcia, P., Darroch, F., West, L., BrooksCleator, L.: Ethical applications of big data-driven ai on social systems: Literature analysis and example deployment use case. Information **11**(5), 235 (2020)

[7] McLennan, S., Fiske, A., Tigard, D., Mu¨ller, R., Haddadin, S., Buyx, A.: Embed- ded ethics: a proposal for integrating ethics into the development of medical ai. BMC medical ethics **23**(1), 6 (2022)

[8] Tenzer, M., Pistilli, G., Brandsen, A., Shenfield, A.: Debating ai in archaeology: applications, implications, and ethical considerations (2023)

[9] Islam, M.M., Shuford, J.: A survey of ethical considerations in ai: Navigating the landscape of bias and fairness. Journal of Artificial Intelligence General science (JAIGS) ISSN: 3006-4023 **1**(1) (2024)

[10] He, M., Li, Z., Liu, C., Shi, D., Tan, Z.: Deployment of artificial intelligence in real- world practice: opportunity and challenge. Asia-Pacific Journal of Ophthalmology **9**(4), 299–307 (2020)

[11] Bo˘zi´c, V.: Ethical considerations in artificial intelligence: A comprehensive overview of contemporary challenges and solutions

[12] Mirbabaie, M., Hofeditz, L., Frick, N.R., Stieglitz, S.: Artificial intelligence in hospitals: providing a status quo of ethical considerations in academia to guide future research. AI & society **37**(4), 1361–1382 (2022)

[13] Usmani, U.A., Happonen, A., Watada, J.: Human-centered artificial intelligence: Designing for user empowerment and ethical considerations. In: 2023 5th Inter- national Congress on Human-Computer Interaction, Optimization and Robotic Applications (HORA), pp. 01–05 (2023). IEEE
[14] Bankins, S., Formosa, P.: The ethical implications of artificial intelligence (ai) for meaningful work. Journal of Business Ethics **185**(4), 725–740 (2023)
[15] Bankins, S.: The ethical use of artificial intelligence in human resource manage- ment: a decision-making framework. Ethics and Information Technology **23**(4), 841–854 (2021)
[16] A Devitt, K., Gan, M., Scholz, J., Bolia, R.: A method for ethical ai in defence (2021)
[17] Naik, N., Hameed, B., Shetty, D.K., Swain, D., Shah, M., Paul, R., Aggarwal, K., Ibrahim, S., Patil, V., Smriti, K., *et al.*: Legal and ethical consideration in artificial intelligence in healthcare: who takes responsibility? Frontiers in surgery **9**, 266 (2022)
[18] Borenstein, J., Howard, A.: Emerging challenges in ai and the need for ai ethics education. AI and Ethics **1**, 61–65 (2021)
[19] Zhou, J., Chen, F., Berry, A., Reed, M., Zhang, S., Savage, S.: A survey on ethical principles of ai and implementations. In: 2020 IEEE Symposium Series on Computational Intelligence (SSCI), pp. 3010–3017 (2020). IEEE
[20] Hancock, J.T., Naaman, M., Levy, K.: Ai-mediated communication: Defini- tion, research agenda, and ethical considerations. Journal of Computer-Mediated Communication **25**(1), 89–100 (2020)
[21] Ouchchy, L., Coin, A., Dubljevi´c, V.: Ai in the headlines: the portrayal of the ethical issues of artificial intelligence in the media. AI & SOCIETY **35**, 927–936 (2020)
[22] McGreevey, J.D., Hanson, C.W., Koppel, R.: Clinical, legal, and ethical aspects of artificial intelligence–assisted conversational agents in health care. Jama **324**(6), 552–553 (2020)
[23] Sepp¨al¨a, A., Birkstedt, T., M¨antym¨aki, M.: From ethical ai principles to governed ai. In: ICIS (2021)
[24] Vakkuri, V., Kemell, K.-K., Jantunen, M., Halme, E., Abrahamsson, P.: Eccola—a method for implementing ethically aligned ai systems. Journal of Systems and Software **182**, 111067 (2021)
[25] Brady, A.P., Neri, E.: Artificial intelligence in radiology—ethical considerations. Diagnostics **10**(4), 231 (2020)
[26] Abbu, H., Mugge, P., Gudergan, G.: Ethical considerations of artificial intel- ligence: ensuring fairness, transparency, and explainability. In: 2022 IEEE 28th International Conference on Engineering, Technology and Innovation (ICE/ITMC) & 31st International Association For Management of Technology (IAMOT) Joint Conference, pp. 1–7 (2022). IEEE
[27] Ong, D.C.: An ethical framework for guiding the development of affectively- aware artificial intelligence. In: 2021 9th International Conference on Affective Computing and Intelligent Interaction (ACII), pp. 1–8 (2021). IEEE
[28] D'Antonoli, T.A.: Ethical considerations for artificial intelligence: an overview of the current radiology landscape. Diagnostic and Interventional Radiology **26**(5), 504 (2020)
[29] Prem, E.: From ethical ai frameworks to tools: a review of approaches. AI and Ethics **3**(3), 699–716 (2023)
[30] Ayling, J., Chapman, A.: Putting ai ethics to work: are the tools fit for purpose? AI and Ethics **2**(3), 405–429 (2022)
[31] Schwalbe, N., Wahl, B.: Artificial intelligence and the future of global health. The Lancet **395**(10236), 1579–1586 (2020)
[32] Sanderson, C., Douglas, D., Lu, Q., Schleiger, E., Whittle, J., Lacey, J., Newnham, G., Hajkowicz, S., Robinson, C., Hansen, D.: Ai ethics principles in practice: Perspectives of designers and developers. IEEE Transactions on Technology and Society (2023)
[33] Hasas, A., Hakimi, M., Shahidzay, A.K., Fazil, A.W.: Ai for social good: Lever- aging artificial intelligence for community development. Journal of Community Service and Society Empowerment **2**(02), 196–210 (2024)
[34] Khanna, S., Srivastava, S., Khanna, I., Pandey, V.: Ethical challenges arising from the integration of artificial intelligence (ai) in oncological management. International Journal of Responsible Artificial Intelligence **10**(8), 34–44 (2020)

[35] Mohammad, S.M.: Ethics sheets for ai tasks. arXiv preprint arXiv:2107.01183 (2021)
[36] Amugongo, L.M., Kriebitz, A., Boch, A., Lu¨tge, C.: Operationalising ai ethics through the agile software development lifecycle: a case study of ai-enabled mobile health applications. AI and Ethics, 1–18 (2023)
[37] Shah, V.: Striking a balance: Ethical considerations in ai-driven law enforcement. Revista Espanola de Documentacion Cientifica **17**(2), 110–136 (2023)
[38] McDermid, J.A., Jia, Y., Porter, Z., Habli, I.: Artificial intelligence explainability: the technical and ethical dimensions. Philosophical Transactions of the Royal Society A **379**(2207), 20200363 (2021)
[39] McDermid, J.A., Jia, Y., Porter, Z., Habli, I.: Artificial intelligence explainability: the technical and ethical dimensions. Philosophical Transactions of the Royal Society A **379**(2207), 20200363 (2021)
[40] Alam, A.: Developing a curriculum for ethical and responsible ai: A university course on safety, fairness, privacy, and ethics to prepare next generation of ai professionals. In: Intelligent Communication Technologies and Virtual Mobile Networks, pp. 879–894. Springer, ??? (2023)
[41] Sharma, S., Thakkalapelli, D.: Corporate patenting ai and ml in healthcare: reg- ulatory and ethical considerations. International Journal of New Media Studies: International Peer Reviewed Scholarly Indexed Journal **10**(1), 232–235 (2023)
[42] O'Neil, C., Gunn, H.: Near-term artificial intelligence and the ethical matrix. Ethics of Artificial Intelligence, 235–69 (2020)
[43] Dara, R., Hazrati Fard, S.M., Kaur, J.: Recommendations for ethical and respon- sible use of artificial intelligence in digital agriculture. Frontiers in Artificial Intelligence **5**, 884192 (2022)
[44] Fukuda-Parr, S., Gibbons, E.: Emerging consensus on 'ethical ai': Human rights critique of stakeholder guidelines. Global Policy **12**, 32–44 (2021)
[45] Liao, F., Adelaine, S., Afshar, M., Patterson, B.W.: Governance of clinical ai applications to facilitate safe and equitable deployment in a large health system: Key elements and early successes. Frontiers in Digital Health **4**, 931439 (2022)
[46] Rayhan, S.: Ethical implications of creating agi: Impact on human society, privacy, and power dynamics. Artificial Intelligence Review (2023)
[47] Nagbøl, P.R., Asatiani, A., Malo, P., Penttinen, E., Rinta-Kahila, T., Salovaara, A.: Sociotechnical envelopment of artificial intelligence: An approach to organi- zational deployment of inscrutable artificial intelligence systems. Journal of the Association for Information Systems (JAIS) **22**(2), 325–252 (2021)
[48] Morley, J., Floridi, L., Kinsey, L., Elhalal, A.: From what to how: an initial review of publicly available ai ethics tools, methods and research to translate principles into practices. Science and engineering ethics **26**(4), 2141–2168 (2020)
[49] Ram´ırez, J.G.C.: Ai in healthcare: Revolutionizing patient care with predictive analytics and decision support systems. Journal of Artificial Intelligence General science (JAIGS) ISSN: 3006-4023 **1**(1), 31–37 (2024)
[50] Mattas, P.S.: Chatgpt: A study of ai language processing and its implications. Journal homepage: www. ijrpr. com ISSN **2582**, 7421 (2023)
[51] Nguyen, A., Ngo, H.N., Hong, Y., Dang, B., Nguyen, B.-P.T.: Ethical principles for artificial intelligence in education. Education and Information Technologies **28**(4), 4221–4241 (2023)
[52] A Reddy, S., Rogers, W., Makinen, V.-P., Coiera, E., Brown, P., Wenzel, M., Weicken, E., Ansari, S., Mathur, P., Casey, A., et al.: Evaluation framework to guide implementation of ai systems into healthcare settings. BMJ health & care informatics **28**(1) (2021)
[53] Kasula, B.Y., Whig, P.: Ai-driven machine learning solutions for sustainable development in healthcare—pioneering efficient, equitable, and innovative health service. International Journal of Sustainable Development Through AI, ML and IoT **2**(2), 1–7 (2023)
[54] Christoforaki, M., Beyan, O.: Ai ethics—a bird's eye view. Applied Sciences **12**(9), 4130 (2022)
[55] Saurabh, K., Arora, R., Rani, N., Mishra, D., Ramkumar, M.: Ai led ethical digital transformation: Framework, research and managerial implications. Journal of Information, Communication and Ethics in Society **20**(2), 229–256 (2022)

[56] Rayhan, R., Rayhan, S.: Ai and human rights: balancing innovation and privacy in the digital age. DOI: 10.13140/RG. 2.2 **35394** (2023)

[57] Ueda, D., Kakinuma, T., Fujita, S., Kamagata, K., Fushimi, Y., Ito, R., Matsui, Y., Nozaki, T., Nakaura, T., Fujima, N., *et al.*: Fairness of artificial intelligence in healthcare: review and recommendations. Japanese Journal of Radiology **42**(1), 3–15 (2024)

[58] Vyas, B.: Java-powered ai: Implementing intelligent systems with code. Journal of Science & Technology **4**(6), 1–12 (2023)

[59] O'Neil, C., Gunn, H.: Near-term artificial intelligence and the ethical matrix. Ethics of Artificial Intelligence, 235–69 (2020)

[60] Holmes, W., Porayska-Pomsta, K., Holstein, K., Sutherland, E., Baker, T., Shum, S.B., Santos, O.C., Rodrigo, M.T., Cukurova, M., Bittencourt, I.I., et al.: Ethics of ai in education: Towards a community-wide framework. International Journal of Artificial Intelligence in Education, 1–23 (2022)