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Harnessing AI for Africa's Development & Prosperity:

A review of the (African) Continental AI strategy

contactus@innocanyon.com

Introduction

Artificial Intelligence (AI) is reshaping industries, economies, and societies globally, with Africa poised to harness its transformative power. The potential for AI to drive socio-economic growth across the continent is immense, but achieving this requires a unified approach. The African Union has drafted a [Continental AI Strategy](#), which serves as a comprehensive roadmap to ensure that AI's benefits reach every African while addressing the continent's unique challenges

The Growing Role of AI in Africa

AI is more than a technological trend—it's a catalyst that can bridge developmental divides and tackle some of Africa's most pressing issues. Artificial intelligence (AI) developments have attracted academic and public attention to analyze and understand its potential to transform our societies and its disruptive impact on various industries.¹ From boosting agricultural productivity and enhancing healthcare delivery to optimizing public services, AI presents solutions that can accelerate progress across multiple sectors. However, without a coordinated strategy, the adoption and impact of AI in Africa may be inconsistent, leading to missed opportunities and widening disparities. By most estimates, AI will create a market worth over \$35 billion by 2025² and contribute up to \$15.7 trillion to the global economy in 2030³, with desirable opportunities that governments and businesses are gearing up to be part of.

Vision and Mission: Aspirations vs. Realities

The vision of the Continental AI Strategy is to create a people-centric, development-oriented, and inclusive AI ecosystem that drives socio-economic transformation across Africa to support the AU Agenda 2063's vision⁴. The mission emphasizes building AI capabilities, promoting ethical governance, and fostering regional and international cooperation. While these goals are commendable, they may be overly ambitious, given the current state of AI infrastructure, expertise, and governance in many African countries.

For instance, the European Union's AI strategy focuses heavily on building a regulatory framework that ensures AI is used ethically and safely. The EU has established comprehensive guidelines and regulations, such as the AI Act⁵, to govern

AI development and deployment. In contrast, the AU's strategy lacks specific, enforceable rules and instead relies on member states to develop their governance mechanisms. This decentralized approach could lead to inconsistencies in AI governance across the continent, potentially undermining the strategy's effectiveness despite its purported guiding principles.

Moreover, the strategy's mission to foster regional cooperation is vital but challenging. Africa's diverse political, economic, and cultural landscape may hinder the development of a unified AI strategy. While the strategy calls for collaboration, the reality is that differences in technological capabilities and political will among member states could impede progress altogether. AI national strategies in some more developed countries may focus on using technology to improve efficiencies and productivity in various industries, such as healthcare, finance, and transportation, while in contrast, developing countries have more limited resources and infrastructure, so their AI national strategies tend to focus on using technology to address specific needs in their communities⁶. Without strong leadership and a clear framework for cooperation, the mission risks becoming more aspirational than actionable.

Key Pillars of the Continental AI Strategy

The strategy outlines several key provisions, including capacity building, ethical AI governance, and investment in AI infrastructure. These provisions ensure that Africa can harness AI's benefits while minimizing risks. However, the implementation of these provisions faces significant obstacles.

One of the notable strengths of the African Union's AI strategy lies in its emphasis on capacity building, particularly in AI education and skills development. Africa's young and tech-savvy population represents a significant resource that could be harnessed to drive AI innovation and propel the continent onto the global stage. However, despite this immense potential, the promise of AI remains vastly underutilized across the continent due to the inadequacies in educational infrastructure and limited access to advanced AI training programs.

1. Artificial intelligence in Africa: challenges and opportunities

2. Schoeman, W., Moore, R., Seedat, Y., & Chen, J. Y.-J. (2017). Artificial intelligence: Is South Africa ready? Pretoria: Accenture and the University of Pretoria's Gordon Institute of Business Science.

3. PWC. (2017). Sizing the prize: What's the real value of AI for your business and how can you capitalise? London: PricewaterhouseCoopers (PWC).

4. African Union Continental Artificial Intelligence Strategy

5. European Parliament legislative resolution of 13 March 2024 on the proposal for a regulation of the European Parliament and of the Council on laying down harmonised rules on Artificial Intelligence (Artificial Intelligence Act)

6. Artificial intelligence national strategy in a developing country by Mona Nabil Demaidi

While the strategy acknowledges AI's transformative potential, it also inadvertently highlights a critical challenge: AI's capacity to perpetuate and even exacerbate existing inequities. This issue becomes evident when one asks fundamental questions about the current state of AI education in Africa: How many affordable, high-quality, and reliable Artificial intelligence educational courses are available across the continent? And, importantly, are these resources equitably distributed?

The reality is that access to quality AI education is highly uneven across Africa. In regions where educational infrastructure is lacking and internet connectivity is unreliable, the opportunities for acquiring AI skills are severely limited. This digital divide mirrors the broader issue of educational inequality that has long plagued the continent, where students from marginalized backgrounds are further disadvantaged by their inability to access the necessary tools and resources for modern learning.

This duality is particularly evident in the context of digital learning at home, where the "homework gap"⁷ underscores disparities in access to devices and reliable internet. The high cost of AI technology exacerbates this divide, creating significant barriers between those who can afford these tools and those who cannot. As a result, a two-tiered system emerges: affluent students and nations benefit from cutting-edge, personalized AI-driven learning environments. At the same time, their less privileged peers are left with outdated and less engaging resources.

This disparity widens the achievement gap within and between countries and has profound implications for future opportunities. Students and citizens in wealthier nations with access to AI education and training are better positioned to excel in STEM fields and secure high-paying jobs, thus perpetuating cycles of poverty and inequality in developing regions. The divide becomes a broader societal challenge, where the lack of equitable access to AI education leads to digital exclusion and further entrenches social stratification.

For the AU's AI strategy to succeed, it must address these underlying barriers to accessibility and equity.

Overcoming these challenges will require substantial investment in educational infrastructure, expanding access to reliable internet, and ensuring that AI training programs are available and affordable across the continent. Moreover, the strategy will need robust international support to bridge the gap between vision and reality, ensuring that AI becomes a tool for inclusive growth rather than a driver of further inequality. Only by tackling these issues head-on can the strategy hope to fulfill its promise of leveraging AI for the development and prosperity of all African citizens.

The strategy's emphasis on ethical AI governance aligns well with global trends prioritizing responsible AI development. As AI technologies become more integrated into everyday life, there is a growing consensus on the need to ensure these technologies are developed and deployed in ways that respect human rights, promote fairness, and prevent harm. The AU's focus on ethical AI governance reflects an understanding of these global imperatives and demonstrates a commitment to ensuring that AI benefits all segments of African society.

However, while the strategy articulates broad ethical principles, it needs more specific guidelines and enforcement mechanisms. Ethical governance in AI requires the establishment of high-level tenets and the creation of clear, actionable standards that can be implemented and monitored. Such guidelines are necessary for the principles outlined in the strategy to remain aspirational rather than practical.

For example, China's AI strategy⁸, which is heavily focused on becoming the global leader in AI, includes stringent regulations on data usage, privacy, and AI ethics. These regulations are backed by robust enforcement mechanisms, ensuring that AI technologies are developed and deployed in a manner that is both responsible and aligned with the country's broader strategic goals. China's approach includes detailed provisions on issues such as algorithmic transparency, data security, and the prevention of bias, all of which are critical to maintaining public trust and ensuring the ethical use of AI.

7. The Homework Gap: The 'Cruellest Part of the Digital Divide' Clare McLaughlin Published: April 20, 2016 <https://www.nea.org/nea-today/all-news-articles/homework-gap-cruellest-part-digital-divide>

8. China Academy of Information and Communications Technology (CAICT). (2018). *China AI Development Report 2018*. Available at:

In contrast, the AU's strategy lacks a similarly comprehensive regulatory framework. While it highlights the importance of ethical AI, it does not provide the necessary tools to enforce these principles effectively across its member states. The absence of clear guidelines on how ethical considerations should be integrated into AI development processes and a lack of enforcement mechanisms create a gap between the strategy's ethical aspirations and the realities of AI deployment on the continent.

This gap is particularly concerning given Africa's diverse political and economic contexts. Without a uniform regulatory framework, there is a risk that ethical standards will be applied inconsistently across the continent, leading to disparities in how AI technologies are developed and used. Some countries may adopt rigorous ethical standards, while others may need more resources or political will, resulting in uneven citizen protections and potential exploitation of AI technologies.

Although it is arguable that the continental strategy merely represents a policy direction for the continent, the absence of specific enforcement mechanisms could undermine the strategy's credibility. Ethical AI governance requires the articulation of values and the means to ensure these values are upheld. Without enforceable regulations, there is a danger that ethical considerations will be sidelined in favor of rapid technological advancement, particularly in countries where regulatory oversight is weak or where there are significant pressures to prioritize economic growth over ethical concerns.

Implementation Challenges: Bridging the Gap Between Ambition and Reality

The real-world implementation of the Continental AI Strategy will be its ultimate test, as the success of any strategic framework is ultimately measured by its impact on the ground. While the strategy presents a clear and ambitious vision for harnessing AI to drive socio-economic development across Africa, the gap between this ambition and the realities on the continent is substantial. This gap is particularly evident when considering the foundational infrastructure necessary to support AI development—a critical area where many African countries face significant challenges⁹.

One of the most pressing issues is the state of electricity infrastructure across the continent. Reliable electricity is the backbone of any digital economy, yet in many African countries, power outages are frequent, and access to electricity is inconsistent.

According to the International Energy Agency¹⁰, nearly 600 million people in sub-Saharan Africa still lack access to electricity. This lack of reliable power hinders everyday life and stifles the development and deployment of AI technologies, which require significant computational resources and an uninterrupted power supply.

In addition to electricity, internet connectivity is another major barrier to African AI development. Despite significant improvements in recent years, large portions of the continent remain underserved by reliable and high-speed internet. Rural areas, in particular, often need to be more connected, limiting access to online education, digital tools, and the global AI ecosystem. The World Bank¹¹ reports that only about 28% of the African population had access to the internet as of 2021, compared to a global average of over 60%. This digital divide poses a substantial obstacle to the strategy's goal of fostering widespread AI innovation and ensuring that all African citizens can benefit from AI advancements.

Moreover, the continent faces significant challenges related to data infrastructure. The development of AI technologies relies heavily on the availability of large, high-quality datasets and the infrastructure to store, process, and analyze these data. However, data centers and cloud computing infrastructure are still developing across much of Africa¹². The lack of local data centers means that much of the data generated on the continent is stored and processed overseas, raising concerns about data sovereignty, security, and privacy. Additionally, robust data infrastructure is necessary for the ability of local developers and researchers to work with the large datasets required for advanced AI applications, further hindering innovation.

9. THE EFFECTS OF AFRICA'S INFRASTRUCTURE CRISIS AND ITS ROOT CAUSES Volume: 4 Number: 4 Page: 1055-1067 Xolani THUSI, Victor H MLAMBO

10. International Energy Agency, (2021). Africa Energy Outlook 2021: World Energy Outlook Special Report.

11. World Bank. (2021). The Digital Economy for Africa Initiative: Connecting People for Digital Development.

12. United Nations Economic Commission for Africa (UNECA). (2022). Data Centers in Africa: Infrastructure and Regulation

These infrastructural challenges are compounded by the broader economic and political context in which the strategy must be implemented. Many African countries are grappling with high levels of poverty, political instability, and limited financial resources, all of which can impede the substantial investments needed to build the infrastructure required for AI development. Furthermore, disparities in development levels across the continent mean that while some countries may be better positioned to invest in AI infrastructure, others may need help to keep up, leading to uneven progress and widening gaps between nations.

Without addressing these foundational issues, the strategy's goals of building AI capabilities and fostering innovation may remain out of reach. The implementation of the Continental AI Strategy, therefore, hinges on the ability of African nations to secure the necessary investments in infrastructure and to create an enabling environment for AI development. This will require domestic efforts, significant international support, and collaboration. Development partners, private sector stakeholders, and global technology companies must play a crucial role in helping to bridge the infrastructure gap, ensuring that Africa can fully participate in the AI revolution.

Additionally, the strategy's reliance on public-private partnerships and international cooperation is both a strength and a potential weakness, reflecting the complex dynamics of global AI development. On the one hand, collaboration with global AI leaders, technology firms, and international institutions is essential for building Africa's AI capabilities. These partnerships can provide access to advanced technologies, expertise, and funding that may not be readily available within the continent. Such collaborations are crucial for leapfrogging technological gaps and ensuring Africa can rapidly develop and deploy AI solutions to address its unique challenges.

However, while these partnerships offer significant opportunities, they also have inherent risks. One of the primary concerns is that external influences could overshadow Africa's unique needs and priorities. When engaging in international collaborations, there is a danger that the interests of global tech giants and foreign governments could take precedence over the specific developmental goals of African nations.

This could lead to adopting AI technologies and policies not fully aligned with the continent's socio-economic context or cultural values. For example, AI solutions developed in the Global North may not directly apply to the African context, where infrastructure, societal norms, and economic conditions can differ significantly.

Moreover, reliance on external partnerships can sometimes result in digital dependency, where African countries become consumers of foreign AI technologies rather than developers and innovators in their own right. This dynamic can stifle local innovation and entrepreneurship, as local firms may struggle to compete with well-funded international companies. Additionally, there is a risk that the intellectual property generated through these collaborations could be controlled by foreign entities, limiting Africa's ability to benefit from the AI advancements developed on its soil fully.

To mitigate these risks, the strategy must ensure that partnerships are equitable and that African countries retain control over their AI development trajectories. This means that African governments and institutions must lead in shaping the terms of these collaborations, ensuring that they are structured in ways that prioritize local needs and capacities.

For instance, partnerships should include provisions for technology transfer, capacity building, and the development of local talent, ensuring that African countries are not just passive recipients of AI technologies but active participants in their development and deployment.

Furthermore, the strategy should promote the creation of frameworks that safeguard Africa's sovereignty in AI development. This could involve establishing regional AI governance bodies that oversee the implementation of international partnerships, ensuring that they align with the continent's broader strategic objectives. Such bodies could also play a role in negotiating the terms of data sharing and intellectual property rights, ensuring that the benefits of AI innovations are equitably distributed and that African stakeholders maintain a significant stake in the development process. These considerations are even more imperative if Africa is to have a truly digital single market.

Fostering a culture of local innovation is crucial in addition to formal governance structures. Key strategies to ensure Africa is not overly dependent on foreign technologies include encouraging homegrown AI startups, investing in local research and development, and creating supportive ecosystems for African entrepreneurs. By building a robust local AI ecosystem, African countries can ensure they are consumers of AI technologies and develop solutions tailored to their unique contexts.

Comparative Analysis: Lessons from Global AI Strategies

The United States: Innovation, National Security, and Economic Competitiveness

The United States has positioned itself as a global leader in AI by adopting a strategy that heavily emphasizes research and development (R&D), talent acquisition, and the construction of a robust AI infrastructure¹³. The U.S. strategy is designed to foster innovation, secure national interests, and enhance economic competitiveness. The U.S. government has invested significantly in AI R&D to achieve these goals, supporting public and private sector initiatives. This investment is coupled with a strong focus on talent development, ensuring the U.S. maintains a competitive edge in AI expertise.

One of the hallmarks of the U.S. strategy is its emphasis on public-private partnerships. These government, academia, and industry collaborations have driven AI innovation. Companies like Google, Microsoft, and IBM, alongside top-tier universities and government agencies, are at the forefront of AI research, developing cutting-edge technologies applied across various sectors, from healthcare and finance to defense and transportation. This synergy between the public and private sectors allows for a dynamic and flexible approach to AI development, enabling rapid advancements and the ability to adapt to new challenges.

Additionally, the U.S. strategy is characterized by regulatory flexibility. The government has opted for a light-touch regulatory approach, allowing AI innovations to flourish without being stifled by excessive oversight. This flexibility is intended to encourage experimentation and accelerate the deployment of AI technologies.

However, it is balanced with ongoing discussions about the ethical implications of AI, ensuring that as technology advances, it does so in a way that is consistent with American values and international norms.

China: Aggressive Investment and Centralized Planning

China's AI strategy,¹⁴ on the other hand, is marked by aggressive investment and centralized government planning. Recognizing AI as a critical driver of future economic growth and geopolitical power, the Chinese government has prioritized AI development. The country's strategy includes massive investments in AI research, establishing AI innovation hubs, and creating a vast data infrastructure. These efforts are designed to propel China to the forefront of AI innovation and become the world leader in AI by 2030.

China's approach is highly centralized, with the government playing a dominant role in directing AI research and development. This top-down model allows for coordinated efforts across different sectors and regions, ensuring that AI initiatives are aligned with the country's broader economic and social objectives. Moreover, China's strategy strongly emphasizes data acquisition and usage, leveraging the vast amounts

of data generated by its large population to train and refine AI systems. This data-driven approach has given China a significant advantage in developing sophisticated AI applications, particularly facial recognition and natural language processing.

However, China's strategy also raises concerns regarding privacy, surveillance, and human rights. The government's use of AI for social control, including deploying AI-powered surveillance systems, has drawn criticism domestically and internationally. These ethical concerns highlight the potential risks of AI development when driven primarily by state interests without sufficient safeguards for individual rights.

13. National Artificial Intelligence Initiative Act of 2020.

14. Digichina, China's 'New Generation Artificial Intelligence Development Plan' (2017) Available at: <https://digichina.stanford.edu/work/full-translation-chinas-new-generation-artificial-intelligence-development-plan-2017/ accessed 09/09/2024>.

The European Union: Ethical AI and Comprehensive Regulation

The European Union (EU) offers a different model that prioritizes ethical AI and comprehensive regulation.¹⁵ The EU's AI strategy is built on the foundation of ensuring that AI technologies are developed and deployed in a manner that is consistent with European values, particularly concerning privacy, human rights, and non-discrimination. The EU has implemented strict regulations, such as the General Data Protection Regulation (GDPR), to govern the use of data and ensure that AI systems are transparent, accountable, and fair.

The EU's strategy also includes significant investments in AI research and innovation, but these efforts are tightly coupled with ethical considerations. The EU has been a global leader in advocating for AI that is "human-centric," meaning that AI technologies should serve the public good and enhance human well-being. This approach is reflected in the EU's focus on sectors like healthcare, where AI is used to improve patient outcomes and its commitment to ensuring that AI benefits are widely shared across society.

While the EU's emphasis on ethics and regulation is commendable, it has also faced criticism for potentially slowing down AI innovation. While essential for protecting individual rights, the rigorous regulatory environment can be seen as a barrier to the rapid development and deployment of AI technologies. This tension between innovation and regulation is a central challenge for the EU as it seeks to balance its ethical commitments with the need to remain competitive in the global AI race.

The Continental AI Strategy: Balancing Ethics and Development

In contrast to these global strategies, the Continental AI Strategy emphasizes ethical considerations and inclusive development. The African Union's approach is grounded in recognizing that AI must be harnessed to promote social equity, protect human rights, and align with the continent's unique cultural and developmental context. This focus on ethics is a crucial aspect of the strategy, particularly given the potential for AI to exacerbate existing inequalities and reinforce social biases.

However, while the AU's commitment to ethical AI is commendable, it may not be sufficient to drive the rapid AI advancements needed to compete globally.

Though important, the strategy's emphasis on inclusive development and ethical governance must be complemented by aggressive investment in AI research, infrastructure, and talent development. Without significant investment in these areas, Africa risks falling behind in the global AI landscape, where other regions are making substantial progress.

To address this, Africa's strategy could benefit from a more balanced approach that integrates ethical governance with a robust focus on building AI capacity. This would involve strengthening regulatory frameworks to ensure that AI is developed responsibly and investing in the necessary infrastructure, educational programs, and innovation ecosystems that can drive AI advancement. By adopting a holistic strategy that combines ethical considerations with practical investments, Africa can position itself to compete globally and ensure that AI contributes to sustainable development across the continent.

Conclusion

The Continental AI Strategy represents a bold and promising roadmap for harnessing the transformative power of artificial intelligence to drive socio-economic growth across Africa. It reflects a solid commitment to leveraging technology for the greater good, ensuring that AI becomes a central tool for shaping a prosperous, equitable, and sustainable future for all Africans. However, the success of this strategy hinges on its ability to bridge the gap between its ambitious vision and the challenging realities on the ground.

The strategy's commendable focus on ethical AI and inclusive development must be complemented by significant investments in infrastructure, education, and talent development to keep pace with global advancements. Overcoming the substantial barriers to accessibility and equity in AI education and infrastructure is crucial. Without these investments, AI risks becoming a driver of further inequality rather than a tool for inclusive growth. Robust international support, strong leadership, and collaboration among African nations will be essential to developing a unified approach that aligns with the continent's unique needs and priorities.

15. Evidence of this can be gleaned from the AAI Act. See European Parliament legislative resolution of 13 March 2024 on the proposal for a regulation of the European Parliament and of the Council on laying down harmonised rules on Artificial Intelligence (Artificial Intelligence Act) and amending certain Union Legislative Acts (COM(2021)0206 – C9-0146/2021 – 2021/0106(COD))

Moreover, while the strategy's reliance on public-private partnerships and international cooperation presents significant opportunities, it also carries inherent risks. These partnerships must be carefully structured to prioritize Africa's needs, protect sovereignty, and foster local innovation. By promoting a culture of indigenous innovation and ensuring that partnerships are equitable, Africa can retain control over its AI development trajectory and fully realize the benefits of AI for its people.

In conclusion, the Continental AI Strategy sets forth a visionary path for Africa's AI future. Still, its success will depend on effectively addressing the substantial infrastructural and strategic challenges. By learning from global experiences, prioritizing ethical considerations, and making targeted investments in AI research and development, Africa can be a significant player in the international AI landscape. This balanced approach will ensure that AI catalyzes sustainable development, allowing Africa to leverage AI for both ethical and competitive gains in the global arena.

References

1. Arakpogun, E. O., Elsahn, Z., Olan, F., & Elsahn, F. (2021). Artificial Intelligence in Africa: Challenges and Opportunities.
2. Schoeman, W., Moore, R., Seedat, Y., & Chen, J. Y.-J. (2017). Artificial Intelligence: Is South Africa Ready? Pretoria: Accenture and the University of Pretoria's Gordon Institute of Business Science.
3. Schwab, K. (2016, January 14). The Fourth Industrial Revolution: What It Means, How to Respond. World Economic Forum. Available at: <https://www.weforum.org/agenda/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond/>.
4. PWC. (2017). Sizing the Prize: What's the Real Value of AI for Your Business and How Can You Capitalize? London: PricewaterhouseCoopers (PWC).
5. McLaughlin, C. (2016, April 20). The Homework Gap: The 'Cruellest Part of the Digital Divide.' National Education Association. Available at: <https://www.nea.org/nea-today/all-news-articles/homework-gap-cruellest-part-digital-divide>.
6. International Energy Agency. (2021). Africa Energy Outlook 2021: World Energy Outlook Special Report. Available at: <https://www.iea.org/reports/africa-energy-outlook-2021>.
7. World Bank. (2021). The Digital Economy for Africa Initiative: Connecting People for Digital Development. Available at: <https://www.worldbank.org/en/programs/all-africa-digital-transformation>.
8. International Telecommunication Union (ITU). (2020). Measuring Digital Development: Facts and Figures 2020. Available at: <https://www.itu.int/en/ITU-D/Statistics/Pages/facts/default.aspx>.
9. African Union. (2024). Continental Artificial Intelligence Strategy: Harnessing AI for Africa's Development and Prosperity.
10. United Nations Economic Commission for Africa (UNECA). (2022). Data Centers in Africa: Infrastructure and Regulation. Available at: <https://www.uneca.org/stories/data-centers-in-africa-infrastructure-and-regulation>.
11. World Economic Forum. (2020). The Future of Jobs Report 2020. Available at: <https://www.weforum.org/reports/the-future-of-jobs-report-2020>.
12. United Nations Conference on Trade and Development (UNCTAD). (2021). Digital Economy Report 2021: Cross-Border Data Flows and Development. Available at: <https://unctad.org/webflyer/digital-economy-report-2021>.
13. Gurumurthy, A., & Bharthur, D. (2019). Democracy and the Algorithmic Turn: Issues, Challenges and the Way Forward.
14. Organization for Economic Co-operation and Development (OECD). (2021). AI Principles and Partnerships: Balancing Innovation with Ethical Considerations. Available at: <https://www.oecd.org/going-digital/ai/>.
15. Banga, K., & te Velde, D. W. (2018). Digitalization and the Future of Manufacturing in Africa. Overseas Development Institute. Available at: <https://www.odi.org/publications/digitalisation-and-the-future-of-manufacturing-in-africa>.
16. Buolamwini, J., & Gebru, T. (2018). Gender Shades: Intersectional Accuracy Disparities in Commercial Gender Classification. Proceedings of the 1st Conference on Fairness, Accountability, and Transparency, 81, 1-15. Available at: <https://www.media.mit.edu/publications/gender-shades-intersectional-accuracy-disparities-in-commercial-gender-classification/>.

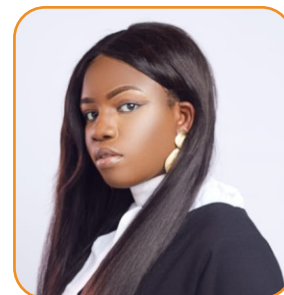
17. Eubanks, V. (2018). Automating Inequality: How High-Tech Tools Profile, Police, and Punish the Poor. St. Martin's Press.
18. Müller, V., & Bostrom, N. (2016). Future Progress in Artificial Intelligence: A Survey of Expert Opinion. In V. Müller (Ed.), *Fundamental Issues of Artificial Intelligence* (pp. 553-571). Springer, Cham. DOI: [10.1007/978-3-319-26485-1_33](https://doi.org/10.1007/978-3-319-26485-1_33).
19. Makhalemele, T., & Chikumbutso, K. (2020). The AI Divide: Challenges of Artificial Intelligence in Developing Countries. *African Journal of Science, Technology, Innovation and Development*, 12(5), 569-580. DOI:10.1080/20421338.2020.1779320.
20. UNESCO. (2021). Ethical AI from the Perspective of Africa. Available at: <https://unesdoc.unesco.org/ark:/48223/pf0000379320>.
21. Schroeder, R. (2018). Big Data and the Knowledge Gap: African Challenges and Opportunities. *African Journal of Information and Communication*, 21, 1-10.
22. Leurs, K., & Shepherd, T. (2017). Datafication and Discrimination: Conceptual Concerns and Empirical Cases. In M. T. Schäfer & K. van Es (Eds.), *The Datafied Society: Studying Culture through Data* (pp. 211-231). Amsterdam University Press.
23. Mhlanga, D. (2021). Artificial Intelligence in Africa's Educational Systems: Challenges and Opportunities. *Contemporary Educational Technology*, 12(2), 1-17. DOI: 10.30935/cedtech/9604.
24. Hendricks, K., & Mhlanga, D. (2021). Indigenous Knowledge and Artificial Intelligence in Africa: Ensuring Cultural Continuity in the Age of AI. *International Journal of African Renaissance Studies - Multi-, Inter- and Transdisciplinarity*, 16(1), 42-59. DOI:10.1080/18186874.2021.1967080.
25. U.S. Government. (2019). Executive Order on Maintaining American Leadership in Artificial Intelligence.
26. National Security Commission on Artificial Intelligence (NSCAI). (2021). Final Report.
27. The White House Office of Science and Technology Policy. (2020). AI Research and Development Strategic Plan.
28. China State Council. (2017). A Next Generation Artificial Intelligence Development Plan.
29. Ding, J. (2018). Deciphering China's AI Dream. Future of Humanity Institute, University of Oxford. Available at: https://www.fhi.ox.ac.uk/wp-content/uploads/Deciphering_Chinas_AI_Dream.pdf.
30. European Commission. (2021). Proposal for a Regulation Laying Down Harmonized Rules on Artificial Intelligence (Artificial Intelligence Act). Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52021PC0206>.
31. European Union. (2018). Ethics Guidelines for Trustworthy AI. High-Level Expert Group on AI. Available at: https://ec.europa.eu/newsroom/dae/document.cfm?doc_id=60419.
32. Schoemaker, P., & Tetlock, P. (2017). *Superforecasting: The Art and Science of Prediction*. Crown Publishing Group.
33. Makhalemele, T., & Chikumbutso, K. (2020). The AI Divide: Challenges of Artificial Intelligence in Developing Countries. *African Journal of Science, Technology, Innovation and Development*, 12(5), 569-580. DOI:10.1080/20421338.2020.1779320.



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AUTHOR



Ivie Omobude

Legal Consultant

Inno Canyon Consulting



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contactus@innocanyon.com