



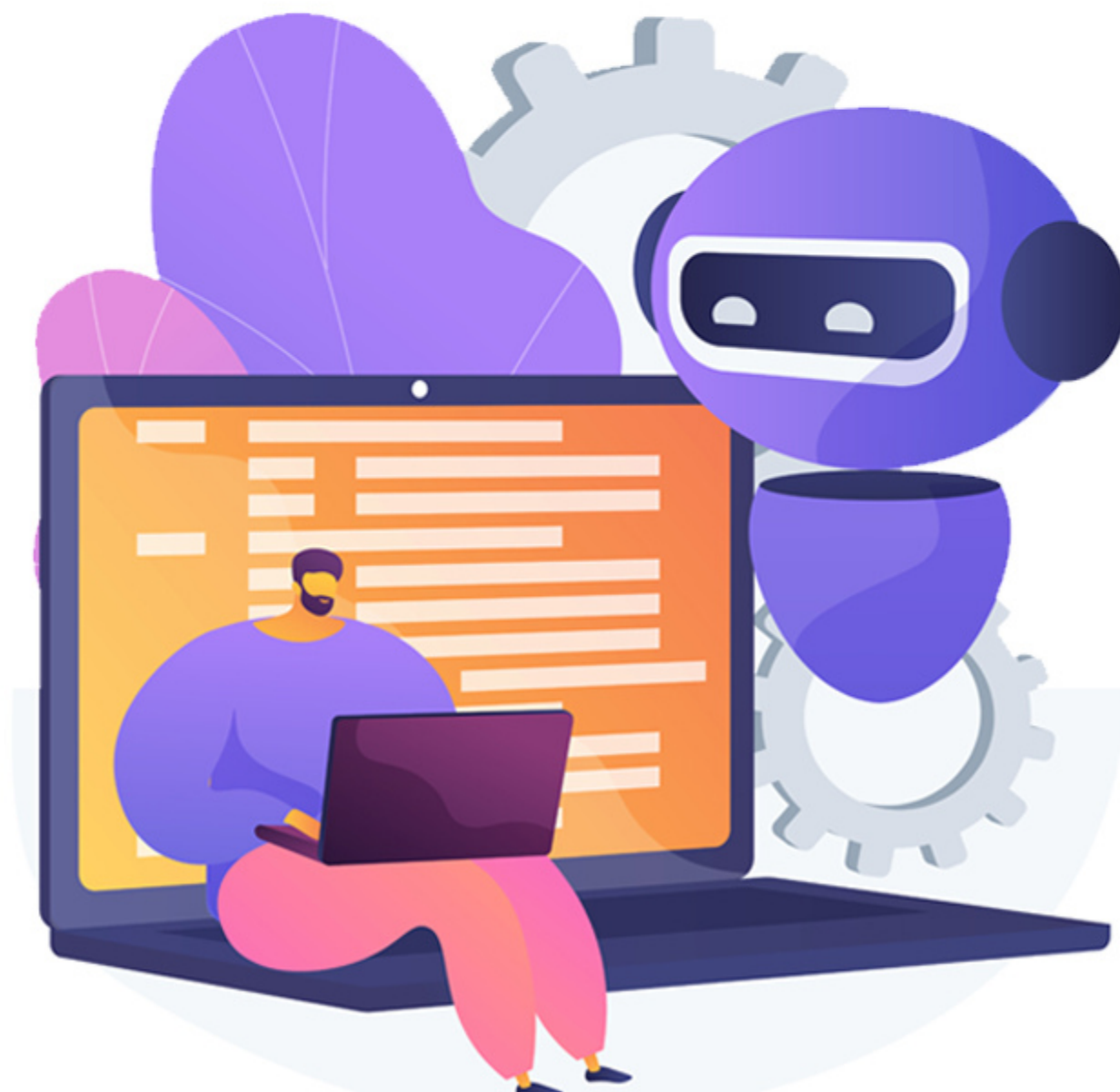
DUALE, OVIA &
ALEX-ADEDIPE

A Case for the Regulation of Machine Learning in Nigeria



Introduction

Nigeria stands on the cusp of a new era driven by Machine Learning (ML) and aided by its burgeoning tech ecosystem and ambitious digital aspirations. ML is a field of artificial intelligence that focuses on building systems that learn from data and enabling software to improve its performance over time. Technically, ML allows systems to learn and improve from experience without clearly being programmed. However, the application of this powerful technology without adequate safeguards poses significant risks to individuals, society, and the nation's development. Therefore, establishing a robust regulatory framework for ML is no longer a matter of if, but when.



Benefits & Risks

The potential benefits of ML in Nigeria are undeniable. It can revolutionize sectors like healthcare, finance, agriculture, and governance, improving efficiency, transparency, and access to services. However, this progress comes at a cost. Biases inherent in data and algorithms can perpetuate discrimination, particularly against marginalized groups. Imagine loan applications denied based on flawed creditworthiness models biased against certain ethnicities or professions.

Furthermore, the ambiguity of many ML systems raises serious concerns about accountability and transparency.¹ Algorithmic decisions that impact livelihoods, such as loan approvals or criminal justice predictions, deserve human oversight and explanation. Without it, trust in institutions and the potential for abuse significantly increase.²

¹OECD "Transparency and Explainability (Principle 1.3)" available at <https://oecd.ai/en/dashboards/ai-principles/P7> accessed December 12, 2023.

²Selmer Bringsjord "Artificial Intelligence", available at <https://plato.stanford.edu/entries/artificial-intelligence/> accessed December 12, 2023.



Additionally, the use of ML for mass surveillance and social control raises concerns about individual liberties and privacy. Unregulated facial recognition systems can be misused for unwarranted tracking and harassment.³

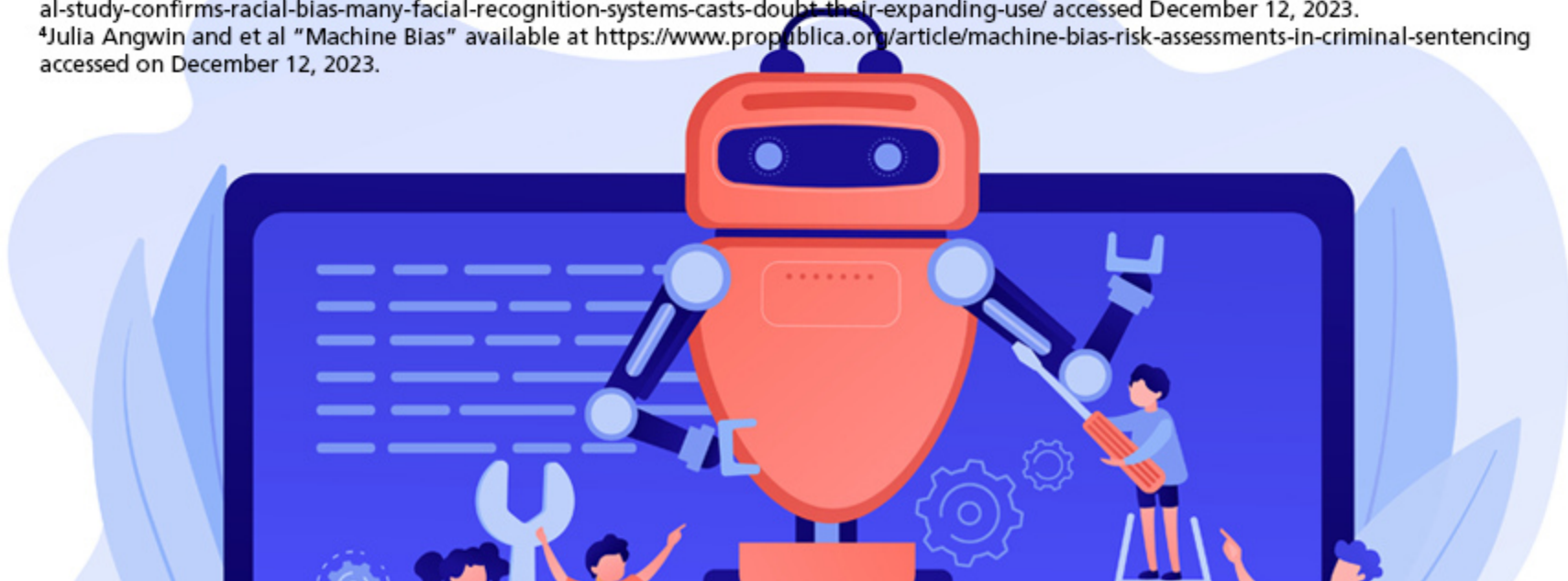
A Framework for Machine Learning

To harness the potential of ML while mitigating its risks, Nigeria needs a comprehensive regulatory framework that prioritizes the following:

1. **Transparency:** Algorithmic transparency should be mandated, requiring developers to disclose the data used to train models and explain their decision-making processes.
2. **Bias Mitigation and Fairness:** Proactive measures need to be implemented to identify and address biases in data and algorithms. This includes utilizing diverse datasets, employing fair algorithms, and establishing independent mechanisms to identify and assess potential bias. Algorithmic transparency should be mandated, requiring developers to disclose the data used to train models and explain their decision-making processes.

³Drew Harwell "Federal Study Confirms Racial Bias of Many Facial-Recognition Systems, Casts Doubt on Their Expanding Use" available at <https://www.washingtonpost.com/technology/2019/12/19/federal-study-confirms-racial-bias-many-facial-recognition-systems-casts-doubt-their-expanding-use/> accessed December 12, 2023.

⁴Julia Angwin and et al "Machine Bias" available at <https://www.propublica.org/article/machine-bias-risk-assessments-in-criminal-sentencing> accessed on December 12, 2023.



3. **Human Oversight and Accountability:** Algorithmic decisions that significantly impact individuals should not be made solely by machines. Human oversight and appeal mechanisms must be established to ensure accountability and prevent harm.⁵
4. **Public Education and Awareness:** Citizens need to be empowered with knowledge about ML and its implications for their lives. Educational initiatives and public awareness campaigns can foster informed dialogue and promote responsible use of ML.⁶
5. **International Collaboration:** As ML is a global phenomenon, Nigeria can learn from the experiences of other nations and collaborate on developing international standards for responsible AI development and deployment.

⁵ John Danaher "Ethics of Artificial Intelligence" available at https://www.researchgate.net/publication/349467117_Ethics_of_Artificial_Intelligence accessed on December 12, 2023

⁶ Tim Urban "The AI Revolution: The Road to Superintelligence" available at <https://waitbutwhy.com/2015/01/artificial-intelligence-revolution-2.html> accessed on December 12, 2023

⁷ UNESCO "Recommendation on the Ethics of Artificial Intelligence" available at <https://unesdoc.unesco.org/ark:/48223/pf0000380455> accessed on December 12, 2023.



Conclusion

Regulating ML is an essential step towards ensuring that ML serves the needs of all Nigerians. By prioritizing fairness, transparency, and accountability, Nigeria can leverage ML to become a leader in responsible AI development, fostering a future where technology empowers, not endangers, its citizens.

