

**FINDING A BALANCE: MACHINE LEARNING
IN BAIL AND BOND**

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DECLARATION

I, KUNDU ELSEY HANNAH, do hereby declare that this research is my original work and that to the best of my knowledge and belief, it has not been previously, in its entirety or in part, been submitted to any other university for a degree or diploma. Other works cited or referred to are accordingly acknowledged.

Signed:

Date:

This dissertation has been submitted for examination with my approval as University Supervisor.

Signed:.....

ABSTRACT

This paper seeks to assess whether Machine Learning can address the existing gap in the determination of bail and bond by focusing on the causation and correlation of the cognitive bias of judges and the wide-ranging discretionary power they wield. The paper shows that the heavy reliance on pretrial detention occasioned by cognitive biases breaches the rights of accused individuals and heavily impacts their right to a fair trial. This results in subversion of justice, weakening the criminal justice system and, by extension, the rule of law. The paper then argues that machine learning devoid of the corporeal limits of human cognition, can streamline the bail process ensuring that the rights of accused persons are preserved. The paper relies on the principle of fairness to work out the minimums that the Kenyan Law should provide for the integration of machine learning algorithms. The paper contends that players in both the justice and technology sectors need to ensure that the use of machine learning algorithmic systems is well-regulated and in correspondence with the rule of law and the principles of fairness.

LIST OF ABBREVIATIONS

AI- Artificial Intelligence

ML- Machine Learning

COMPAS- Correctional Offender Management Profiling for Alternative Sanctions

KNCHR- Kenya National Commission on Human Rights

OECD- Organization for Economic Cooperation and Development

NCAJ- National Council on the Administration of Justice

GDPR- General Data Protection Regulation

LIST OF CASES

Margaret Magiri Ngui v Republic (1985) eKLR.

Willy Munyoki Mutunga v R(1982) eKLR.

Republic v John Kahindi Karisa and 2 Others (2010) eKLR.

Aboud Rogo Mohammed and another v Republic (2011) eKLR.

Hussein Khallid and 16 others v Attorney General & 2 others (2019) eKLR.

Republic v Danford Kabage Mwangi (2016) eKLR.

Republic v Dwight Sagaray and 4 others (2013) eKLR.

Republic v JKK (2022) eKLR.

James Kibet Chirchir v Republic (2022) eKLR.

Republic v Diana Suleiman Said, (2014), eKLR.

Sudi Oscar Kipchumba v Republic (2020) eKLR.

State v Loomis (2016), The Supreme Court of the Wisconsin.

Paul Ole Kuyana and Another v Director of Public Prosecution and 2 Others (2021) eKLR.

Martin Wang'ombe Waweru & 7 Others v Republic (2013) eKLR.

LIST OF LEGAL INSTRUMENTS

Constitution of Kenya (2010)

Criminal Procedure Code (2018)

National Police Service Standing Orders (2022)

National Police Service Act

Data Protection Act (2019)

Universal Declaration of Human Rights

International Covenant on Civil and Political Rights

CHAPTER ONE: KAFKAESQUE BAIL AND BOND

1.1 Background

Bail and bond are a core component of any criminal justice system that assures an accused of a fair trial.¹ The distinction between bail and bond is nuanced, but it ultimately trickles down to the person securing and what secures the accused person's freedom.² Bail for this paper refers to an agreement between an accused person with the police or the court that the accused will attend court when required, and that should the accused fail to appear, the court may issue warrants of arrest, and order forfeiture of the amount deposited.³ Bond, on the other hand, refers to an undertaking entered into by an accused to comply with the conditions for their release laid down by the court, while awaiting or proceeding with the trial.⁴

The 2010 Constitution of Kenya prescribes bail for all offences irrespective of their gravity.⁵ A suspect may be granted bail nearly instantly after booking or during a subsequent bail review hearing.⁶ According to Article 49(1)(h), arrested individuals brought before the courts of law have the right to request their admission to bail or bond, while awaiting charge or trial, provided there are no compelling grounds for detention.⁷ However, a salient feature lacking in the 2010 Constitution is the guidelines governing the granting of bail. Section 123(2) of the CPC provides that the right to bail and bond shall be determined following the facts of the case and shall not be excessive.⁸ This particular clause gives the court discretion over granting bail and bond to an accused, which has been a contentious issue for the longest time.⁹

In Kenyan prisons, as of 2022, there was an average of 24,143 people per 100,000 people awaiting trial or remand, accounting for 41.0% of the prison population, leading to congestion in

¹ Kelly L, 'Bail conditions in the criminal justice systems in Kenya, Uganda, Rwanda and Tanzania,' University of Manchester, 2020.

² <https://www.klrc.go.ke/index.php/mandate/bail-and-bond-policy-guidelines/622-4-bail-and-bond-decision-making> on 22 August 2023.

³ <https://www.judiciary.go.ke/wp-content/uploads/2018/11/FAQs-Bail-and-Bond-brochure-copy.pdf> on 20 February 2023.

⁴ <https://www.judiciary.go.ke/wp-content/uploads/2018/11/FAQs-Bail-and-Bond-brochure-copy.pdf> on 20 February 2023.

⁵ Article 49 (1) (h) Constitution of Kenya (2010).

⁶ <https://www.judiciary.go.ke/wp-content/uploads/2018/11/FAQs-Bail-and-Bond-brochure-copy.pdf> on 20 February 2023.

⁷ Article 49 (1) (h) Constitution of Kenya (2010).

⁸ Section 123(2) Criminal Procedure Code (2018).

⁹ Mbote P and Aketch M, 'Kenya: Justice sector and the rule of Law,' Open Society Foundation, 2011.

penal institutions and the overburdening of the criminal justice system.¹⁰ This is attributed to various factors with bail being a substantial contributor.¹¹ The absconding rate of people receiving bail. In balancing the need for the accountability of the judiciary, justice, public safety, and order, and the rights of an accused person, a reformation of the bail and bond system is long overdue.¹²

Technological advancements in this era, more so machine learning (ML), present potential solutions in addressing and refining both the administrative and procedural aspects of the criminal justice system.¹³ An ML-established system that uses information available on other platforms can and is being used in various justice systems to assist judicial officers in evaluating bail prerequisites by allocating a measurable value to each important principle.¹⁴ Around the world, more than sixty AI-based risk assessment models are being utilized.¹⁵ A notable example in the US is a program called Correctional Offender Management Profiling for Alternative Sanction (COMPAS), a case handling and resolution tool utilized by courts in the United States to evaluate whether a defendant should be granted bail or bond and the probability of a defendant reoffending.¹⁶

The deliberate and conscientious utilization of ML in bail and bonds has the prospective to promote fairness and equity in decision-making, thereby upholding the constitutional promise of equal and impartial treatment.¹⁷ AI can improve decision-making in pretrials by individualizing the risk score for every accused and thus rendering it more significant.¹⁸ Additionally, the AI system uses a standardized data criterion to collect data used in the assessment.¹⁹ The

¹⁰ <https://www.prisonstudies.org/country/kenya> on 2 February 2023.

¹¹ Deche M and Bosire C, 'The silver lining in the Covid-19 cloud: An appraisal of accelerated Prison decongestion in Kenya, victims & offenders,' 2020 <https://doi.org/10.1080/15564886.2020.1827470> on 23 August 2023.

¹² Omwareh G, 'Kenya: Finding Kafka in the criminal justice system,' 2021. <https://www.prisonstudies.org/news/kenya-finding-kafka-criminal-justice-system> on 23 August 2023.

¹³ Upadhyay N and Romashkin S, 'Using Artificial Intelligence to address criminal justice needs, problems, and perspectives,' In *Legal Analytics*, Chapman, and Hall/CRC, 2023, 21-34.

¹⁴ Kleinberg J et al, 'Human decisions and machine predictions.' 2017.

¹⁵ Kleinberg J et al, 'Human decisions and machine predictions.' 2017.

¹⁶ Dressel J and Farid H, 'The accuracy, fairness, and limits of predicting recidivism,' *Science Advances* 1, 2018.

¹⁷ Goel S, Shroff R, Skeem J, & Slobogin C, 'The accuracy, equity, and jurisprudence of Criminal Risk Assessment,' *Research Handbook on big data law*, 2021.

¹⁸ Elyounes D, 'Bail or jail? Judicial versus algorithmic decision-making in the pretrial system,' *Columbia Science and Technology Law Review*, 2020 <https://doi.org/10.7916/stlr.v21i2.6838> on 23 August 2023.

¹⁹ Chohlas-Wood A 'Understanding risk assessment instruments in criminal justice,' Brookings, 2020. <https://www.brookings.edu/articles/understanding-risk-assessment-instruments-in-criminal-justice/> on 19 August 2023.

determination by the ML system is considered impartial. The outcome would be that the judge would be in a better position to comprehend the potential danger each defendant presents and enforce suitable sanctions to help mitigate the associated risks.²⁰

The extensive potential for ML application and integration into the criminal justice system proffers benefits whilst presenting concerns.²¹ The uneasiness is attributed to the secretive nature of ML functioning in its decision-making process, the ingrained systemic bias ascribed to the programmers of the systems and the data input, and the quality of data used.²² Additionally, the use of ML algorithms utilizes mathematical calculations to express and explain fairness, which is considered unethical and dehumanizing as it is deemed as a way of ostracizing judges from pretrial decision-making and leaving decisions on human freedom at the mercy of automatons.²³

The utilization of automatons in the justice system requires comprehending the interplay in decision-making, the justice system, and the automaton technology and its control.²⁴ Nevertheless, ML presents a golden opportunity for the betterment of the bail and bond regime in Kenya.

1.2 Statement of Problem

Considering that the right to bail is not assured, courts have to consider whether an accused might abscond their trial, which justifies the decision on whether or not bail should be granted. The decision-making process, for a span of millennia, is often made hastily in minutes based on intuition and the subjective proclivity of the judge, and the decision is left to the judge's discretion. To be correct, these decisions necessitate substantial discernment, analytical adeptness, and objectivity, taking into consideration that the decisions made will have a

²⁰ Elyounes D, 'Bail or Jail? Judicial versus algorithmic decision-making in the pretrial system,' Columbia Science and Technology Law Review, 2020 <https://doi.org/10.7916/stlr.v21i2.6838> on 23 August 2023.

²¹ Bagaric M and Wolf G, 'Sentencing by computer: Enhancing sentencing transparency and predictability and (Possibly) bridging the gap between sentencing knowledge and practice,' 25 GEO. Mason Law Review, 2018, 653-654.

²² Kun J, 'Big data algorithms can discriminate, and it's not clear what to do about it,' The Conversation, 2015. <https://theconversation.com/big-data-algorithms-can-discriminate-and-its-not-clear-what-to-do-about-it-45849> on 20 August 2023.

²³ Corbett-Davies S, and Goel S, 'The measure and mismeasure of fairness: A critical review of fair machine learning,' 2018.

²⁴ Hunter D, Bagaric M and Stobbs N 'A framework for the efficient and ethical use of artificial intelligence in the criminal justice system,' 47 Florida State Law Review, 2020.

long-term impact on people's lives. In this light, the utilization of judicial artificial intelligence in bail and bonds may be the silver lining to the impartiality, subjectivity, and bias presented in the decision-making process in pretrials.

This study thus seeks to investigate whether technology has a role to play in addressing this gap through the integration of ML systems in the decision-making process of bail and bond in Kenya whilst upholding the right to a fair trial as provided for by Article 50 of the Constitution of Kenya, as well as the minimums the Kenyan law should provide for in this regard

1.3 Research Objectives

1. To assess the current approaches to bail and bond and how judicial officers apply their discretionary powers in the administration of bail and bond.
2. To examine whether integration of ML (machine learning) in the justice system is sufficient in addressing the gaps that exist in the bail and bond system
3. To examine the minimum standards Kenyan law should provide for for the possible integration of ML into the justice system

1.4 Research Questions

- 1) a. What are the current approaches to bail and bond and are they how do they fall short?
b. What discretionary scope is applied by judges and police in determining whether to grant bail or not?
- 2) Should ML be implemented in bail and bond administration? If so,
 - a. What promises does ML offer?
 - a. What risks does it bear and what would be its implications?
- 3) What should the Kenyan law provide for in the implementation of machine learning in the decision-making of bail and bond?

1.5 Hypothesis

There is strong evidence that judges can be unduly influenced by a variety of factors, including the demeanour of the defendant, and cognitive biases.²⁵ At the very least, ML programs do not include such random factors.²⁶ And, if its algorithm is made public, anyone can see what information influences the risk rating generated. According to research on judicial perception, judging, like many other human decision-making processes, is at least partially an automatic or inadvertent cognitive process.²⁷ This can help with instantaneous and effective decision-making at times.²⁸ Judges typically do not intentionally make substandard decisions or suppositions, instead, their decisions may be affected by unintentional influences such as categorical imperatives, which take into account the costs and challenges of gathering all the information necessary for cogent decision-making, the constraints of time, and the corporeal limits of human cognition.²⁹ When dealing with a large amount of information in a short period, judges use a variety of cognitive criteria, predispositions, and other cognitive biases such as collective identity, cultural outlook, and sentiments.³⁰ Algorithms are used in ML systems to synthesize vast quantities of data involving previous actions or conduct, to help predict future behaviours. As such, I hypothesise that ML-based systems have the potential to play a significant role in bail jurisprudence by combining data from multiple pillars of the justice system, and in shaping our criminal justice system to be more effective, fairer, and just.

1.6 Justification

Over the last two decades, Kenya has seen an unprecedented increase in the number of people remanded, raising concerns about the nature of justice, the right to access to justice, and a fair trial. This has been majorly attributed to the discretionary power accorded to judges, with insufficient instructions on how to use excessive judicial discretion and the high amounts of bail

²⁵ Eren O and Mocan N, 'Emotional judges and unlucky juveniles,' National Bureau of Economic Research, Working paper, 2016 <https://www.nber.org/papers/w22611> on 20 November 2023.

²⁶ Posner R, 'How judges think,' Harvard University Press, 2008, 42.

²⁷ Posner R, 'How judges think,' Harvard University Press, 2008, 42.

²⁸ Sutherland C, 'Interdisciplinarity in judicial decision-making: Exploring the role of social science in Australian labour law cases,' 42 Melbourne University Law Review 1, 2018, 234-235.

²⁹ Bielen S and Grajzl P, 'Prosecution or persecution? Extraneous events and prosecutorial decisions,' 18 *Journal of Empirical Legal Studies* 4, 2021, 765-800.

³⁰ Burns K, 'Judges, 'common sense' and judicial cognition', 25 Griffith Law Review 3, 2016, 319-351.

<https://doi.org/10.1080/10383441.2016.1259536>

and bond set.³¹ Understandably, judges and law enforcement personnel are human and therefore vulnerable to the innate shortcomings and drawbacks of the human condition. With this, they may employ their cognitive bias in their decision-making when it comes to granting bail and bond. The uniqueness of this study will thus be examining the potential of the integration of ML in pretrial applications, as they have comparatively straightforward goals, require negligible complicated legal questions, and have shorter and simpler systems to evaluate and measure outcomes. This will be useful to lawmakers and policymakers who are drafting laws and policies to address existing gaps by making comprehensive, deliberate, and thoughtful law reform to proactively address the systemic legal concerns that arise before the adoption and integration of this technology in the criminal justice system. It will be crucial for adjudicators who have to deal with the question of whether to grant bail or not whilst upholding the right to a fair trial. It will also be useful to monitoring bodies such as KNCHR and the OECD AI policy observatory, as they employ their mandate of ensuring human rights are upheld and keeping track of the development of AI respectively. Additionally, it will be significant to researchers working on the development of AI in the justice sphere.

1.7 Theoretical Framework: Justice as Fairness

The theory of justice as fairness was influenced by the need to define justice. It was propounded by John Rawls as a result of his discontentment with the utilitarian theory, which he felt did not sufficiently address the notions of justice.³² He subsequently upheld the traditional political philosophy on the social contract whilst overlooking the concept of merit as a foundational basis of justice.³³ Two key principles underpin Rawls' theory. The former stresses personal liberty whilst valuing the liberties of other people. This maximizes equal legitimacy to an all-inclusive liberty system.³⁴ The latter addresses disparities in social and economic aspects intending to benefit those most disadvantaged whilst ensuring equal opportunities for everyone.³⁵

³¹The Judiciary Bail and Bond Policy Guidelines, 2015, 1-5.

³² Rawls J, 'Justice as fairness,' in Crespigny A and Wertheimer A (eds), *Power, Authority, Justice, and Rights 1 ed*, Routledge, 2017, 192-218.

³³ Rawls J, 'A theory of justice,' *Harvard University Press, Massachusetts*, 1971.

³⁴ Merritt G, 'Justice as fairness: A commentary on Rawls's new theory of justice,' *26 Vand. L. Rev.*, 1973, 665.

³⁵ Merritt G, 'Justice as Fairness: A commentary on Rawls's new theory of justice,' *26 Vand. L. Rev.*, 1973, 665.

According to Rawls' theory, every individual should be treated with equal respect irrespective of one's existing uniqueness.³⁶ This guarantees an objective and equitable outlook to justice, in the absence of bias directed to a singled category of people or interests.³⁷ Rawls presented the theory to establish an orderly society.³⁸ In his opinion, this society ought to foster the well-being of the people within it by adhering to agreed-upon ideals of justice as well as guaranteeing that such ideals have been recognized and embraced by all in its central structures.³⁹ He achieves this by employing speculative instruments such as original position alongside the cloak of ignorance, which facilitates impartial and reasonable decision-making whenever presented with ethical and societal disputes.⁴⁰

Critics argue that although Rawls draws attention to the essential elements of the organization of society, he ignores actual life concerns.⁴¹ His view is thus considered utopic, inadequate, and overly zealous based on his acceptance of Hume's notion of justice, and his assumptions on cooperating and autogenic citizens.⁴² Critics like Amartya Sen, are of the view that Rawls overstates the role of institutions as sureties of justice ignoring the role of humanistic behaviour on the capacity of key players and institutions to uphold a just and orderly society.⁴³ Whilst the criticisms are valid and subjective, Rawls' idea revitalizes the idea of upholding justice.

Against the backdrop of bail and bond decision-making, Rawls contends that while all parties who participate in the decision-making process influence the foundational values en masse, subsequent guidelines may be inordinately dictated by explicit groups in society.⁴⁴ This can be attributed to the broad range of the constitution of stakeholders, all of whom have individual opinions, preferences, and varying degrees of influence.⁴⁵ Such disparities have the potential to undermine the quest for justice following self-interests.⁴⁶ As a result of these disparities in

³⁶ Rawls J, 'Justice as fairness: A restatement,' Harvard University Press, 2001.

³⁷ Buchanan J, 'Rawls on justice as fairness,' 13 *Public Choice* 1, 1972, 123-128.

³⁸ Rawls J, 'Justice as Fairness: A Restatement,' Harvard University Press, 2001.

³⁹ Macleod C, 'Applying justice as fairness to institutions,' *A Companion to Rawls*, 2013, 164-184.

⁴⁰ Rawls J, 'Justice as fairness,' *Power, Authority, Justice, and Rights*, Routledge, 2017, 192-218.

⁴¹ Choptiany L, 'A critique of John Rawl's Principles of Justice,' 83 *Ethics* 2, 1973, 146-150.

⁴² Kittay E, 'The dependency critique of Rawlsian equality,' in Mandle J and Cady S (eds), *John Rawls: Debating the Major Questions*, New York, 2020, online edition, Oxford Academic, 2020

⁴³ Dutta S, 'Rawls' theory of justice: An analysis,' 22 *ISQR Journal of Humanities and Social Science*, 2017, 40-43.

⁴⁴ Buchanan J, 'Rawls on justice as fairness,' 13 *Public Choice* 1, 1972, 123-128.

⁴⁵ Van Dyke V, 'Justice as fairness: for groups?' 69 *American Political Science Review* 2, 1975, 607-614.

⁴⁶ Van Dyke V, 'Justice as fairness: for groups?' 69 *American Political Science Review* 2, 1975, 607-614.

decision-making power, the realization of fairness in the bail and bond structure could be hampered.

It is crucial to functionalize the tenets of the theory of Justice as Fairness as propounded by John Rawls. This theory of justice as fairness is extremely important in this study to comprehend the role that ML has to confer in the required reform of the criminal justice system. One could argue that, in the context of ML integration in the bail and bond system, justice ought to emphasize equal liberty for every person affected.⁴⁷ Nevertheless, if AI-driven decisions were to offer a greater degree of liberty to all individuals without triggering disputes or harm, settling for a lesser degree of liberty would appear irrational.⁴⁸ The goal is to achieve maximum liberty and impartiality without jeopardizing the efficacy of the system.⁴⁹ As a result, when we apply the notion of optimizing equal liberty, there cannot be a major deviation from the theory of justice, particularly when it could be accomplished using ML in the bail and bond reformation.⁵⁰

1.8 Literature Review

As it is, literature on the inclusion of artificial intelligence in the judicial sectors in Kenya and largely the Global South is sparse. There is however a wide array of literature in the Global North, debating on its utilization, supporting the utilization, proposing ways to include it and the principles to be used in its application.

1.8.1 On Applications of Machine Learning in the Justice System

The utilization of ML in judicial proceedings in Africa is however not as prevalent as in Europe and The United States. To reduce felonies and crimes, criminal justice systems around the world use a variety of resources, including information technology.⁵¹ This has been seen in risk assessment, crime prevention, and forensics among others. Both supporters and detractors of these algorithms are fierce. Opponents argue that algorithms are biased and produce inaccurate

⁴⁷ Re R and Niederman A, 'Developing artificial intelligence justice,' 22 Stan. Tech.L.Rev.242, 2019.

⁴⁸ Davis J et al, 'Algorithmic reparation,' 2021.

⁴⁹ Hellman D and Creel K, 'The algorithmic leviathan: Arbitrariness, fairness, and opportunity in algorithmic decision-making systems,' Canadian Journal of Philosophy, 2022, 1-18.

⁵⁰ Hellman D and Creel K, 'The algorithmic leviathan: Arbitrariness, fairness, and opportunity in algorithmic decision-making systems,' Canadian Journal of Philosophy, 2022, 1-18.

⁵¹ Rigano C, 'Using artificial intelligence to address criminal justice needs,' NIJ Journal, 280, 2019.

results, whereas proponents emphasize the tools' objectivity and efficiency. According to Hillman, for example, the use of ML in a Criminal Justice System necessitates extreme caution because datasets may be used to instill bias in AI models unless mitigating measures are implemented in the creation, instruction, and production of the AI and algorithmic tools.⁵² He goes on to say that these metrics are insufficient for determining how a machine learning model studied and deciphered the data fed into it.⁵³

There is a widespread belief that ML tools will do away with the biases and heuristics that are immanent in human discernment and reasoning.⁵⁴ This is a compelling reason why ML systems are being given a great deal of authority to address and solve primarily social and justice issues. To instigate a human-rights-compatible approach, social scientists, including lawyers, must cooperate with computer and data scientists.⁵⁵

It is perfectly logical to engage machine learning algorithms to extract extremely refined patterns from voluminous datasets in the justice system.⁵⁶ Machine learning can be used to identify all of the unforeseen patterns that underlie an intriguing phenomenon within a dataset or to confirm that predicted patterns prevail.⁵⁷ A particularly effective method for utilizing machine learning models to comprehend biases and subtleties of the underlying data as well as to confirm that they are detecting theoretically suggested signals is through pattern verification.⁵⁸

According to Asaro, the best way to use machine learning (ML) in the criminal justice system would be under his Ethics of Care Approach, which uses data to find better solutions rather than to address intricate institutional and social problems.⁵⁹ The claim that it is unclear whether the growing (and frequently unregulated) market for risk assessment software is meeting the demand

⁵² Hillman N, 'The use of artificial intelligence in gauging the risk of recidivism,' 2019.

⁵³ Hillman N, 'The use of artificial intelligence in gauging the risk of recidivism,' 2019.

⁵⁴ Wang C et al, 'In pursuit of interpretable, fair and accurate machine learning for criminal recidivism prediction,' 2020.

⁵⁵ Wang C et al, 'In pursuit of interpretable, fair and accurate machine learning for criminal recidivism prediction,' 2020.

⁵⁶ Kleinberg et al, 'Human Decisions and Machine Learning predictions,' 2017.

⁵⁷ Kleinberg et al, 'Human Decisions and Machine Learning predictions,' 2017.

⁵⁸ Berk R, 'Criminal justice forecasts of risk: A machine learning approach, New York, NY: Springer, 2012.

⁵⁹ Asaro P, 'AI ethics in predictive policing: from models of threat to an ethics of care,'³⁸ IEEE Technology and Society Magazine, 2, 2019, 40-53.

in the criminal justice system and whether a such tool can live up to its claims is supported by a study by Dressel and Farid.⁶⁰

As per Ludwig and Mullainatha, AI in the criminal justice system is not a transient phenomenon, but one that is here to stay and anchor various sectors in the world.⁶¹ Effective algorithm and ML integration would necessitate extensive training, personnel, public participation, and funding. Access to case data would also be required to ensure that the integration is accurate and successful, as ML systems rely on data.⁶² Transparency in the development, application, and operation of these tools would also be sufficient to allow researchers and experts to assess the efficiency, reliability, and validity of these tools, as well as identify the legal challenges posed by the use of ML and algorithmic tools.⁶³ Furthermore, it would necessitate the development of the best standards and practices for the process of designing the required ML systems, which should guide accountability and transparency in the use of personal data.⁶⁴

1.8.2 On ML Tools Replacing Judges in the Judicial System

A major debate has ensued in the utilization of artificial intelligence in the justice system, whether this is a step toward the redundancy of judges as decision-makers in the wake of AI. According to Bostrom, the debate and concerns encompass everything from the desire for fully equipped, objective decisions to the fear of humanity's demise.⁶⁵ Whilst it is very concerning, those in the justice system should not be wary of ML as it only comes in to complement their input in their work.

Even though judges tend to infuse their choices with their arbitrary experiences, predispositions, and principles, the vast majority of the public should just not accept this considering that their

⁶⁰ Dressel J and Farid H, 'The accuracy, fairness, and limits of predicting recidivism,' 4 Science advances 1, 2018.

⁶¹ Ludwig J and Mullainathan S, 'Fragile algorithms and fallible decision-makers: Lessons from the Justice System,' 35 Journal of Economic Perspectives 4, 2021, 71-96.

⁶² Morison J and Herkens A, 'Re-engineering justice? Robot judges, computerised courts and (semi) automated legal decision-making,' 39 Legal Studies 4, 2019.

⁶³ Morison J and Herkens A, 'Re-engineering Justice? Robot judges, computerised courts and (semi) automated legal decision-making,' 39 Legal Studies 4, 2019.

⁶⁴ Ludwig J and Mullainathan S, 'Fragile algorithms and fallible decision-makers: Lessons from the justice system,' 35 Journal of Economic Perspectives 4, 2021, 71-96.

⁶⁵ Bostrom N, 'Superintelligence: paths, dangers, strategies,' Oxford University Press, 2017.

determinations have led to the affected parties being maltreated.⁶⁶ According to research on judicial perception, judging, like many other human decision-making processes, is at least partially an automatic or inadvertent cognitive process.⁶⁷ This can help with instantaneous and effective decision-making at times.⁶⁸ When dealing with a large amount of information in a short period, judges use a variety of cognitive criteria, predispositions, and other cognitive biases such as collective identity, cultural outlook, and sentiments.⁶⁹ Algorithms are used in machine learning systems to synthesise vast quantities of data involving previous actions or conduct, to help predict future behaviours.⁷⁰ This is time efficient.

The consensus among legal scholars and experts is in agreement with Karen Yeung's stance on the interaction between ML systems alongside human legal professionals, especially within the context of the justice system.⁷¹ This viewpoint tends to be in favour of cooperation, stressing that AI should augment instead of entirely substitute the tasks performed by human legal professionals.⁷²

A machine is not yet able to decipher the composure and demeanour of a defendant or gauge the entire backdrop of facts the way a competent judge would.⁷³ But ML can preclude human predispositions and, if implemented transparently, can help guide judges to design better outcomes and will help streamline the process in the justice system through the utilization of open-source data and part automation.⁷⁴ Considering how little is known about this phenomenon, it is unclear if this holds for decision-making in other fields as viewed by Wesche and

⁶⁶Bagaric M, 'Sentencing: From vagueness to arbitrariness: The need to abolish the stain that is the instinctive synthesis, 38 U.N.S.W.L.J. 76, 2015, 110-11.

⁶⁷Burns K, 'Judges, 'Common sense and judicial cognition', 25 Griffith Law Review, 3, 2016, 319-351.

⁶⁸Bagaric M, 'Sentencing: From vagueness to arbitrariness: The need to abolish the stain that is the instinctive synthesis, 38 U.N.S.W.L.J. 76, 2015, 110-11.

⁶⁹Burns K, 'Judges, 'Common sense' and judicial cognition', 25 Griffith Law Review 3 2016, 319-351.

⁷⁰ Murphy K, 'Machine learning: A probabilistic perspective,' Cambridge, MA: MIT Press, 2012.

⁷¹ Yeung K, 'Can we employ design-based regulation while avoiding brave new world?' 3 Law, Innovation and Technology 1, 2011, 1-29.

⁷² Yeung K, 'Can we employ design-based regulation while avoiding brave new world?' 3 Law, Innovation and Technology 1, 2011, 1-29.

⁷³Langer M and Landers R, 'The future of artificial intelligence at work: A review on effects of decision automation and augmentation on workers targeted by algorithms and third-party observers,' 123 Computers in Human Behavior, 2021.

⁷⁴ Kleinberg J et al, 'Human decisions and machine predictions.' 2017.

Sonderegger.⁷⁵ If the machine learning recommendations are taken as true, human decision-makers would likely create a heuristic principle to automatically follow them because they have a propensity for creating heuristics that help save analytical resources while making decisions.⁷⁶

Contribution

This study supports the notion that institutions in both the private and public sectors should embrace digital technologies that can simplify routine tasks, handle complex workloads, and identify patterns in massive quantities of electronic data to make forecasts and choices. It seeks to investigate how ML through pretrial assessment tools can address the gap between causation and correlation of judges with cognitive biases and wide-ranging discretionary power, and the ever-increasing numbers of pretrial detainees.

1.9 Methodology

This research is qualitative because the study's primary focus is on the interplay of the fields of law and technology. The study relies on in-depth subject research using secondary materials such as published reports, news articles, books, and online resources on the subject of machine learning, and the right to bail to effectively portray, analyse, parse, and gain a thorough understanding of particular notions or dynamics in diverse fields. Particularly on the foundational ideas of machine learning and how they impact the right to bail and consequently the right to a fair trial. The study also incorporates primary sources such as case law and how it impacts the right to bail and consequently the right to a fair trial.

The study takes more of a prescriptive approach to analyse the distinction between human decision-making and machine-based decision-making, to help determine and add to the superiority discourse. The study also utilizes philosophical and legal analysis of the various principles and forms of fairness and justice and tries to merge the disconnect with machine learning.

⁷⁵Wesche J and Sonderegger A, 'When computers take the lead: The automation of leadership,' 101 *Computers in Human Behavior* 2019, 197–209.

⁷⁶Kahneman D and Tversky A, 'Judgment under uncertainty: Heuristics and biases,' 185 *Science*, 1974, 1124-1131.

1.10 Chapter Breakdown

Chapter One serves as the foundation of this study. It details among others the justification and the conceptual framework of the study and thus sets the premise of the study. It further provides the background, problem statement, and research objectives.

Chapter two will examine the development of bail and bond, and the current approach to bail and bond in Kenya. This will highlight the rights of an individual with bail and bond the various types of bail and bond and the prerequisites for them. It will also delve further into the discretionary scope applied in granting bail.

Chapter three will look into the promise that ML offers concerning bail and bond in Kenya. This chapter will analyze the possible challenges that the automatons could address. It starts by differentiating human decision-making and machine learning decision-making, then proceeds to highlight the potential of ML in the justice system to fill in the established gaps occasioned by the existing discrepancies more so during pretrial. This will feature the unique features of machine learning that are pertinent to the pretrial stage.

Chapter four will be dedicated to establishing what Kenyan legislation should provide for in the integration of machine learning concerning the concept of fairness. It will further highlight the various principles of fairness. Chapter five will finally conclude with recommendations. The policy recommendations addressed in this chapter reflect the significant effort and work required to guarantee that integrated risk assessment tools are both accurate and fair to all members of society.

CHAPTER TWO: NAVIGATING BAIL AND BOND

2.1 Introduction

In this chapter, the study will assess the development of bail and bond, the current approaches to bail and bond in the Kenyan jurisdiction, the discretion accorded to judicial officers in the determination, and their inefficacious nature in fostering access to justice. To that end, the chapter will begin by delineating the rights of an apprehended individual apropos bail and bond, and how bail and bond are determined. The subsequent part of the chapter will look over the discretion vested in the judicial officers.

2.2 The Development of Bail and Bond in Kenya

The precolonial criminal justice system in Kenya was hinged on customary law gleaned from the societal customs and traditions of various communities.⁷⁷ The penal systems then, were grounded in restorative justice oriented towards the restoration of the relationship between the perpetrator and the victim.⁷⁸ This system was under the ambit of the community elders who dispensed justice depending on the severity of the crime and the degree of the harm inflicted on the community and the victim.⁷⁹ Justice was mainly manifested in compensation.⁸⁰ Colonial Kenya witnessed English common law and certain Acts of Parliament of the United Kingdom administered in

⁷⁷Owino L, 'Application of African customary law: Tracing its degradation and analysing the challenges it confronts,' 1 Strathmore Law Review 1, 2016 <https://doi.org/10.52907/slr.v1i1.15> on 24 January 2024.

⁷⁸Kinyanjui S, 'Restorative justice in traditional pre-colonial 'Criminal Justice Systems' in Kenya,' 10Tribal Law Journal 1, 2010 <https://digitalrepository.unm.edu/tlj/vol10/iss1/1> on 20 January 2024.

⁷⁹Kinyanjui S, 'Restorative justice in traditional pre-colonial 'Criminal Justice Systems' in Kenya,' 10Tribal Law Journal 1, 2010 <https://digitalrepository.unm.edu/tlj/vol10/iss1/1> on 20 January 2024.

⁸⁰ Owino L, 'Application of African customary law: Tracing its degradation and analysing the challenges it confronts,' 1 Strathmore Law Review 1, 2016 <https://doi.org/10.52907/slr.v1i1.156> on 24 January 2024.

parallel with African customary law.⁸¹ Notwithstanding, the transplanted colonial law superseded the African customary law and was chartered for the whites and the settlers.⁸²

This was evident in the application of the laws and how justice was meted out. With regard to bail and bond, judges were more inclined to issue bail to the settlers. This is as evidenced in the case of *Crown v Abraham J and the three natives*, who were charged with the murder of a native labourer.⁸³ The crux of the matter was that Abraham, a white settler, was granted a cash bond and one surety, each two thousand shillings (sh. 2000), whilst the other accuseds, African natives, were remanded.⁸⁴ Moreover, the death of the native was a result of the settler's direction.⁸⁵ Such occurrences propelled a majority of the vital amendments and reconstruction of the laws and legal procedures in Kenya when she attained independence.⁸⁶

Since independence, Kenya has marked milestones in administering bail and bond. This has been made possible with the existence of the Constitution of Kenya, the Penal Code and the Criminal Procedure Code. The adopted post-independence Constitution proffered the right to bail, through indefinite conditional release in situations where the accused was not adjudged

⁸¹Joireman S, 'The evolution of the common law: Legal development in Kenya and India,' 44 *Commonwealth & Comparative Politics* 2, 2006, 190-210. <https://scholarship.richmond.edu/polisci-faculty-publications/68/#:~:text=doi%3A10.1080/14662040600831636> on 20 January 2024.

⁸²Anderson D, 'Master and servant in colonial Kenya 1895-1939,' 41 *The Journal of African History* 3, 2000, 459-485. <https://www.cambridge.org/core/journals/journal-of-african-history/article/abs/master-and-servant-in-colonial-kenya-18951939/F5117806551B8E9EBEB4F60D7430AA89#:~:text=doi%3A10.1017/S002185370000774X> on 20 January 2024.

⁸³Kenya National Archives AG/ 52/ 293, Dr. Henderson's report 12 June 1923, *Crown v J Abraham and others*, Nakuru Supreme Court, Case No. 73 of 1923.

⁸⁴ Anderson D, 'Punishment, race and 'The raw native': Settler society and Kenya's flogging scandals, 1895-1930,' 37 *Journal of Southern African Studies* 3, 2011, 479-497. <https://www.jstor.org/stable/41345709#:~:text=2011%3A%20479%E2%80%9397.-,http%3A//www.jstor.org/stable/41345709.-Copy> on 24 January 2024.

⁸⁵ Anderson D, 'Punishment, race and 'The raw native': Settler society and Kenya's flogging scandals, 1895-1930,' 37 *Journal of Southern African Studies* 3, 2011, 479-497. <https://www.jstor.org/stable/41345709#:~:text=2011%3A%20479%E2%80%9397.-,http%3A//www.jstor.org/stable/41345709.-Copy> on 24 January 2024.

⁸⁶ Joireman S, 'The evolution of the common law: Legal development in Kenya and India,' 44 *Commonwealth & Comparative Politics* 2, 2006, 190-210. <https://scholarship.richmond.edu/polisci-faculty-publications/68/#:~:text=doi%3A10.1080/14662040600831636> on 20 January 2024.

within practicable time.⁸⁷ The right extended to all other crimes to the exclusion of capital offences viz. attempted robbery with violence, robbery with violence, murder, and treason.⁸⁸ This was vocalized in the decision made in the case of Margaret Magiri Ngui v Republic.⁸⁹ The accused had been charged, in association with others, of robbery with violence.⁹⁰ The accused was denied bail and sought redress from the High Court.⁹¹ The judges at the High Court, however, notwithstanding the age and sickly nature of the accused, declined the application.⁹² The judges averred and upheld the supremacy of the conventional rule, which precluded those accused of capital offences from receiving bail.⁹³

Fast-forward to 2010, the promulgated constitution was and has been hailed as the overdue panacea in transformative constitutionalism with weightage placed on chapter four, The Bill of Rights.⁹⁴ This has seen Kenya move past the repressive Moi regime where bail was withheld, detainees tortured and coerced into confessing before any juridical action.⁹⁵ This era was mired with the undermining of constitutional rights as seen in the case of Willy Munyoki Mutunga v R, where Willy Mutunga, as a university lecturer back in the year 1982, was arrested and indicted for sedition.⁹⁶ He maintained his innocence and applied for bail before the Senior Resident Magistrate, who withheld bail, and again through another application before the Chief Magistrate who similarly turned down his application.⁹⁷ His efforts to seek recourse over the bail application at the High Court also failed, a move conceived as political purging orchestrated by the executive at the time.⁹⁸

⁸⁷ Section 72(5), Constitution of Kenya (1969).

⁸⁸ Section 123(1), Criminal Procedure Code (1989).

⁸⁹ Margaret Magiri Ngui v Republic (1985) eKLR.

⁹⁰ Margaret Magiri Ngui v Republic (1985) eKLR.

⁹¹ Margaret Magiri Ngui v Republic (1985) eKLR.

⁹² Margaret Magiri Ngui v Republic (1985) eKLR.

⁹³ Margaret Magiri Ngui v Republic (1985) eKLR.

⁹⁴ Mutunga W, 'Transformative constitutions and constitutionalism: A new theory and school of jurisprudence from the Global South?' 8 *The Trans-National Human Rights Review*, 2021,30-60.

⁹⁵ Gutto S, 'Constitutional law and politics in Kenya since independence: A study in class and power in a neo-colonial state in Africa', 5 *The Zimbabwe Law Review*, 1987, 155.

⁹⁶ Willy Munyoki Mutunga v R(1982) eKLR.

⁹⁷ Willy Munyoki Mutunga v R(1982) eKLR.

⁹⁸ Mutua M, 'Justice under siege: The rule of law and judicial subservience in Kenya,' 23 *Human Rights Quarterly* 1, 2002, 102.

Notwithstanding, the period after the adoption of the 2010 Constitution of Kenya bared that the prison populations held virtually twofold the aggregate it was supposed to.⁹⁹ Further, roughly 41% of that population was imputed to remandees.¹⁰⁰ To supplement the existent provisions, the NCAJ, in 2015, formulated bail and bond policies dubbed the Bail and Bond Policy Guidelines.¹⁰¹ The purpose of the guidelines is to direct judicial agents as well as law enforcement officers.¹⁰²

2.2.1 Current Approaches to Bail and Bond in Kenya

The pretrial phase is expected to be transient. In the criminal justice system, the purpose of bail pending trial is to avoid punishing an innocent person and to incentivise the unhindered preparation of his possible vindication.¹⁰³ The contemporaneous bail and bond administration in Kenya is founded on the premise that the accused is innocent pending substantiation by the prosecution.¹⁰⁴ This is dictated by Article 50 in conjunction with Articles 24 and 25(c) of the Constitution of Kenya, which provides that an accused privy to their rights, should be afforded fair adjudication in light of the presumption of innocence.¹⁰⁵ This is backed up by Article 11 of the Universal Declaration of Human Rights which dictates the presumption of innocence.¹⁰⁶

Article 49(1)(h) explicitly provides the prerogative of bail and bond for arrested persons based on practicable conditions, in anticipation of a charge or a trial, save for the existence of plausible reasons that warrant the continued committal to custody.¹⁰⁷ Bail is typically set based on the gravity of the offence charged,¹⁰⁸ the well-being and security of the victims, the likelihood of flight, and other factors such as the veracity of the evidence, the persona of the accused, the history of the accused with the justice system and the accused's capacity to obtain bail.¹⁰⁹ Bail is

⁹⁹ <http://kenyalaw.org/kenyalawblog/bail-and-bond-policy-guidelines/> accessed on 12 January 2024.

¹⁰⁰ <http://kenyalaw.org/kenyalawblog/bail-and-bond-policy-guidelines/> accessed on 12 January 2024.

¹⁰¹ United Nations Office on Drugs and Crime, 'Strengthening the administration of justice and operationalizing the use of alternatives to imprisonment in Kenya project,' October 2018,

¹⁰² National Council on the Administration of Justice, Bail and bond policy guidelines, 2015,

¹⁰³ Article 49, Constitution of Kenya(2010).

¹⁰⁴ Article 49, Constitution of Kenya(2010).

¹⁰⁵ Article 50, Constitution of Kenya(2010).

¹⁰⁶ Article 11, Universal Declaration of Human Rights, 10 December 1948, Res 217A (III).

¹⁰⁷ Article 49(1)(h), Constitution of Kenya (2010).

¹⁰⁸ Republic v John Kahindi Karisa and 2 Others (2010) eKLR.

¹⁰⁹ Aboud Rogo Mohammed and another v Republic (2011) eKLR.

not a fine, but rather a guarantee that is refunded once the matter is resolved and is meant to ensure that the accused attends court proceedings.¹¹⁰ Besides, Article 49(2) is opposed to the detention of petty criminals where a fine or incarceration of roughly six months would suffice.¹¹¹

In this regard, Article 21 of the Constitution stipulates that the government and the relevant authorities are obligated to champion, execute, respect and safeguard the freedoms and rights of individuals as enshrined in the Bill of Rights.¹¹² The Bail and Bond Policy Guidelines define the purpose of bail and bond within the criminal justice system.¹¹³ It also prescribes how bail and bond should be administered to ensure accuseds are accorded their rights. According to this, the Kenyan bail and bond regime has mandated courts as well as police officers the power to grant bail and bond to apprehended individuals.¹¹⁴

(i) Bail at the Police Station

Law enforcement plays a pivotal in the bail and bond regime. They initiate the wheels of the justice system by investigating and unearthing crimes to apprehending suspects per Articles 49, 50 as well as 51 of the Constitution of Kenya.¹¹⁵ Article 49 necessitates that an arrested person should be promptly notified of the cause of his arrest, be briefed of his rights; maintain silence, get in touch with an advocate or any person of assistance, to be availed in court within practical timing, to be released on bail or bail,¹¹⁶ and to be segregated from sentenced individuals.¹¹⁷ This was as mentioned in the case of Hussein Khalid, where the petitioners averred that their rights had been violated following their arbitrary detention by the police officers.¹¹⁸ The petitioners claimed that the police officers had held them without informing them of the cause of their arrest for several hours.¹¹⁹ The Supreme Court affirmed that apprehending individuals without

¹¹⁰ National Council on the Administration of Justice, Bail and bond policy guidelines, 2015, 4-6.

¹¹¹ Article 49(2), Constitution of Kenya (2010).

¹¹² Article 21, Constitution of Kenya (2010).

¹¹³ National Council on the Administration of Justice, Bail and bond policy guidelines, 2015, 1-2.

¹¹⁴ National Council on the Administration of Justice, 'Bail and bond policy guidelines,' 2015, 4.1.

¹¹⁵ Fifth Schedule, National Police Service Act (2011).

¹¹⁶ Article 49(1) Constitution of Kenya (2010).

¹¹⁷ Article 10(2)(a), International Covenant on Civil and Political Rights, 12 December 1966, 999 UNTS 171.

¹¹⁸ Hussein Khallid and 16 others v Attorney General & 2 others (2019) eKLR.

¹¹⁹ Hussein Khallid and 16 others v Attorney General & 2 others (2019) eKLR.

informing them of the reason behind their arrest is a contravention of their right to human dignity and liberty.¹²⁰ This is prescribed for arrests conducted with or without warrants.¹²¹

The capacity of law enforcement to issue bail and bond is nonetheless to the exclusion of capital crimes; murder, treason, robbery with violence and attempted robbery with violence.¹²² At the police station, an investigating officer is empowered by Section 53 of the National Police Service Act to execute a bond to an alleged offender, in the required framework, when conducting an inquiry on the alleged offence.¹²³ This is based on the precondition that the accused will not abscond availing himself to court when required to.¹²⁴ Additionally, for persons arrested on suspicion, the commanding officer is at liberty to release the apprehended individual once he is assured that the evidence is inadequate for the advancement of a charge against the arrested individual.¹²⁵ For the suspects arrested without a warrant, Section 123 of the Criminal Procedure Code provides that the officer-in-charge is well within his rights to admit the accused to bail, so long as the accused conveys his readiness to fulfil the prerequisites of the reasonable bail terms.¹²⁶

Since the ensuing objective is to ensure the appearance of the accused, the fixed amount must be sufficient to guarantee this.¹²⁷ Law enforcement is empowered to set logical and practicable conditions in the interest of ensuring that an accused granted bail or bond avails themselves when required, neither impedes the course of justice, interferes with witnesses nor reoffends.¹²⁸ Following the provision, the accused is to be issued with a receipt,¹²⁹ and a duplicate of the same is to be retained by the police.¹³⁰ The amount received is subsequently presented to the court on the date set for the appearance of the accused in court.¹³¹

¹²⁰ Hussein Khallid and 16 others v Attorney General & 2 others (2019) eKLR.

¹²¹ Article 49(1) Constitution of Kenya (2010).

¹²² Section 123(1) Criminal Procedure Code (2018).

¹²³ Section 53(1), National Police Service Act (2011).

¹²⁴ Section 53(1), National Police Service Act (2011).

¹²⁵ Order 3, Chapter 15, National Police Service Standing Orders (2022).

¹²⁶ Section 123, Criminal Procedure Code (2018).

¹²⁷ National Council on the Administration of Justice, Bail and Bond Policy Guidelines, 2015, 13.

¹²⁸ National Council on the Administration of Justice, Bail and Bond Policy guidelines, 2015, 13.

¹²⁹ National Council on the Administration of Justice, Bail and Bond Policy guidelines, 2015, 13.

¹³⁰ Order 24, Chapter 39, National Police Service Standing Order (2022)

¹³¹ National Council on the Administration of Justice, Bail and Bond Policy Guidelines, 2015, 4.4

The right to bail and bond is nonetheless limited when the officer-in-charge is well-advised that the accused would fail to respond to bail.¹³² When the accused absconds court while out on bail or bond, the officer-in-charge has to apply for a warrant of arrest before the presiding magistrate.¹³³ The magistrate could then either direct the sequestration of the bail should there be enough cause to validate the order or hold on to the amount deposited up until the accused avails himself.¹³⁴ Furthermore, the Police Standing Orders require that the bail amount be refunded to the accused where no charges are lodged against them.¹³⁵

(ii) Bail at the Court

Granting or withholding bail or bond is not designed to be punitive, but rather to balance the interest of justice, the rights of the parties involved, and to ensure the security of the accused, the victims, and witnesses.¹³⁶ The determination of bail and bond at the court is preceded by a bail hearing in circumstances where the court supposes it to be necessary or when the prosecution opposes bail.¹³⁷ The hearing entails establishing whether the accused should be admitted to bail, the value and the terms of the bail, the corroboration of the security documents, authorizing of sureties, releasing accuseds admitted to bail from custody as well as reassessing bail terms.¹³⁸

The prosecution bears the burden of proof to substantiate cogent grounds that would warrant the rejection of bail.¹³⁹ Correspondingly, the accuseds are to be furnished with the evidence that the prosecution would otherwise rely on, except when the information is crucial to the safekeeping of victims or national security.¹⁴⁰ In circumstances where the court lacks adequate information to make an equitable determination on bail, it is at liberty to request a bail report drawn up by a probation officer within two weeks of the request.¹⁴¹ Consequently, both the defence and the prosecution should be accorded fair opportunities to challenge the contents of the report.¹⁴²

¹³² Order 8(1)(a), Chapter 15, National Police Service Standing Orders (2022).

¹³³ National Council on the Administration of Justice, 'Bail and Bond Policy Guidelines,' 2015, 4.1.

¹³⁴ Order 9(iii), Chapter 15, National Police Service Standing Order (2022).

¹³⁵ Order 24, Chapter 39, National Police Service Standing Order (2022)

¹³⁶ National Council on the Administration of Justice, Bail and Bond Policy Guidelines, 2015, 8-10.

¹³⁷ National Council on the Administration of Justice, Bail and Bond Policy guidelines, 2015,

¹³⁸ National Council on the Administration of Justice, Bail and Bond Policy guidelines, 2015, 15.

¹³⁹ Republic v Danford Kabage Mwangi (2016) eKLR.

¹⁴⁰ Republic v Dwight Sagaray and 4 others (2013) eKLR.

¹⁴¹ Republic v JKK (2022) eKLR.

¹⁴² National Council on the Administration of Justice, Bail and Bond Policy Guidelines, 2015, 26.

The value of the bail and bond is subject to the discretion of the judges.¹⁴³ Moreover, the court is permitted to vary the terms of bail when it deems the bail paid initially to be inadequate or excessive.¹⁴⁴ During the preparation of the Bail and Bond Policy Guidelines, the National Council on Administration of Justice pinpointed the variability in the administration of bail and bond and the excessive nature of bail amounts.¹⁴⁵ This is as seen in the case of *James Kibet Chirchir v Republic*, where the accused sought to have the terms of his bail and bond moderated.¹⁴⁶ The accused argued that the magistrate had erred by awarding him extortionate terms for his bail and bond.¹⁴⁷ His bail had been set at Ksh. 5 million and the bond at Kshs. 7 million.¹⁴⁸

The accused's family was able to raise Ksh. 300,000 as bail and, alternatively avail a parcel of land valued at Ksh. 500,000 as bond.¹⁴⁹ He perceived the terms as a curtailment to his right to liberty and the presumption of innocence since the court did not take into consideration his old age, financial status, his sickly state and the subsequent deterioration of his health while in detention.¹⁵⁰ His application at the High Court saw the reduction of the bail amount to Ksh. 600,000 and the bond to 1,200,000.¹⁵¹ The case significantly highlights that bail and bond should not be too sparing or punitive without the benefit of due justice. The case of *James Chirchir* is not an isolated one as similar occurrences materialise. Such instances are mostly attributed to inefficient court systems and judges and their implementation of the law and hastiness in decision-making.¹⁵² The aftermath is over-dependency on pretrial detention and non-compliance with regulatory provisos.¹⁵³

¹⁴³Section 124, Criminal Procedure Code (2018).

¹⁴⁴ Section 127, Criminal Procedure Code (2015)

¹⁴⁵ National Council on the Administration of Justice, *Bail and Bond Policy Guidelines*, 2015, 5.

¹⁴⁶ *James Kibet Chirchir v Republic* (2022) eKLR.

¹⁴⁷ *James Kibet Chirchir v Republic* (2022) eKLR.

¹⁴⁸ *James Kibet Chirchir v Republic* (2022) eKLR.

¹⁴⁹ *James Kibet Chirchir v Republic* (2022) eKLR.

¹⁵⁰ *James Kibet Chirchir v Republic* (2022) eKLR.

¹⁵¹ *James Kibet Chirchir v Republic* (2022) eKLR.

¹⁵² Heard C and Fair H, 'Pretrial detention and its over-use: Evidence from ten countries,' *Institute for Crime & Justice Policy Research*, 2019, viii.

¹⁵³ Otieno D and Kakah M, 'Why remandees are granted bail but still rot in jail,' *International Commission of Jurists*, 17 September 2018

<https://icj-kenya.org/news/why-remandees-are-granted-bail-but-still-rot-in-jail-2/> on 29 December 2023.

The role of the court concerning bail and bond does not cease once it renders a decision on the same because Article 165 of the Constitution of Kenya as read with Section 362 of the Criminal Procedure Code grants revisionary rights to the High Court.¹⁵⁴ In the case of *Republic v Diana Suleiman Said*, the court laid the test of changed circumstances asserting that a turn of events was sufficient reason to alter the conditions of bail and bond, in the interest of justice.¹⁵⁵ In the same light, an accused whose application for bail and bond failed in the initial attempt may apply for a review in the case the situation changes in a way that favours the approval of his application.¹⁵⁶ Similarly, the High Court, is sanctioned to award bail pending arrest to an applicant on condition that the applicant establishes that there is prospective curtailment of their rights and freedoms associated with liberty.¹⁵⁷

2.3 The Discretion of Judicial Officers

The principal role of judicial officers in the criminal justice system is to dispense and promote justice in congruence with the rule of law.¹⁵⁸ Moreover, the rule of law necessitates the competence, efficacy and objectivity of judicial officers.¹⁵⁹ The sole aim of this is to guarantee that the judicial officers execute their responsibilities appropriately and that the entire society, regardless of the type of interaction, can benefit from the execution.¹⁶⁰ According to Hawkins, the discretion afforded to judicial officers allows them to exercise and utilize their perception to adjudicate a case.¹⁶¹ With this, judges are mandated and presumed to employ their discretion in all

¹⁵⁴ Article 165, Constitution of Kenya (2010).

¹⁵⁵ *Republic v Diana Suleiman Said*, (2014), eKLR.

¹⁵⁶ *Republic v Diana Suleiman Said*, (2014), eKLR.

¹⁵⁷ *Paul Ole Kuyana and Another v Director of Public Prosecution and 2 Others* (2021) eKLR.

¹⁵⁸ Cohen W, 'Principles for the establishment of a rule of law criminal justice system,' 23 *Georgia Journal International & Comparative Law* 2, 1993, 274.

¹⁵⁹ Cohen W, 'Principles for the establishment of a rule of law criminal justice system,' 23 *Georgia Journal International & Comparative Law* 2, 1993, 274.

¹⁶⁰ Small T, 'The rule of law is powerful and fragile; it's your job to protect it,' *The National Judicial College*, 18 May 2020. <https://www.judges.org/news-and-info/the-rule-of-law-is-powerful-and-fragile-its-your-job-to-protect-it/on> 28 December 2023.

¹⁶¹ Hawkins K, 'The use of legal discretion: Perspectives from law and social science,' in Keith Hawkins (ed), *The Used of discretion*, 1992, 11.

impartiality and per the provisions of the law.¹⁶² In the Kenyan sphere, judicial discretion is viewed to be an exercise of self-determination as per the principle of separation of power.¹⁶³

In bail and bond decisions, discretion is awarded to judicial officers in the determination of whether to proffer bail and bond to the accuseds and the amount to be proffered.¹⁶⁴ Since there exists no uniform formula for establishing whether judges grant bail or not, the accuseds have no way of ascertaining or predicting the determination of their applications.¹⁶⁵ Additionally, courts are not mandated to account for their determinations.¹⁶⁶

The application of discretion is supplemented by a broad framework of the conditions that judicial officers ought to take into account in their decision-making. The broad nature of the framework is nevertheless alarming as it lacks specificity which makes it prey to the personal and impressionistic views of the judges, which could be a potent ground for the exploitation of judicial discretion.¹⁶⁷ This is as seen in the case *Sudi Oscar Kipchumba v Republic*, where Professor Joel Ngugi in his commentary posited that for reliance on the conditions set out for bail and bond, the state requires adequate persuasive reasons.¹⁶⁸ This was after the accused was denied bail by the judge on grounds that the state sought to balance the fourfold interests of the public, the victims, order and security and the requisite to conserve the integrity of the delivery of justice. The issue that arises from this, nonetheless, is what would be sufficient to prove the interests the courts quote. This is especially relevant given the discretion accorded to the court and the reliability of the information given.¹⁶⁹

Criminal justice professionals, moreso judges, face an almost impossible duty. They must consider the likelihood that a defendant will appear for proceedings regardless of guilt, what verdict should be rendered, whether probation is merited, and what form of probation should be

¹⁶² Hawkins K, 'The use of legal discretion: Perspectives from law and social science,' in Keith Hawkins (ed), *The Used of discretion*, 1992, 11.

¹⁶³ Asher E, 'Separation of powers in Kenya: The judicial function and judicial restraint; whither goeth the law,' 32 *Journal of Law, Policy and Globalization*, 2015.

¹⁶⁴ Section 123, *Criminal Procedure Code*, (2015).

¹⁶⁵ National Council on the Administration of Justice, *Bail and bond policy guidelines*, 2015, 15-16.

¹⁶⁶ National Council on the Administration of Justice, *Bail and bond policy guidelines*, 2015, 19.

¹⁶⁷ National Council on the Administration of Justice, *Bail and bond policy guidelines*, 2015, 18-20.

¹⁶⁸ *Sudi Oscar Kipchumba v Republic* (2020) eKLR.

¹⁶⁹ *Martin Wang'ombe Waweru & 7 Others v Republic* (2013) eKLR.

levied.¹⁷⁰ To be correct, these decisions necessitate substantial discernment, analytical adeptness, and objectivity.¹⁷¹ The decisions made will have long-term ramifications on people's lives. With the wide-ranging discretion accorded to judges when determining how much bail to fix for a specific accused, uncertainty arises.¹⁷²

The issue of judicial discretion stems from Holmes' claim that judges behave as lawmakers owing to the intrinsic restrictions of legal laws, which entirely restrict their conduct.¹⁷³ This calls into question standard legal interpretations and the credibility of human decision-making.¹⁷⁴ When dismissing applications without enough proof or a solid legal foundation, judges may be abusing their power of discretion in setting bail.¹⁷⁵ This raises the possibility of unlawful detention and emphasises the significance of following the law and maintaining the integrity of the judiciary. This translates to bail being vulnerable to the bias that permeates the entirety of our justice system.¹⁷⁶

2.3.1 Cognitive bias

Impartiality is a worldwide acknowledged principle and standard designated for decision-making. For judges, globally, this is provided in the Bangalore Principles which obliges judicial officers to apply the principle in both the decision-making process and the determination.¹⁷⁷ The fact that judges are human and therefore vulnerable to the innate shortcomings and drawbacks of the human condition, can be blamed in large part for the system's failure.¹⁷⁸ Judges typically do not intentionally make flawed decisions or suppositions; instead,

¹⁷⁰ Goldkamp J, 'Judicial responsibility for pretrial release decision-making and the information role of pretrial services,' 57 Federal Probation 1, 1993, 28-35.

¹⁷¹ Posner R, 'How judges think,' Harvard University Press, 2008, 42.

¹⁷² Goldkamp J, 'Judicial responsibility for pretrial release decision-making and the information role of pretrial services,' 57 Federal Probation 1, 1993, 28-35.

¹⁷³ Pound R, 'Discretion, dispensation and mitigation: The problem of the individual special case,' 35 New York University Law Review, 1960, 925.

¹⁷⁴ Pound R, 'Discretion, dispensation and mitigation: The problem of the individual special case,' 35 New York University Law Review, 1960, 925.

¹⁷⁵ Travers M et al, 'Conclusion: Rethinking bail,' Rethinking bail: Court reform or business as usual? 2020, 217-24.

¹⁷⁶ Travers M et al, 'Conclusion: Rethinking bail,' Rethinking bail: Court reform or business as usual? 2020, 217-24.

¹⁷⁷ Value 2, The Bangalore Principles of Judicial Conduct (2002).

¹⁷⁸ Kahneman D, et al, 'NOISE: How to overcome the high, hidden cost of inconsistent decision making,' Harvard Business Review, 94, 2016, 38-46.

their decisions may be affected by inadvertent influences such as categorical imperatives, which take into account the costs and challenges of gathering all the information necessary for cogent decision-making, the constraints of time, and the corporeal limits of human cognition.¹⁷⁹ When dealing with a large amount of information in a short period, judges use a variety of cognitive criteria, predispositions, and other cognitive biases such as collective identity, cultural outlook, and sentiments.¹⁸⁰

This is frequently attributed to cognitive biases and heuristics.¹⁸¹ A heuristic is defined as a cognitive bypass applied to lessen the complexities and hasten decision-making.¹⁸² According to Saks and Kidd, the availability heuristic elevates significant concerns about the display of certain varieties of evidence to an examiner.¹⁸³ The availability of those events in memory will also impact the subjective approximation that a specific event did occur or that a specific consequence would follow from a specific action, in addition to the actual occurrence rates of those events.¹⁸⁴ Judges repetitively make decisions regularly, sometimes on the same subject matter or similar circumstances. A large portion of the decisions are arrived at hastily due to instinct or the subconscious as a result of exposure and numerous repetitions, while the remnants necessitate deliberate and focused thought.¹⁸⁵

Conversely, cognitive bias is the proclivity to make decisions that deviate from the norm or rationality.¹⁸⁶ The irrationality stems from the fickleness of tastes and preferences.¹⁸⁷ Cognitive biases are a result of overreliance on heuristics, which restrict the proper processing of

¹⁷⁹ Bielen S and Grajzl P, 'Prosecution or persecution? Extraneous events and prosecutorial decisions,' *Journal of Empirical Legal Studies*, 18, 4, 2021, 765-800.

¹⁸⁰ Burns K, 'Judges, 'common sense' and judicial cognition', *Griffith Law Review*, 25, 3, 2016, 319-351. <https://doi.org/10.1080/10383441.2016.1259536> on 31 December 2023.

¹⁸¹ Eyal Z and Teichman D, 'Judicial decision-making,' *Behavioral Law and Economics*, 2018 <https://doi.org/10.1093/oso/9780190901349.003.0016> on 1 February 2024.

¹⁸² Kahneman D, 'Thinking, fast and slow,' Farrar, Straus and Giroux, New York, 2011, 98.

¹⁸³ Saks M and Kidd R, 'Human information processing and adjudication: Trial by heuristics,' *Law and Society Review*, 123, 1980, 137.

¹⁸⁴ Saks M and Kidd R, 'Human information processing and adjudication: Trial by heuristics,' *Law and Society Review*, 123, 1980, 137.

¹⁸⁵ Kahneman D, 'Thinking, fast and slow,' Farrar, Straus and Giroux, New York, 2011, 62-64.

¹⁸⁶ Tversky A and Kahneman D, 'Judgment under uncertainty: Heuristics and biases,' *185 Science*, 1974, 1124-1131 <https://doi.org/10.1126/science.185.4157.1124> on 1 February 2024.

¹⁸⁷ Tversky A and Kahneman D, 'Judgment under uncertainty: Heuristics and biases,' *185 Science*, 1974, 1124-1131 <https://doi.org/10.1126/science.185.4157.1124> on 1 February 2024.

information.¹⁸⁸ The bias impedes the impartiality demanded from judges. Judges require robust reasoning skills for utilising rules of law and evaluating cases.¹⁸⁹ They, however, often struggle with substantial caseloads and, time constraints.¹⁹⁰ Consequentially, they end up relying on heuristics that can help speed up the hearing, judgement, and sentence processes.¹⁹¹ Contrariwise, the heuristics can lead to more inaccuracies than logical inferences, impeding rational and logical decision-making.¹⁹²

The most commonly associated cognitive biases associated with judicial decision-making include confirmation bias, and anchoring and adjustment bias.

(i) Confirmation bias

It refers to the propensity of an individual to analyse data in a manner that favourably complements his ideas or assumptions.¹⁹³ Confirmation bias is ascribed to cognitive agencies of complexity and tension avoidance and pursuing augmentation.¹⁹⁴ This arises when an individual has divided opinions or beliefs.¹⁹⁵ According to research on judicial perception, judging, like many other human decision-making processes, is partially an inadvertent cognitive process.¹⁹⁶ In courts, judges may subject their bias to proof that reinforces their conjectures disregarding proof that differs from their initial hypothesis.¹⁹⁷ The bias misrepresents the conception of reality by the judge and provokes imprecise deductions of information.¹⁹⁸

¹⁸⁸ Korteling J, Gerritsma J and Toet A, ‘Retention and transfer of cognitive bias mitigation interventions: A systematic literature study,’ Netherlands Organisation for Applied Scientific Research(TNO) Human Factors, 12 Sec. Cognitive Science, 2021.

¹⁸⁹ Posner R, ‘How judges think,’ Harvard University Press, 2008, 42-44.

¹⁹⁰ Brinkers H ‘Decision-making: Creativity, judgment and systems’, Ohio State University Press, 1972, 81.

¹⁹¹ Saks M and Kidd R, ‘Human information processing and adjudication: Trial by heuristics,’ *Law and Society Review*, 123, 1980, 137.

¹⁹² Saks M and Kidd R, ‘Human information processing and adjudication: Trial by heuristics,’ *Law and Society Review*, 123, 1980, 137.

¹⁹³ Wilke A and Mata R, ‘Cognitive bias,’ *Encyclopedia of Human Behaviour*, 2ed, Elsevier, 2012, 531-535.

¹⁹⁴ Wason P, ‘Problem solving and reasoning,’ 27 *British Medical Bulletin* 3, 1971, 206-210
<https://doi.org/10.1093/oxfordjournals.bmb.a070854> on 1 February 2024.

¹⁹⁵ Wason P, ‘Problem solving and reasoning,’ 27 *British Medical Bulletin* 3, 1971, 206-210
<https://doi.org/10.1093/oxfordjournals.bmb.a070854> on 1 February 2024.

¹⁹⁶ Posner R, ‘How judges think,’ Harvard University Press, 2008, 42.

¹⁹⁷ Brust-Renck P, Reyna V and Weldon R, ‘Judgment and decision making,’ 2021.

¹⁹⁸ Kahneman D, ‘Thinking, fast and slow,’ Farrar, Straus and Giroux, New York, 2011, 98.

Bail and bond are grounded in the presupposition of innocence, of an accused.¹⁹⁹ When a judge adjudges an accused on their first impression of them, this amounts to a breach of the presumption of innocence.²⁰⁰ This is further effected when the prosecution first lays out its evidence before the judge, the sequence of the production of the evidence impacts the judgment faculty of the judge.²⁰¹ The unconscious presumption is based on the persuasive property of the evidence that the judge first comes into contact with.²⁰² Additionally, in cases where a judge bears preconceptions established on ethnical or cultural identity, or classism, the judge is more disposed to associate the evidence of the criminality, indubitably, with their presumed notion and beliefs.²⁰³ Inevitably, the determinate decision eventually has extensive ramifications not only on the accused's private life and work but also on the associated family and friends.

(ii) Anchoring and adjustment bias

Anchoring is substantively referred to as first-impression bias.²⁰⁴ It transpires when the cognition of an individual overrelies on the initial information handed to them.²⁰⁵ The initial information, referred to as an anchor, is then pivoted on to make subsequent decisions.²⁰⁶ The subsequent decisions can then be calibrated while slightly moving away from that first reference point. However, when the individual is still referencing rp1, the individual becomes subjective in comprehending and depicting any new information.²⁰⁷

¹⁹⁹ Article 50(2) Constitution of Kenya (2010).

²⁰⁰ Kerstholt J and Jackson J, 'Judicial decision making: Order of evidence presentation and availability of background information,' 12 Applied Cognitive Psychology 5, 1999, 445- 454.

²⁰¹ Kerstholt J and Jackson J, 'Judicial decision making: Order of evidence presentation and availability of background information,' 12 Applied Cognitive Psychology 5, 1999, 445- 454.

²⁰² Kassir S et al, 'The forensic confirmation bias: Problems, perspectives and proposed solutions,' 2 Journal of Applied Research in Memory and Cognition, 2013, 42-52

<https://doi.org/10.1016/j.jarmac.2013.01.001> on 1 February 2024.

²⁰³ Schmittat S and English B, 'If you judge, investigate! Responsibility reduces confirmatory processing in legal experts,' 22 Psychology, Public Policy and Law, 2016, 386-400

<https://doi.org/10.1037/law0000097> on 1 February 2024.

²⁰⁴ Kahneman D, 'Thinking, fast and slow,' Farrar, Straus and Giroux, New York, 2011, 70-98.

²⁰⁵ Hollier R, 'Anchoring bias in the courtroom,' The Law Project, 2017, 4-7 <https://static1.squarespace.com/static/5817bb2746c3c4a605334446/t/5921b1b0f5e23119eaf8bda6/1495380412134/Anchoring+Bias+in+the+Courtroom+by+Rod+Hollier.pdf> accessed on 1 February 2024.

²⁰⁶ Hollier R, 'Anchoring bias in the courtroom,' The Law Project, 2017, 4-7 <https://static1.squarespace.com/static/5817bb2746c3c4a605334446/t/5921b1b0f5e23119eaf8bda6/1495380412134/Anchoring+Bias+in+the+Courtroom+by+Rod+Hollier.pdf> accessed on 1 February 2024.

²⁰⁷ Furnham A and Boo H, 'A literature review of the anchoring effect,' 10 The Journal of socio-economics 1, 2011, 35-42.

In bail and bond this could come about when judges are necessitated to make determinations involving numbers, in this case, bail and bond amounts. Granting bail or bond, whether conditional or unconditional to an accused is a probability decision.²⁰⁸ This involves weighing in on various factors such as the rights of the accused, the character of the crime, the disposition of the accused, the security of the victims and witnesses, public order and the age of the accused against the likeliness of the accused to re-offend.²⁰⁹ The determination of the bail and bond amount is nevertheless affected by the uncertainty of whether the accused will re-offend or avail themselves of their trial.²¹⁰

When and where a judge is affected by anchoring and adjustment, the judge will lean more towards a reference rate they used before someone within their sphere of influence used or a rate used in either a similar archival or reported case.²¹¹ This slight adjustment is determined by the reasonability of the amount influenced by appraising the amount. This is carried out by establishing whether the amount is too high to be extortionate or too low to be inadequate.²¹² The adjustment exercise, in this case, becomes deficient since the adjustment range is restrained by the first value the judges chose to rely on.²¹³

2.4 Conclusion

The chapter aimed to give a detailed overview of the current approaches to bail and bond in Kenya, examine the power of discretion conferred to judges, and demonstrate how it hinders access to justice. In doing so, it has demonstrated the ineffectiveness of the bail and bond regime

²⁰⁸Clarke S, Freeman J and Koch G, 'Bail risk: A multivariate analysis,' 5 *The Journal of Legal Studies* 2, 1976, 341-385.

²⁰⁹Aboud Rogo Mohammed and another v Republic (2011) eKLR.

²¹⁰Clarke S, Freeman J and Koch G, 'Bail risk: A multivariate analysis,' 5 *The Journal of Legal Studies* 2, 1976, 341-385.

²¹¹ Slovic P and Lichtenstein S, 'Comparison of Bayesian and regression approaches to the study of information processing in judgment,' 6 *Organizational Behaviour and Human Performance* 6, 1971, 649-744

[https://doi.org/10.1016/0030-5073\(71\)90033-X](https://doi.org/10.1016/0030-5073(71)90033-X) accessed on 1 February 2024.

²¹²Slovic P, 'Psychological study of human judgment: Implications for investment decision making,' 27 *Journal of Finance* 4, 1972, 779-799

<https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1540-6261.1972.tb01311.x> accessed on 1 February 2024.

²¹³ Hollier R, 'Anchoring bias in the courtroom,' *The Law Project*, 2017, 8-26. <https://static1.squarespace.com/static/5817bb2746c3c4a605334446/t/5921b1b0f5e23119eaf8bda6/1495380412134/Anchoring+Bias+in+the+Courtroom+by+Rod+Hollier.pdf> accessed on 1 February 2024.

in Kenya majorly attributed to the inconsistency of judicial discretion in pretrial decisions. The chapter has highlighted that judicial decision-making requires objectivity which cannot be sufficiently achieved with the use of subjective judicial judgement singly for pretrial decisions. This necessitates using other objective means to guarantee equity and reliability in pretrial decisions relating to bail and bond, and ultimately impartial access to justice for every individual.

CHAPTER THREE: MACHINE LEARNING- AN APPRAISAL

3.1 Introduction

In this chapter, the study will assess the suitability of using machine learning in the bail and bond dispensation and decision-making exercise. With that goal, the chapter will begin by looking into what ML is, what using ML would look like as well as the benefits of utilising ML in the justice system. It will then proceed to look into the apprehension and possible drawbacks of algorithmic resolution in the criminal justice system.

3.2 Understanding machine learning

Machine learning is a limb of artificial intelligence which utilizes algorithms to generate forecasts.²¹⁴ Algorithms on the other hand are an assortment of instructions applied in either resolving barriers or finalizing tasks.²¹⁵ Machine learning imitates the faculty of human mental capacity for experiential learning.²¹⁶ This necessitates the availability of extensive amounts of training data, which is fed into the computer systems.²¹⁷ Subsequently, the ML algorithms analyse the data and utilise the algorithms to generate predictions through the discovery of undetectable data patterns.²¹⁸ To ensure that the predictions made are efficient, new data input is fed into the system and the resultant output is tested against the predictions generated.²¹⁹

These systems have been used in various jurisdictions to facilitate pre-trial risk assessment, crime forecasting and preventative justice.²²⁰ A notable example is a program called Correctional Offender Management Profiling for Alternative Sanction (COMPAS), a risk assessment tool

²¹⁴ El Naqa I and Murphy M, 'What is machine learning,' in El Naqa I and Murphy M (eds) Machine Learning in Radiation Oncology, Springer International Publishing, Switzerland, 2015, 3-11.

²¹⁵ El Naqa I and Murphy M, 'What is machine learning,' in El Naqa I and Murphy M (eds) Machine Learning in Radiation Oncology, Springer International Publishing, Switzerland, 2015, 3-11.

²¹⁶ Brown S, 'Machine learning explained,' MIT Sloan School of Management, 2021 <https://mitsloan.mit.edu/ideas-made-to-matter/machine-learning-explained> on 26 January 2024.

²¹⁷ Brown S, 'Machine learning explained,' MIT Sloan School of Management, 2021 <https://mitsloan.mit.edu/ideas-made-to-matter/machine-learning-explained> on 26 January 2024.

²¹⁸ Bonaccorso G, 'Machine learning algorithms,' Packt Publishing Limited, Birmingham, 2017, 17-19.

²¹⁹ Bonaccorso G, 'Machine learning algorithms,' Packt Publishing Limited, Birmingham, 2017, 17-19.

²²⁰ Brennan T et al, 'Evaluating the predictive validity of the COMPAS risk and needs assessment system,' 36 Criminal Justice and Behaviour 1, 2009, 21-40.

utilised in various courts in the United States.²²¹ It relies on data obtained by the offender filling in a questionnaire of 137 questions.²²² The data highlights the criminal history and attributes of the defendant and is used to generate results related to the offender.²²³ The standardization is thought to be consistent across the races due to the use of one criterion to obtain data on offenders.²²⁴ The results are then used to generate a recidivism risk score on a scale from one to ten.²²⁵ In the spectrum, a score of one to four represents low-risk recidivism, five to seven is medium, and eight to ten is high-risk recidivism. The score is used to determine whether the defendant will re-offend in a span of two years upon release.²²⁶ As a sentencing tool, the score obtained is included in the Presentence Investigation Report, a report used by the judge to determine the penalty given to the defendant.²²⁷

3.2.1 The benefits of ML in the administration of bail and bond

ML can counter certain human biases and, if deployed transparently, can help advise judges in ways that will produce better outcomes and will help streamline the process in the justice system through the utilization of open-source data and part automation.²²⁸

²²¹ Dieterich W et al, 'COMPAS risk scales: Demonstrating accuracy, equity and predictive parity,' 7 Northpointe Incorporated 4, 2016, 1-36.

²²² Dieterich W et al, 'COMPAS risk scales: Demonstrating accuracy, equity and predictive parity,' 7 Northpointe Incorporated 4, 2016, 1-36.

²²³ Dieterich W et al, 'COMPAS risk scales: Demonstrating accuracy, equity and predictive parity,' 7 Northpointe Incorporated 4, 2016, 1-36.

²²⁴ Brennan T et al, 'Evaluating the predictive validity of the COMPAS risk and needs assessment system,' 36 Criminal Justice and Behaviour 1, 2009, 21-40.

²²⁵ Dieterich W et al, 'COMPAS risk scales: Demonstrating accuracy, equity and predictive parity,' 7 Northpointe Incorporated 4, 2016, 1-36.

²²⁶ Dieterich W et al, 'COMPAS risk scales: Demonstrating accuracy, equity and predictive parity,' 7 Northpointe Incorporated 4, 2016, 1-36.

²²⁷ Blomberg T et al, 'Validation of the COMPAS risk assessment classification instrument,' College of Criminology and Criminal Justice, Florida State University, 2010.

²²⁸ Kleinberg J et al, 'Human decisions and machine predictions.' 2017.

(i) Effectivity and productivity

A primary benefit of automated systems is their capability to optimize time.²²⁹ They can outstandingly decrease the inordinately long periods spent in court.²³⁰ This is pivotal to the continuance of the legitimacy of the judicial process.²³¹ ML systems can sift through vast volumes of data instantaneously therefore expediting conclusionary decisions.²³² Unlike human decision-makers, they can make numerous decisions at a go devoid of fatigue or uncertainty.²³³

Various institutions that have incorporated machine learning systems, boast of the ability of the systems to rapid adaptation of these systems. Human-made decisions require great analytical expertise as well as a great deal of considerations to take into account.²³⁴ Compared to human-based judicial risk assessment systems applied in the various stages of proceedings, machine learning systems achieve their success through a limited number of complex assessments resulting in expeditious and effortless determinations.²³⁵

(ii) Objective risk assessment and decision-making

ML decision-making does not take the same trajectory as human decision-making.²³⁶ The consequences of this inability to understand how ML algorithms make decisions is important for causation assessments, which heavily rely on corroboration of human conduct to persuade

²²⁹ Rizer A and Watney C, 'Artificial intelligence can make our jail system more efficient, equitable and just,' 23 Texas Review of Law and Politics, 1, 2018, 181-227.

²³⁰ Rizer A and Watney C, 'Artificial intelligence can make our jail system more efficient, equitable and just,' 23 Texas Review of Law and Politics, 1, 2018, 181-227.

²³¹ Voigt S and El-Bialy N, 'Identifying the determinants of aggregate judicial performance: Taxpayers' money well spent?' 41 European Journal of Law and Economics, 2016, 283-319 <https://doi.org/10.1007/s10657-014-9474-8> on 29 January 2024.

²³² Wu T, 'Will artificial intelligence eat the law? The rise of hybrid social-ordering systems,' 119 Columbia Law Review 7, 2019, 2001-2004 <https://www.jstor.org/stable/26810857> on 26 January 2024.

²³³ Wu T, 'Will artificial intelligence eat the law? The rise of hybrid social-ordering systems,' 119 Columbia Law Review 7, 2019, 2001-2004 <https://www.jstor.org/stable/26810857> on 26 January 2024.

²³⁴ Re R and Niederman A, 'Developing artificially intelligent justice,' 22 Stanford Technology Law Review 242, 2019, 251-256.

²³⁵ Re R and Niederman A, 'Developing artificially intelligent justice,' 22 Stanford Technology Law Review 242, 2019, 251-256.

²³⁶ Pomerol J, 'Artificial intelligence and human decision making,' 99 European Journal of Operational Research 1, 1997,3-25.

them.²³⁷ Such tests hinge on an individual's ability to acquire and learn facts about what is predictable and what is significantly linked.²³⁸ The objective discovery of patterns in ML to demonstrate a causal link is a primary concern that conventional administrations are unable to address.²³⁹ This was tested using the gradient-boosted decision trees machine learning method devised by Kleinberg et al.²⁴⁰

The algorithm was upskilled using an extensive dataset made up of 758,027 arrested persons in New York in the period 2008 to 2013.²⁴¹ The ML algorithm sifted through the accuseds then current and past charges, as well as additional information available to judges for decision-making.²⁴² The outcome was that the algorithm significantly surpassed the prediction of judges on the likelihood of the accuseds to abscond court or recidivating, while out of custody.²⁴³ This was in more than 100,000 of the dataset.²⁴⁴

Automated bail and bond decision-making would be beneficial to impoverished accuseds who are unable to meet bail conditions but are not deemed to be a danger to public welfare or flight risks.²⁴⁵ The use of the risk assessment tools would enable these accuseds to go on with their lives pending the trial.²⁴⁶ This according to scholars decreases the incarceration rates and the amount these accuseds spend in remand.²⁴⁷ Ultimately, this corresponds to dwindling recidivism rates.²⁴⁸

²³⁷ Laqueur H and Ryan C, 'Synthetic crowdsourcing: A machine-learning approach to the problems of inconsistency and bias in adjudication,' Working Paper, 2016.

²³⁸ Travaini G et al, 'Machine learning and criminal justice: A systematic review of advanced methodology for recidivism risk prediction,' 19 International Journal of Environmental Research and Public Health 17, 2022, 10594.

²³⁹ Travaini G et al, 'Machine learning and criminal justice: A systematic review of advanced methodology for recidivism risk prediction,' 19 International Journal of Environmental Research and Public Health 17, 2022, 10594.

²⁴⁰ Kleinberg J et al, 'Discrimination in the age of algorithms,' 10 Journal of Legal Analysis, 2019, 113-174.

²⁴¹ Kleinberg J et al, 'Discrimination in the age of algorithms,' 10 Journal of Legal Analysis, 2019, 113-174.

²⁴² Kleinberg J et al, 'Discrimination in the age of algorithms,' 10 Journal of Legal Analysis, 2019, 113-174.

²⁴³ Kleinberg J et al, 'Discrimination in the age of algorithms,' 10 Journal of Legal Analysis, 2019, 113-174.

²⁴⁴ Kleinberg J et al, 'Discrimination in the age of algorithms,' 10 Journal of Legal Analysis, 2019, 113-174.

²⁴⁵ Rizer A and Watney C, 'Artificial intelligence can make our jail system more efficient, equitable and just,' 23 Texas Review of Law and Politics, 1, 2018, 181-227.

²⁴⁶ Brookland J and Stasio F, 'Mecklenburg County takes a new look at bail reform,' WUNC, 5 December 2017. <http://wunc.org/post/mecklenburg-county-takes-new-look-bail-reform#stream/0> accessed on 28 December 2023.

²⁴⁷ Lowenkamp C et al, 'The hidden cost of pretrial detention,' Laura and John Arnold Foundation, 2013 https://craftmediabucket.s3.amazonaws.com/uploads/PDFs/LJAF_Report_hidden-costs_FNL.pdf on 29 December 2023.

²⁴⁸ Lowenkamp C et al, 'The hidden cost of pretrial detention,' Laura and John Arnold Foundation, 2013

(iii) Pattern prediction

It is perfectly logical to engage machine learning algorithms to extract extremely refined patterns from voluminous datasets.²⁴⁹ Machine learning can be used to identify all of the unforeseen patterns that underlie an intriguing phenomenon within a dataset or to confirm that predicted patterns prevail.²⁵⁰ A particularly effective method for utilizing machine learning models to comprehend the biases and subtleties of the underlying data as well as to confirm that they are detecting theoretically suggested signals is through pattern verification.²⁵¹ Moving unrelated variables together can unveil a strong and previously unknown link with highly predictive or explanatory power.²⁵²

The ability of these algorithmic systems to conduct pattern prediction would enable predictability and certainty in adjudication in the judicial sector.²⁵³ Predictability and certainty concerning the rule of law reassure individuals of some level of equality and fairness in the determination of their cases.²⁵⁴ Furthermore this has been especially beneficial in countries such as The Netherlands, particularly in Amsterdam, and the United States, specifically California, which rely on algorithmic systems to predict where crimes are likely to occur. Through this, they can effectively avert catastrophic situations in some instances.²⁵⁵

3.2.2 The Drawbacks of ML Systems

Notwithstanding the zealous praise for ML integration in the justice system, there are consequential grounds for wariness. There has been contestation on the significance of ML in

https://craftmediabucket.s3.amazonaws.com/uploads/PDFs/LJAF_Report_hidden-costs_FNL.pdf on 29 December 2023.

²⁴⁹ Berk R, 'Criminal justice forecasts of risk: A machine learning approach, New York, Springer, 2012.

²⁵⁰ Berk R, 'Criminal justice forecasts of risk: A machine learning approach, Springer, New York, 2012.

²⁵¹ Williams R, 'Rethinking administrative law for algorithmic decision making,' 42 *Oxford Journal of Legal Studies* 2, 2022, 468-494.

²⁵² Nogueira A et al, 'Methods and tools for causal discovery and causal inference,' 12 *Wiley interdisciplinary reviews: data mining and knowledge discovery* 2, 2022, e1449.

²⁵³ Yalcin G et al, 'Perception of justice by algorithms,' 31 *Artificial Intelligence Law*, 2023, 269- 275 <https://rdcu.be/dymNy> on 27 January 2024.

²⁵⁴ Yalcin G et al, 'Perception of justice by algorithms,' 31 *Artificial Intelligence Law*, 2023, 269- 275 <https://rdcu.be/dymNy> on 27 January 2024.

²⁵⁵ Ferguson A, 'The rise of big data policing: Surveillance, race, and the future of law enforcement,' NYU Press, New York, 2017.

decision-making.²⁵⁶ Concerns about the application of ML algorithmic systems in decision-making are rooted in the ethical nature of employing machines in making decisions that could have drastic ramifications on the lives of humans.²⁵⁷ The use of algorithms in decision-making is considered unethical because machines are deemed to lack empathy and human judgment which takes into consideration underlying factors. This is also seen as dehumanizing and taking away the role of humans in decision-making.²⁵⁸

Some of the concerns raised are listed below.

(i) Due Process

The criminal justice system is founded on due process which guarantees the right to a fair trial.²⁵⁹ In any hearing or trial, an accused has the right to a fair hearing and trial as espoused under Articles 25 and 50 respectively of the Constitution of Kenya.²⁶⁰ This encompasses the right to be heard, the right to receive justification for decisions rendered and the right to appeal.²⁶¹ Additionally, it removes the right to be heard for an accused.²⁶² The utilization of legal AI bears the risk of averting this due to its lack of interpretability which offers no justification for decisions rendered.²⁶³ Additionally, it removes the right to be heard for an accused.²⁶⁴

²⁵⁶ Pazzanese C, 'Great promise but potential for peril,' The Harvard Gazette, 26 October 2020 <https://news.harvard.edu/gazette/story/2020/10/ethical-concerns-mount-as-ai-takes-bigger-decision-making-role/> on 26 October 2020.

²⁵⁷ Pazzanese C, 'Great promise but potential for peril,' The Harvard Gazette, 26 October 2020 <https://news.harvard.edu/gazette/story/2020/10/ethical-concerns-mount-as-ai-takes-bigger-decision-making-role/> on 26 October 2020.

²⁵⁸ Yeung K, 'Why worry about decision making by machine,' in Yeung K and Lodge M (eds), Algorithmic regulation, Oxford University Press, 2019.

²⁵⁹ Article 50, Constitution of Kenya (2010).

²⁶⁰ Article 25, Constitution of Kenya (2010); Article 50, Constitution of Kenya (2010).

²⁶¹ Pasquale F, 'Inalienable due process in the age of AI: Limiting the contractual creep toward automated adjudication,' In Micklitz H-W et al (eds), Constitutional Challenges in the Algorithmic Society, Cambridge University Press, 2021, 42-56.

²⁶² Villasenor J and Foggo V, 'Artificial intelligence, due process and criminal sentencing,' Michigan State Law Review, 2020, 295.

²⁶³ Villasenor J and Foggo V, 'Artificial intelligence, due process and criminal sentencing,' Michigan State Law Review, 2020, 295.

²⁶⁴ Villasenor J and Foggo V, 'Artificial intelligence, due process and criminal sentencing,' Michigan State Law Review, 2020, 295.

The secretive nature due to the proprietary nature of algorithmic software, is protected under trade secret law.²⁶⁵ This lack of transparency makes it difficult for individuals and researchers to carefully examine or determine the sources of data, the quality of data, and potential existing bias, and whether due process is employed in its use.²⁶⁶ The impact of this was whether the offenders were accorded the right to a fair trial.²⁶⁷

(ii) Discrimination

According to scholars, ML algorithmic systems could set off unjust or prejudicial results in the event they derive their biases from previous biased decisions.²⁶⁸ This is counterproductive especially when the end goal of the use is to end prejudice in the justice system. The systems could exacerbate the discrimination through the negative feedback loop.²⁶⁹ Feedback loop refers to a process where an ML algorithmic system repeatedly gathers and reuses the data fed into the systems to generate output.²⁷⁰ In the event of a negative feedback loop, a model collapse is eminent meaning that the generated output would be contaminated.²⁷¹ In the case of ML-generated decisions in the justice system, this would be the intensification of bias if no proper safeguards have been put in place.²⁷²

²⁶⁵ McConihe M and Seralathan M, 'Benefits of using copyrights to protect artificial intelligence and machine learning inventions,' *The National Law Review*, 2022 <https://www.natlawreview.com/article/benefits-using-copyrights-to-protect-artificial-intelligence-and-machine-learning> on 27 January 2024.

²⁶⁶ Kemper C, 'Kafkaesque AI? Legal decision-making in the era of machine learning,' 24 *University of San Francisco Intellectual Property and Technology Law Journal* 2, 2020, 251-252 <https://d-nb.info/1225748615/34> on 28 January 2024.

²⁶⁷ Kemper C, 'Kafkaesque AI? Legal decision-making in the era of machine learning,' 24 *University of San Francisco Intellectual Property and Technology Law Journal* 2, 2020, 251-252 <https://d-nb.info/1225748615/34> on 28 January 2024.

²⁶⁸ Mansoor H, 'Guilty until proven guilty: effective bail reform as a human right imperative' 70 *DePaul Law Review* 1, 2020, 15-62.

²⁶⁹ Franzen C, 'The AI feedback loop: Researchers warn of 'model collapse' as AI trains on AI-generated content,' *VentureBeat*, 12 June 2023. <https://venturebeat.com/ai/the-ai-feedback-loop-researchers-warn-of-model-collapse-as-ai-trains-on-ai-generated-content/> on 7 January 2024.

²⁷⁰ Franzen C, 'The AI feedback loop: Researchers warn of 'model collapse' as AI trains on AI-generated content,' *VentureBeat*, 12 June 2023. <https://venturebeat.com/ai/the-ai-feedback-loop-researchers-warn-of-model-collapse-as-ai-trains-on-ai-generated-content/> on 7 January 2024.

²⁷¹ Stray J, 'The AI learns to lie to please you: Preventing biased feedback loops in machine-assisted intelligence analysis,' UC Berkeley Centre for Human-Compatible AI, Berkeley, 2023.

²⁷² Stray J, 'The AI learns to lie to please you: Preventing biased feedback loops in machine-assisted intelligence analysis,' UC Berkeley Centre for Human-Compatible AI, Berkeley, 2023.

The prejudice experienced is outrightly unjust to individuals. For instance, COMPAS, according to ProPublica, enhanced racial bias. COMPAS was alleged to be racially biased based on the fact that black defendants were deemed as high-risk recidivists, nearly twice as much as white defendants.²⁷³ This meant that black defendants were more likely to remain incarcerated, unlike white defendants. The questions used to assess recidivism were considered predisposed to racial bias.²⁷⁴ This according to various authors, is attributed to the failure to involve the general public in the designing, creation and implementation of such systems.²⁷⁵

(iii) The Integrity and Veracity of ML Algorithms

ML decision-making does not take the same trajectory as human decision-making.²⁷⁶ The consequence of this is the inability to understand how ML algorithms make decisions.²⁷⁷ This is referred to as the black box effect of algorithmic systems.²⁷⁸ The black box effect refers to the inexplicable nature of the ML algorithms, thus the transparency deficiency.²⁷⁹ The objective discovery of patterns in ML to demonstrate a causal link is a primary concern that conventional administrations are unable to address.²⁸⁰ This lack of transparency makes it difficult for individuals and researchers to carefully examine or determine the sources of data, the quality of data, potential existing bias, and whether due process is employed in its use.²⁸¹

²⁷³ <https://www.propublica.org/article/machine-bias-risk-assessments-in-criminal-sentencing> on 20 December 2023.

²⁷⁴ <https://www.propublica.org/article/machine-bias-risk-assessments-in-criminal-sentencing> on 20 December 2023.

²⁷⁵ Okidegbe N, 'The democratizing potential of algorithms?' 53 Connecticut Law Review 4, 2022, 739- 786 https://scholarship.law.bu.edu/faculty_scholarship/3138 on 21 January 2024.

²⁷⁶ Pomerol J, 'Artificial intelligence and human decision making,' European Journal of Operational Research, 99(1), 1997,3-25.

²⁷⁷ Scherer M, 'Regulating artificial intelligence systems: Risks, challenges, competencies and strategies,' 29 Harvard Journal Law Technology, 2016, 362- 366.

²⁷⁸ Pasquale F, 'The black box society: The secret algorithms that control money and information,' Harvard University Press, 2015.

²⁷⁹ Pasquale F, 'The black box society: The secret algorithms that control money and information,' Harvard University Press, 2015.

²⁸⁰ Sullivan C, 'Employing AI,' 63 Villanova Law Review, 2018, 395.

²⁸¹ Zerilli J et al, 'Transparency in algorithmic and human decision-making: Is there a double standard?' 32 Philosophy and Technology, 2019, 661-683.

The impact of this is the abrasion of trust by the end users and the public at large.²⁸² Trust is necessary to maintain the integrity and credibility of ML decision-making systems.²⁸³ The integration of ML algorithms in the justice system is heavily dependent on whether the general public has confidence in the system. Moreover, the integrity and reliability of ML algorithms are valuable in advancing the study in the area of machine learning, uncovering prediction sequences as well as advancing the systems and creating better and improved models.²⁸⁴ The court in this case would have to critically audit and review the system right from the conception to the end product stage.²⁸⁵ This would be laborious and inexpedient in the dispensation of justice.

(iv) Liability of harm caused by ML Algorithms

Given the black box character of ML systems, it becomes difficult to determine the actual relevant causal link between the liability of ML and the resulting harm caused by ML algorithmic decisions.²⁸⁶ The determination of liability cannot be exclusively contingent on their disregard or violation of a duty of care.²⁸⁷ It would not be sensible to wholly lay the blame on the manufacturers of the ML systems considering that they cannot anticipate the ever-changing ways in which the algorithmic decisions are made.²⁸⁸ The resultant injury ought to be a consequence of the faulty activity which demands a connection linking the violation and the injury.²⁸⁹ The

²⁸² Schmidt P et al, 'Transparency and trust in artificial intelligence systems,' 29 *Journal of Decision Systems* 4, 260-278.

²⁸³ Booth J et al, 'Machine learning security and trustworthiness,' in Booth J et al (eds) *Demystifying intelligent multimode security systems: An edge to cloud cybersecurity solutions guide*, 1ed, Apress Berkley, California, 2023, 137-222.

²⁸⁴ Tereini E et al, 'The relationship between trust in AI and trustworthy machine learning technologies,' *Proceeding of the 2020 Conference on Fairness, Accountability and Transparency*, Association for Computing Machinery, Barcelona, 2020, 272-283.

²⁸⁵ Tereini E et al, 'The relationship between trust in AI and trustworthy machine learning technologies,' *Proceeding of the 2020 Conference on Fairness, Accountability and Transparency*, Association for Computing Machinery, Barcelona, 2020, 272-283.

²⁸⁶ Ho K, 'The question of autonomy, liability, attribution and black boxes decision making,' 3 *University of Oxford, Broad Street Humanities Review*, 2020, 139-149.

²⁸⁷ Reed C, Kennedy E and Silva S, 'Responsibility, autonomy and accountability: Legal liability for machine learning,' *Queen Mary University of London, Lega; Studies Research Paper Number 243*, 2016, 3-9 <https://ccla.smu.edu.sg/sites/cebcla.smu.edu.sg/files/Reed%20Machine%20learning%20liability%20SSRN-id2853462.pdf> on 30 January 2024.

²⁸⁸ Ho K, 'The question of autonomy, liability, attribution and black boxes decision making,' 3 *University of Oxford, Broad Street Humanities Review*, 2020, 139-149.

²⁸⁹ Hacker P et al, 'Explainable AI under contract and tort law: Legal incentives and technical challenges,' 28 *Artificial Intelligence Law*, 2020, 415- 420.

connection for purposes of allocating liability should be uninterrupted to ensure the bona fide designation of responsibility.²⁹⁰

It is onerous to ascertain who among the manufacturers of the ML system was remiss in employing adequate care.²⁹¹ This is because the production of the system involves multiple players, ranging from the conceptualizers, the designers, the assemblers or coders to the manufacturer of the machine learning technology.²⁹²

(v) Uniformity in the application of ML algorithmic risk assessment systems

The use of uniform ML systems in various jurisdictions has been a cause of discord because of the reason that it does not meet the unique circumstances and conditions of every locality.²⁹³ This is based on the fact that each city or region has divergent risk indicators, contrasting crimes and crime rates.²⁹⁴ In the Kenyan context, for example, the crime index in each county varies depending on the causality and the overall population.²⁹⁵ This necessitates that the ML assessment tool uses different determining factors to address the variances.²⁹⁶

(vi) Inadequate laws to govern the use of legal ML systems.

The deployment of ML algorithmic platforms may be hindered by the country's poor digital infrastructure occasioned by poor and slow internet access. Additionally, in the Kenyan

²⁹⁰ Hunerman P, 'A theory of vicarious liability for autonomous-machine caused harm,' 58 Osgoode Hall Law Journal 2, 2021, 235-237 <https://doi.org/10.60082/2817-5069.3678> on 31 January 2024.

²⁹¹ Wendenhorst C, 'Liability for artificial intelligence: The need to address both safety risks and fundamental right risks,' in Voenny S et al (eds) The Cambridge Handbook of Responsible Artificial Intelligence: Interdisciplinary Perspectives, Cambridge University Press, Cambridge, 2022, 191-197.

²⁹² Wendenhorst C, 'Liability for artificial intelligence: The need to address both safety risks and fundamental right risks,' in Voenny S et al (eds) The Cambridge Handbook of Responsible Artificial Intelligence: Interdisciplinary Perspectives, Cambridge University Press, Cambridge, 2022, 200-204.

²⁹³ Tonn S, 'Can AI help judges make the bail system fairer and safer?' Artificial Intelligence, Technology & Society, 19 March 2019. <<https://engineering.stanford.edu/magazine/article/can-ai-help-judges-make-bail-system-fairer-and-safer>> accessed on 28 December 2023.

²⁹⁴ Tonn S, 'Can AI help judges make the bail system fairer and safer?' Artificial Intelligence, Technology & Society, 19 March 2019. <https://engineering.stanford.edu/magazine/article/can-ai-help-judges-make-bail-system-fairer-and-safer> on 28 December 2023.

²⁹⁵ Crime Research Centre, 'Preliminary report on 2022 national crime mapping: Public perceptions and experiences of crime prevalence in Kenya,' 2022, 17-56.

²⁹⁶ Garret B and Monahan J, 'Judging risk,' 108 California Law Review, 2020, 439.

jurisdiction, the jurisprudence on data protection is limited to section 35 of the Data Protection Act which provides for the consent of individuals concerning automated decisions.²⁹⁷ The section provides that individuals have a say in automated decision-making by allowing them to object to the decisions and request human intervention for review of the said decision.²⁹⁸

Fundamentally, this section acknowledges the insufficiency of the provision and calls for the formulation of more regulations. The state of affairs concerning automated decisions is not an isolated case in Kenya as many other countries face similar shortfalls.²⁹⁹ Various scholars question whether this should essentially lead to the formulation of a new bundle of substantive laws to govern this area.³⁰⁰

3.3 Conclusion

The chapter set forth to determine whether ML should be implemented into the bail and administration system by looking into the advantages and disadvantages of ML. By doing so, it has established that to guarantee that the accused receives procedural fairness, the system must include safety valves. By looking into both the benefits and downsides this helps ensure that systems are not applied arbitrarily to the detriment of people's rights.

²⁹⁷ Section 35, Data Protection Act (2019).

²⁹⁸ Section 35, Data Protection Act (2019).

²⁹⁹ Orero L and Kaaniru J, 'Automated decision-making policies in Africa,' Centre for Intellectual Property and Information Technology Law, 2023.

³⁰⁰ Abrusci E and Scott R, 'Automated decision-making and the challenge of implementing existing laws,' Verfassungsblog, 05 October 2023.

<https://verfassungsblog.de/automated-decision-making-and-the-challenge-of-implementing-existing-laws/> on 30 December 2023.

CHAPTER FOUR: UNLOCKING FAIRNESS

4.1 Introduction

This chapter will look into what the Kenyan law ought to provide for with regard to fairness in the utilization of ML in bail and bond. To do so it will begin by looking into the various definitions of fairness, then explore the various principles of fairness that should be provided for in the Kenyan law, before addressing the inclusion of fairness in the ML decision-making systems.

4.2 Defining Fairness

The Constitution of Kenya acknowledges the importance of fairness in administrative actions and judicial proceedings. This is underscored in the Fair Administrative Action Act and the Constitution of Kenya respectively. In spite of this, neither expounds the definition of fairness. This section looks into the various definitions of fairness according to various authors.

Fairness is deemed to be subjective across different disciplines. Kroll Joshua et al, highlight this in their paper, where in law, fairness refers to the protection of individuals' rights, in quantitative fields, it refers to some sort of equitable allocation error rates or representation of a certain task, in philosophy, fairness connotes fairness and moral rights, whilst, in social sciences, it refers to discrimination and non-discrimination³⁰¹

Fairness is the measure of impartiality applied when dispensing justice in matters of contractual and legal primacy.³⁰² This according to scholars involves being equitable, neutral, adhering to rules and regulations and having a balance in the light of conflicts.³⁰³ The Merriam-Webster Dictionary defines fairness as 'the quality or state of being fair especially: fair and impartial treatment or the lack of favouritism towards one side or another.'³⁰⁴ It is also defined as 'the quality of treating people equally or in a way that is right or reasonable',³⁰⁵

³⁰¹ Kroll J et al, 'The things called fairness: Disciplinary confusion realizing a value in technology,' 3 Association for Computing Machinery, CSCW, 2019, 1-36.

³⁰² Black's Law Dictionary, 4 ed.

³⁰³ Broome J, 'Fairness,' 91 Proceedings of the Aristotellian Society, Wiley, 1990.

³⁰⁴ Merriam-Webster Dictionary, 11 ed.

³⁰⁵ Cambridge Dictionary, 4 ed.

Fairness involves fair dealing, that is, harmonizing the interests and concerns of each individual and making decisions that take into consideration the conflicting interests according to their relevance and urgency. Alternatively, proportionality could be employed in striking a balance between two contesting groups³⁰⁶ According to John Broome, fairness exists in proportional satisfaction of a certain type of moral reason, that is, fairness requires that every claim be satisfied in proportion to their strength.³⁰⁷

Boran posits that the principle of fairness provides a narrative of a specific type of moral duty that is fulfilled once the conditions are satisfied.³⁰⁸ To define the principle of fairness, she uses public goods, which according to her, require that anyone who needs to use such a good provided by the society at large, have to ensure that they are part of the producers to avoid people living off each other.³⁰⁹ This way, a duty is imposed for collective association in producing public goods.³¹⁰

The various types of fairness include:

4.2.1 Non-discrimination fairness

This type of fairness is majorly propounded in works addressing intersectionality.³¹¹ It refers to providing all individuals with their fair share of resources regardless of their identity markers.³¹² Here everyone gets what everyone else is getting, in size and amount. The underlying notion of non-discrimination is based on the concept of equal treatment of individuals determined by their distinct qualities, accomplishments and capabilities.³¹³ Two obligations make up the fundamental

³⁰⁶ Lady Justice Arden D, 'Proportionality: The way ahead,' United Kingdom Association of European Law, 2013. <<https://www.judiciary.uk/wp-content/uploads/JCO/Documents/Speeches/lj-arden-speech-ukael-proportionality-12112012.pdf>> accessed on 3 January 2024.

³⁰⁷ Broome J, 'Fairness,' 91 Proceedings of the Aristotelian Society, Wiley, 1990.

³⁰⁸ Boran I, 'Benefits, Intentions and the Principle of Fairness,' 36 Canadian Journal of Philosophy 1, 2006, 95-115.

³⁰⁹ Boran I, 'Benefits, Intentions and the Principle of Fairness,' 36 Canadian Journal of Philosophy 1, 2006, 95-115.

³¹⁰ Boran I, 'Benefits, Intentions and the Principle of Fairness,' 36 Canadian Journal of Philosophy 1, 2006, 95-115.

³¹¹ Blum A et al, 'On preserving non-discrimination when combining expert advice,' 31 Advances in Neural Information Processing Systems, 2018.

³¹² Clements P, 'The equal opportunities handbook: How to recognise diversity, encourage fairness and promote the anti-discriminatory practice,' Kogan Page Publishers, 2009.

³¹³ McCrudden C and Prechal S, 'The concepts of equality and non-discrimination in Europe: A practical approach,' European Commission, Directorate-General for Employment, Social Affairs and Equal Opportunities, Oxford Legal Studies Research Paper 4, February 2011 <https://ssrn.com/abstract=1762815> on 21 January 2024.

right of equality and non-discrimination, that is the responsibility to safeguard and promote the realisation and fulfilment of these rights for all individuals, as well as the positive requirement to abstain from bias or undermining equality.³¹⁴

Article 27 of the Kenyan Constitution, accentuates the rudimentary values of equality and non-discrimination asserting that everyone qualifies for evenly balanced benefits and protection as embraced in the Kenyan law.³¹⁵ In addition, this is extended to the full realisation of all freedoms and rights espoused in the law as well as the prohibition of discriminatory acts based on their divergency.³¹⁶ Accordingly, Deborah Hellman states that the differentiation of individuals based on a determined attribute produces degrading effects.³¹⁷ Regarding someone with differential treatment, connotes them having less significance than someone else.³¹⁸ In effect, this causes anguish and infringes on their inherent dignity.³¹⁹

4.2.2 Discriminatory fairness

This can be interchangeably labelled as positive discrimination or affirmative action or equity.³²⁰ It refers to proffering preferential treatment to a protected group on grounds that the group experiences cogent consequential and persisting disadvantages.³²¹ The balance sought with positive discrimination is to augment equity and sizeable assistance to minority groups who have otherwise faced disparity.³²² The justification levelled for this treatment is based on the

³¹⁴ Article 2, International Covenant on Civil and Political Rights, 16 December 1966, 999 UNTS 171.

³¹⁵ Article 27 (1), Constitution of Kenya (2010).

³¹⁶ Article 27 (4), Constitution of Kenya (2010).

³¹⁷ Hellman D, 'Demeaning and wrongful discrimination,' in Hellman D (ed) *When is discrimination wrong?* Harvard University Press, 2008, 35- 58.

³¹⁸ Hellman D, 'Demeaning and wrongful discrimination,' in Hellman D (ed) *When is discrimination wrong?* Harvard University Press, 2008, 35- 58.

³¹⁹ Hellman D, 'Demeaning and wrongful discrimination,' in Hellman D (ed) *When is discrimination wrong?* Harvard University Press, 2008, 35- 58.

³²⁰ Khaitan T, 'The point of discrimination,' in Khaitan J (ed), *A Theory of Discrimination Law*, Oxford University Press, London, 2015, 118-119.

³²¹ Besson S, 'The bearers of human rights' duties and responsibilities for human rights: A quiet revolution?' in Rahman T and Schmidt D (eds) *Social Philosophy and Policy*, 40 Cambridge University Press 1, 2015, 244-268.

³²² Barnes L, 'Equity law and experimentation: The positive action challenge,' 68 *The Cambridge Law Journal* 3, 2009, 623-654.

proportionality of the action.³²³ The proportionality feature is dependent on the legitimacy of the object of the positive discrimination.³²⁴

This is provided for in the Kenyan constitution which empowers the government to subtly utilise affirmative action and the provisions of law to rectify instances of prior acts of discrimination.³²⁵ The acts rectification of the acts is in relation to the persistent effects or manifestations of the discriminatory acts that cripple present day equality.³²⁶ This in the government system, is

4.2.3 Procedural fairness

Procedural fairness is substitutable natural justice.³²⁷ It is founded on the notion of the rule of law.³²⁸ It relates to the approach and course of action employed by a judicial officer and the validation of the rights of the beneficiary of judicial actions or decisions.³²⁹ This type of fairness reckons that fair approaches are critical for the promotion of justice, dependent on the procedure utilized.³³⁰

This entails the right to fair and impartial treatment, the right to be heard, bona fide judicial actions and justified decisions of the judicial officers.³³¹ Procedural fairness is perceived by accuseds, victims and anyone involved in the process when transparency and impartiality is incorporated in the entire process.³³² In this regard, this promotes the legitimacy of the court system as well as the decisions handed by the court.³³³

³²³ Besson S, 'The bearers of human rights' duties and responsibilities for human rights: A quiet revolution?' in Rahman T and Schmidt D (eds) *Social Philosophy and Policy*, 40 Cambridge University Press 1, 2015, 244-268.

³²⁴ Zarins D, 'Positive discrimination: Is there a case?' in Tickle L (ed), *Understanding design in primary schools: Cases from teachers' research*, Routledge, London, 1996, 320,

³²⁵ Article 27 (6), Constitution of Kenya (2010).

³²⁶ Clayton S and Tangri S, 'The justice of affirmative action,' in Blanchard F and Crosby F (eds) *Affirmative action in perspective*, Springer-Verlag Publishing, 1989, 181.

³²⁷ Tyler T, 'Procedural fairness and compliance with the law,' 133 *Revue Suisse D Economie Politique et de Statistique*, 1997, 219-240.

³²⁸ Blumoff R and Tyler T, 'Procedural justice in negotiation: Procedural fairness, outcome acceptance, and integrative potential,' 33 *Law and Social Inquiry* 2, 2008, 477-479.

³²⁹ Doherty D and Wolak J, 'When do ends justify the means? Evaluating procedural fairness,' 34 *Political Behavior*, 2012, 301-323.

³³⁰ Doherty D and Wolak J, 'When do ends justify the means? Evaluating procedural fairness,' 34 *Political Behavior*, 2012, 301-323.

³³¹ Doherty D and Wolak J, 'When do ends justify the means? Evaluating procedural fairness,' 34 *Political Behavior*, 2012, 301-323.

³³² Lagratta E and Bowen P, 'To be fair: Procedural fairness in courts,' *Criminal Justice Alliance*, 2014.

³³³ Lagratta E and Bowen P, 'To be fair: Procedural fairness in courts,' *Criminal Justice Alliance*, 2014.

4.2.4 Golden Rule fairness

This type of fairness is drawn from religious teachings.³³⁴ It instructs people to treat others how they would like to be treated and by virtue admonishes treating people in ways we would not like to be treated.³³⁵ As a foundation for justice, the general connotation would require justice agents to reckon with the concerns, inclinations, and rights of individuals.³³⁶ This necessitates that these agents of justice relate and empathise with the beneficiary of their decisions by ideals and standards that are equitable, precise, fair and logical.³³⁷

This type of fairness belabours the significance of empathy in encouraging verifiable impartiality, whilst acknowledging that fairness is varied.³³⁸ It calls for reasonableness needed to decipher the varying conditions or circumstances.³³⁹ This is taken into account by the law when providing a yardstick of how specific sets of groups should be handled in certain situations. An example of this would be the provisions made for the holding of delinquent minors in custody.³⁴⁰ This is necessitated because children are regarded as vulnerable individuals in society thus extending the same laws applied to adult offenders in this case would be unfair and would jeopardise the security and integrity of the children.³⁴¹

Why leverage on fairness then? Fairness is fundamental in the operation of a society. According to John Rawls, fairness in a society determines whether the stability of the society will prevail.³⁴² Once people in a society feel discriminated against, strife, social unrest and disorder come into

³³⁴ Dator J, 'What is fairness?' in Dator et al (eds) *Fairness, Globalization and Public institutions: East Asia and Beyond*, University of Hawai'i Press, Honolulu, 2006.

³³⁵ Singer M, 'The golden rule,' *The Ideal of a Rational Morality: Philosophical Compositions*, Oxford, 2003. <https://doi.org/10.1093/acprof:oso/9780198250210.003.0012> on 10 January 2024.

³³⁶ Singer M, 'The golden rule,' *The Ideal of a Rational Morality: Philosophical Compositions*, Oxford, 2003. <https://doi.org/10.1093/acprof:oso/9780198250210.003.0012> on 10 January 2024.

³³⁷ Gould J, 'Clarifying Singer's golden rule,' *2 Critica Revista Hispanoamericana de Filosofia* 6, 1968, 95-101.

³³⁸ Hallett G, 'The incommensurability' of values,' *28 Heythrop Journal* 4, 1987, 373-387.

³³⁹ Duxbury N, 'Golden rule reasoning, moral judgment and law,' *84 Notre Dame Law Review* 4, 2009, 1531-1540 http://scholarship.law.nd.edu/ndlr/vol84/iss4/2?utm_source=scholarship.law.nd.edu%2Fndlr%2Fvol84%2Fiss4%2F2&utm_medium=PDF&utm_campaign=PDFCoverPages on 20 January 2024.

³⁴⁰ Hallett G, 'The incommensurability' of values,' *28 Heythrop Journal* 4, 1987, 373-387.

³⁴¹ Duxbury N, 'Golden rule reasoning, moral judgment and law,' *84 Notre Dame Law Review* 4, 2009, 1597-1604 http://scholarship.law.nd.edu/ndlr/vol84/iss4/2?utm_source=scholarship.law.nd.edu%2Fndlr%2Fvol84%2Fiss4%2F2&utm_medium=PDF&utm_campaign=PDFCoverPages on 20 January 2024.

³⁴² Rawls J, 'Justice as fairness: A restatement,' Harvard University Press, 2001.

play.³⁴³ This is based on the standards of fairness upheld by the community.³⁴⁴ Additionally, fairness affects all sectors of society and is foundational for thriving democracies.³⁴⁵ Fairness promotes cooperation, inclusion and diversity which is crucial to the cohesion and functioning of a society.³⁴⁶

4. 3 The Principle of Fairness

The rule of law is contingent upon fairness.³⁴⁷ This dictates that the preservation of the rights of individuals should be a priority and in essence, giving people what is due to them.³⁴⁸ It is founded on the notion that each individual is a unique and distinct possessor of freedoms, rights and dignity.³⁴⁹ On account of that dignity, every individual should be afforded fair treatment as espoused in the Universal Declaration of Human Rights.³⁵⁰ The following have been considered to be principles of fairness:

4.3.1 Transparency and accountability

Transparency refers to openness and clarity whereas accountability refers to the acknowledgement and acceptance of culpability for actions and decisions.³⁵¹ Accountability and transparency support the establishment of legality, validity, and credibility of operations, which in turn supports the rule of law and enhances fairness.³⁵² Under fairness, transparent decisions are

³⁴³ Schweitzer M and Gibson D, 'Fairness, feelings, and ethical decision-making; Consequence of violating community standards of fairness,' 77 *Journal of Business Ethics* 3, 2008, 287-301.

³⁴⁴ Kahneman D et al, 'Fairness and the assumptions of Economics,' 59 *Journal of Business* 4, 1986, 285-300.

³⁴⁵ Shaw A, 'Fairness: What it isn't, what it is and what it might be for,' *Evolutionary Perspectives on Child Development and Education*, 2016.

<http://dx.doi.org/10.1007/978-3-319-29986-0_8> accessed on 10 January 2024.

³⁴⁶ Shaw A, 'Fairness: What it isn't, what it is and what it might be for,' *Evolutionary Perspectives on Child Development and Education*, 2016.

<http://dx.doi.org/10.1007/978-3-319-29986-0_8> accessed on 10 January 2024.

³⁴⁷ Burke K, 'Understanding the international rule of law as a commitment to procedural fairness,' 18 *Minnesota Journal of International Law*, 2009, 357.

³⁴⁸ Burke K, 'Understanding the international rule of law as a commitment to procedural fairness,' 18 *Minnesota Journal of International Law*, 2009, 357.

³⁴⁹ Pritchard M, 'Human dignity and justice,' 82 *Ethics* 4, 1972, 299-313.

<https://www.jstor.org/stable/2379854> on 3 January 2024.

³⁵⁰ Article 1 and 2, Universal Declaration of Human Rights, 10 December 1948.

³⁵¹ Merriam-Webster dictionary, 11 ed.

³⁵² Folger R and Cropanzano, 'Fairness theory: Justice as accountability,' 1 *Advances in organizational justice* 1-55, 2001, 12.

made available to everyone irrespective of their level of knowledge.³⁵³ Accountability allows judicial officers to review their decisions when claims of error are brought forward.³⁵⁴

Within the Kenyan jurisdiction, transparency and accountability are upheld as national values.³⁵⁵ They are additionally indispensable in the dispensation of duties of public service personnel, as they advance a sense of competence, efficacy and sensitivity to the needs of the public.³⁵⁶ These principles necessitate the dissemination of relevant information to foster the engagement and contribution of the public in matters that are consequential to their well-being as well as the protection of their rights and freedoms.³⁵⁷ This further underpins the right to access information as posited in the decision passed by Judge Mwita in the case of *Katiba Institute v Presidents Delivery Unit*, where the judge posited that accountability, responsiveness and openness are crucial in upholding constitutional democracy thus demanding the right to information an inviolable right upheld by the constitution of Kenya.³⁵⁸

4.3.2 Proportionality

This refers to equity. Under fairness, it relates to according to different people's distinct treatment, taking into consideration their disparate conditions and abilities.³⁵⁹ It is grounded on the differentiation of the range of the rights proffered by the constitution and the preservation of those rights.³⁶⁰ This necessitates that decisions made against or in limitation of certain rights should be endorsed by reasonable justifications as stated in the case of *S B M and another v Attorney General*.³⁶¹ This tests whether the measure applied is proportionate to the occurrence at hand. Similarly, Justice Ngugi in the High Court judgment in *Sudi Kipchumba v Republic*, held

³⁵³ Folger R and Cropanzano, 'Fairness theory: Justice as accountability,' 1 *Advances in organizational justice* 1-55, 2001, 12.

³⁵⁴ Curtin D and Meijer A, 'Does transparency strengthen legitimacy? : A critical analysis of the European Union policy documents,' 11 *Information Polity* 2, IOS Press, 2006, 109-115.

³⁵⁵ Article 10, Constitution of Kenya (2010).

³⁵⁶ Curtin D and Meijer A, 'Does transparency strengthen legitimacy? : A critical analysis of the European Union policy documents,' 11 *Information Polity* 2, IOS Press, 2006, 109-115.

³⁵⁷ Mulgan R, 'Public sector accountability and new public management reforms,' in *Mulgan Holding power to account: Accountability in modern democracies*, Palgrave Macmillan, London, 2003, 151-160.

³⁵⁸ *Katiba Institute v Presidents Delivery Unit and 3 others* (2017) eKLR.

³⁵⁹ Voermans W, 'Judicial transparency furthering public accountability for new judiciaries,' 3 *Utrecht Law Review*, 2007, 148.

³⁶⁰ Harbo T, 'The function of proportionality principle in EU law,' 16 *European Law Journal* 158, 2010, 166-169.

³⁶¹ *S B M and another v Attorney General* (2022) eKLR.

that proportionality is crucial in affirming that the course of action undertaken is the least right-infringing measure available in certain circumstances, regarding bail and bond.³⁶² The applicant had been denied bail because the matter would occasion a public uproar.³⁶³

The honourable justice proceeded to lay a dual test to determine proportionality. One, the state is obligated to show that it acted bona fide by protracting an accused's detention in the absence of any indictment.³⁶⁴ Two, the state should also rationalize that the detention is the most fitting circumscriptive action in the circumstance, whilst weighing up the rights and interests of the accused, the justice system, the rights of the victims as well as the integrity of public order.³⁶⁵ In essence, this ensures that the accused receives fair treatment and that their arrests and their ensuing detention are rational and warranted. The resulting attribute is thus fairness in promoting justice as well as protecting the rights of accused individuals.

4.3.4 Impartiality

Impartiality is conceptualized as fairness and the absence of prejudice.³⁶⁶ Under fairness, this connotes equal treatment of all individuals.³⁶⁷ In the justice system, impartiality increases the trust of citizens in the justice provided by the courts. Impartiality is a tenet of leadership and integrity under Article 73(2) that stipulates that decisions made should be even-handed and detached from any hint of bias or favouritism.³⁶⁸ It is additionally provided for by Article 166 of the Constitution, which demands that judicial officers be of high probity and impartiality.³⁶⁹ Per this provision, the court in the case of *Tumaini v Republic* stated that it is in the interest of justice that a judge recuse himself if there is the probability that he may be partial.³⁷⁰

This could be deciphered by any rational individual if it is reckoned that the judge is associated with a party that has a stake in the case.³⁷¹ The determination of bias in the dispensation of justice

³⁶² Sudi Oscar Kipchumba v Republic (Through National Cohesion and Integration Commission) (2020) eKLR.

³⁶³ Sudi Oscar Kipchumba v Republic (Through National Cohesion and Integration Commission) (2020) eKLR.

³⁶⁴ Sudi Oscar Kipchumba v Republic (Through National Cohesion and Integration Commission) (2020) eKLR.

³⁶⁵ Sudi Oscar Kipchumba v Republic (Through National Cohesion and Integration Commission) (2020) eKLR.

³⁶⁶ Lucy W, 'The possibility of impartiality,' 25 Oxford Journal of Legal Studies 1, 2005, 3-31 <https://doi.org/10.1093/ojls/gqi002> on 2 February 2024.

³⁶⁷ Merrill T, 'Fair and impartial adjudication,' 26 George Mason Law Review, 2018, 897.

³⁶⁸ Article 73(2)(b), Constitution of Kenya (2010).

³⁶⁹ Article 166 (2)(c), Constitution of Kenya (2010).

³⁷⁰ *Tumaini v Republic* (1972) EA LR 441.

³⁷¹ *Tumaini v Republic* (1972) EA LR 441.

lies in the discernment of a ‘fair-minded’ informed observer.³⁷² The Collins dictionary defines a fair-minded individual as ‘a person who always tries to be fair and reasonable, and always listens to other people’s opinions.’³⁷³ In order to listen to other people’s opinions, Susan Mendus argues that partial relationships need to exist for impartiality to develop.³⁷⁴ This ideates the notion of tolerance, which promotes open-mindedness and the acceptance of divergent views, ideas or cultures.³⁷⁵ This further trickles down to the generation of rational decisions.³⁷⁶

4.3.5 Dignity

Human dignity is recognized in the Kenyan Constitution as a national value.³⁷⁷ This necessitates that every individual is respected as well as their rights upheld.³⁷⁸ Under Article 1 of the UDHR, all human beings are inherently free and are endowed with equal dignity and rights.³⁷⁹ The inherence denotes the inviolability of the right. Dignity is defined as ‘the state or quality of being worthy of honour.’³⁸⁰ From religious teachings, dignity is founded on the concept that individuals are moulded in the likeness of God, a character which differentiates them from other living things.³⁸¹ This by itself accords them dignity.³⁸²

Kant posits that by virtue of inherent dignity, individuals should be accorded moral respect.³⁸³ This is founded on the ideation that a human being is an autonomous being who merits to be

³⁷² Philip K. Tunoi and another v Judicial Service Commission and another (2016) eKLR.

³⁷³ Collins Dictionary, 14 ed.

³⁷⁴ Mendus S, ‘Impartiality in moral and political philosophy,’ Oxford University Press, Oxford, 2002, 32.

³⁷⁵ Smet S, ‘Toleration and the law,’ in Sardoc M (ed) The Palgrave Handbook of Toleration, Palgrave MacMillan, Cham, 2020 https://doi.org/10.1007/978-3-030-03227-2_56-1 on 29 January 2024.

³⁷⁶ Smet S, ‘Toleration and the law,’ in Sardoc M (ed) The Palgrave Handbook of Toleration, Palgrave MacMillan, Cham, 2020 https://doi.org/10.1007/978-3-030-03227-2_56-1 on 29 January 2024.

³⁷⁷ Article 10(2), Constitution of Kenya (2010).

³⁷⁸ Article 28, Constitution of Kenya (2010).

³⁷⁹ Article 1, Universal Declaration of Human Rights, 10 December 1948, 217 [III] A.

³⁸⁰ Collins Dictionary, 14 ed.

³⁸¹ McCrudden C, ‘Human dignity and judicial interpretation of human rights,’ 19 European Journal of International Law 4, 2008, 657-659.

³⁸² McCrudden C, ‘Human dignity and judicial interpretation of human rights,’ 19 European Journal of International Law 4, 2008, 657-659.

³⁸³ Bayefsky R, ‘Dignity, honour, and human rights: Kant’s perspective,’ 41 Political Theory 6, 2013, 811 https://www.jstor.org/stable/pdf/24571373.pdf?refreqid=fastly-default%3A0fed7ac3375aa59e557d97a9cd81c95b&ab_segments=&origin=&initiator=&acceptTC=1 on 2 February 2024.

treated with due regard.³⁸⁴ In the justice system, granting an accused a fair trial and the rights afforded to an accused and an arrested person, without undue regard signifies upholding dignity.³⁸⁵ In promoting this, the Constitution of Kenya provides against any form of demeaning treatment of individuals.³⁸⁶ Demeaning treatment debases the value of the individual.³⁸⁷

4.3.5 Due Process and Timeliness

The Constitution of Kenya provides for the delivery of justice in a timely fashion.³⁸⁸ This encompasses expeditious resolutions and neither parties nor the court involves protracted antics to hinder the proceedings.³⁸⁹ Due process on the other hand entails that individuals are accorded the rights provided for them and that any action conducted against them should be under the confines of constitutional law.³⁹⁰ This falls under procedural fairness. It is also deemed fair when each contesting party in a case is given sufficient time to lay out their cases before the court.³⁹¹

Effective fair systems require judicial officers to speedily but objectively and accurately determine cases.³⁹² A pendency in cases generates a distrust of the court process as individuals view this as a rebuff of their rights as well as justice.³⁹³ In this regard, fairness is not dispensed.

³⁸⁴ Bayefsky R, 'Dignity, honour, and human rights: Kant's perspective,' 41 *Political Theory* 6, 2013, 811 https://www.jstor.org/stable/pdf/24571373.pdf?refreqid=fastly-default%3A0fed7ac3375aa59e557d97a9cd81c95b&ab_segments=&origin=&initiator=&acceptTC=1 on 2 February 2024.

³⁸⁵ Waldron J, 'How law protects dignity,' 71 *The Cambridge Law Journal* 1, 2012, 201 <https://www.jstor.org/stable/23253794> on 2 February 2024.

³⁸⁶ Article 25, Constitution of Kenya (2010).

³⁸⁷ Waldron J, 'How law protects dignity,' 71 *The Cambridge Law Journal* 1, 2012, 201 <https://www.jstor.org/stable/23253794> on 2 February 2024.

³⁸⁸ Article 50, Constitution of Kenya (2010).

³⁸⁹ Sourdin T and Burstyn N, 'Justice delayed is justice denied,' 4 *Victoria University Law and Science Journal* 1, 2014, 46-49.

³⁹⁰ Roach K, 'Due process and victims' rights: The new law and politics of criminal justice,' University of Toronto Press, Toronto, 1999, 11-17.

³⁹¹ Sourdin T and Burstyn N, 'Justice delayed is justice denied,' 4 *Victoria University Law and Science Journal* 1, 2014, 46-49.

³⁹² Sourdin T and Burstyn N, 'Justice delayed is justice denied,' 4 *Victoria University Law and Science Journal* 1, 2014, 46-49.

³⁹³ Sourdin T and Burstyn N, 'Justice delayed is justice denied,' 4 *Victoria University Law and Science Journal* 1, 2014, 46-49.

4.4 Fairness in the utilization of ML systems

Algorithmic fairness refers to the idea that the decisions generated by ML systems ought not to generate unfair, arbitrary, or inconsistent results.³⁹⁴ Transparency and fairness in artificial intelligence are major concerns when it comes to decision-making supported by ML systems that affect individuals.³⁹⁵ In the realm of AI and machine learning, fairness has been deemed beyond reach.³⁹⁶ This has been attributed to the black-box nature of algorithmic systems.³⁹⁷ Additionally, vulnerable attributes are frequently present in datasets, which machine learning algorithms may inadvertently exploit to produce unjust predictions.³⁹⁸

Massive amounts of historical data are frequently used to train ML algorithms, which have the potential to accentuate preexisting prejudices in the used data as well as reproduce them anew.³⁹⁹ As a result of such skewed input data or flawed algorithms, it has been demonstrated that disproportionate AI decision-making algorithms continually perpetuate prejudice such as racial/gender biases as seen in the *Wisconsin v Loomis with COMPAS*.⁴⁰⁰

As a stand-in for the "process" that the model uses to create predictions, the phrase "procedural fairness" in machine learning has been appropriated to describe determining the characteristics of the input data that result in a specific model conclusion.⁴⁰¹ According to Weller et al, the definition of this legal phrase is constrained and incorrect. Procedural justice looks closely at the

³⁹⁴ Zhang Y et al, 'Introduction to AI fairness,' Extended abstracts of the 2020 CHI Conference on Human Factors in Computing Systems, 2020, 1-4.

³⁹⁵ Von Eschenbach W, 'Transparency and the black box problem: Why we do not trust AI,' 34 *Philosophy & Technology* 4, 2021, 1607-1622.

³⁹⁶ Wachter S et al, 'Why fairness cannot be automated: Bridging the gap between EU non-discrimination law and AI,' 41 *Computer Law and Security Review*, 2021.

³⁹⁷ Wachter S et al, 'Why fairness cannot be automated: Bridging the gap between EU non-discrimination law and AI,' 41 *Computer Law and Security Review*, 2021.

³⁹⁸ Zhou C et al, 'Does a compromise on fairness exist in using AI models?' In *Australasian Joint Conference on Artificial Intelligence*, Springer International Publishing, 2022.

³⁹⁹ Zhou J, 'Toward Explainability of AI fairness,' 13200 *Beyond Explainable AI*, 2022.

⁴⁰⁰ Freeman K, 'Algorithmic injustice: How the Wisconsin Supreme Court failed to protect due process in *State v Loomis*, 18 ' *North Carolina Journal of Law and Technology* 5, 2016, 75.

⁴⁰¹ Castelnovo A et al, 'Explainable artificial intelligence,' 1903 *Series: Communications in Computer and Information Science*, 2023, 332.

mechanisms of governance that are in place to direct individual decisions by humans and uses continuous processes that aim at just outcomes, as opposed to trying to define fair outcomes.⁴⁰²

Obtaining insight into the decision-making process and ensuring equity for everyone affected by AI decisions can be achieved through transparency.⁴⁰³ The justifications could be useful in determining which possible factors are causing the unfavourable results. Making judgements without providing a rationale or providing vague, unreliable, and distrustful reasoning is unjust.⁴⁰⁴ Although an algorithm can not directly rely on classified or responsive qualities, the suggested fairness interpretations link certain input aspects to a system's net injustice.⁴⁰⁵ This highlights that fairness is crucial for the proper function of AI decision-making systems and tools.⁴⁰⁶ It becomes especially important when the decisions could have catastrophic impacts on the human beneficiaries.

4.5 Minimums to be provided for by the Kenyan Law

Machine learning systems in the justice sphere are unquestionably groundbreaking. Nevertheless, the stake is high as the rights of individuals are most likely to be affected when artificial intelligence technology is involved. To avert this and ensure a streamlined approach to the protection of the rights of individuals, sufficient safeguards are vital. This would additionally ensure that the systems operate within a discernible legal realm. The Kenyan law is deficient in subject matters, fairness and automated decisions.

First and foremost, of utmost importance, the laws should furnish measures for data security. This is vital because the data of individuals is sacrosanct, therefore any compromise would be

⁴⁰² Grgic-Hlaca N et al, 'Beyond distributive fairness in algorithmic decision making: feature selection for procedurally fair leaning,' Proceedings of the Thirty Second AAAI Conference on Artificial Intelligence, 2018, 51-60.

⁴⁰³ Grgic-Hlaca N et al, 'Beyond distributive fairness in algorithmic decision making: feature selection for procedurally fair leaning,' Proceedings of the Thirty Second AAAI Conference on Artificial Intelligence, 2018, 51-60.

⁴⁰⁴ Von Eschenbach W, 'Transparency and the black box problem: Why we do not trust AI,' 34 Philosophy & Technology 4, 2021, 1607-1622.

⁴⁰⁵ Zhou C et al, 'Does a compromise on fairness exist in using AI models?' In Australasian Joint Conference on Artificial Intelligence, Springer International Publishing, 2022.

⁴⁰⁶ Zhang Y et al, 'Introduction to AI fairness,' Extended abstracts of the 2020 CHI Conference on Human Factors in Computing Systems, 2020, 1-4.

detrimental. Data security is comparable to a citadel during pillages. In real-time, data security would ensure that the data of individuals is incorruptible and sheltered. This is essential in preventing situations similar to when Sudanese cyberattackers infiltrated the Kenyan government service-based website resulting in the immobilisation of nearly all government-issued services for a considerable part of the day.

Secondly, anthropocentric standards should be at the core of the laws formulated because people are at the forefront of the technological advancement agenda. This would demand that the designers of systems primarily customize their systems to ensure individuals are cushioned from arbitrary outputs. These standards should cover fairness, human dignity, transparency, and trustworthiness. In essence, the laws should define these standards as a way of ensuring that the applicable algorithmic systems are congruent with the ideals upheld by people. Defining the standards would be crucial in grounding the extent the systems would be designed and subsequently applied.

Moreover, the laws should provide for risk assessment mechanisms for the ML algorithmic tools. The assessment of these tools is essential in ensuring that they are in harmony with the set laws and guidelines. The risk assessment would help the stakeholders identify interstices in the systems as well as help them rectify the system thus averting imminent malfunctions or inadvertent violation of the rights of individuals. Furthermore, this would be congruous with their compliance with their duty of care.

Lastly, just as there are policy guidelines for the administration of bail and bond, the same should be provided for when it comes to ML algorithmic tools. The guidelines would be fundamental in moulding the scene for the application of the tools. The guidelines would further elucidate the purpose and functioning of the system to the laypeople. This would also elevate their confidence in the systems.

4.6 Conclusion

This chapter aimed to define fairness and look into the principles of fairness that would be suitable for the AI decision-making system for bail and bond. In doing so, the chapter has shown

that AI fairness is crucial in the multi-disciplinary sector. I have shown that AI fairness can address the issue of bias occasioned by both judicial officers and AI decision-making systems.

CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

This study sought to look into the prevailing flaws in the administration of bail and bond in correlation with the discretionary scope granted to judges. In doing so, it has shown that the wide-ranging discretion accorded to judges in determining how much bail to fix for a specific accused raises uncertainty. This mired with the prevailing prejudices of the judicial officers and the police, demonstrates that the existing criminal justice decision-making process is compromised. The aftermath of this is the pendency of cases and overdependence on pretrial detention, much to the detriment of just and timely access to justice.

Additionally, the study has revealed that basic ML-driven systems already assist courts in assessing different risks, ranging from the possibility that an accused will abscond or re-offend. The discussion had drawn that these tools have the potency to relieve the vast backlogs and delays that plague our state justice systems whilst still enhancing justice, fairness and security. These advancements, of course, do not lack controversy. There are fears about data protection, agency, and transparency when algorithms are employed to apprise court rulings. Whereas such issues merit careful consideration and, in certain cases, innovative legislation and regulations, they should not dissuade the growth of systems with such immense capacity for enhancing societal results.

This study further staked out principles of fairness that are crucial in the justice system. In light of this, including fairness in the ML systems pending their integration is just as pivotal. This demands the creation of fairness criteria and the setting of managerial standards to ensure that accuracy, transparency and validity are maintained in the utilization of the ML systems. The aspect of fairness ensures that the rights of individuals will be upheld. ML systems present the criminal justice system in Kenya as well as other systems in the world with an opportunity to refine both the administrative and procedural aspects of the system. The use of ML algorithms cannot do away with all the past inequities, however, it does bear the prospect of curbing future disservice if properly designed and regulated.

5.2 Recommendations

The question of whether ML should be integrated into the criminal justice system would necessitate the key players to implement measures, proper regulations, and policies to oversee and guide the system. This policy response to ML in Africa should rely on national digital agendas and prioritise inclusive digital, data, and computing infrastructure and the development of skills to foster ML algorithmic capabilities that benefit local economies and ecosystems. A good starting point would be for the policymakers to benchmark the OECD standards on AI as well as the European Union laws on AI.

Although Kenya has a DPA, in the realm of integration of ML algorithmic systems it would fall short. Sections in the DPA such as Sections 24, 25, 40, 43, 48, 51, and 71, just to mention a few, are either ambiguous or lacking. In this regard, the legislators should refine the DPA and make it unequivocal. This should be done in conformity with the GDPR. By doing this, the sanctity of people's data will be upheld.

The deployment of the ML platforms could be hindered by the country's deficient digital infrastructure occasioned by faulty systems and slow internet access. As a result, the Kenyan government and private stakeholders would have to join forces to offset the expected lump sum required to better digital services in anticipation of the integration of the ML algorithmic system. Furthermore, they should improve the infrastructure in line with the intended goal as well as liaise with companies that operate within the sphere of their objective.

Effective integration of the ML algorithmic systems would necessitate extensive training of personnel. The government of Kenya should take it upon itself to upskill members of the judiciary and relevant stakeholders on the use of ML systems. This would ensure a seamless transition to the use of ML systems.

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