IOSR Journal of Humanities And Social Science (IOSR-JHSS)
Volume 26, Issue 4, Series 3 (April. 2021) 26-33
e-ISSN: 2279-0837, p-ISSN: 2279-0845.
www.iosrjournals.org

Artificial Intelligence in the Brazilian´s System of Justice: reflections on the structural racism.

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Date of Submission: 25-03-2021 Date of Acceptance: 09-04-2021

I. INTRODUCTION

This paper aims to provide some reflections on the impacts of the increasing introduction of AI on Brazilian´s system of justice on structural racism. The article will briefly explain structural racism and provide the imprisonment rates as one example of the diverse faces of structural racism in Brazilian´s system of justice. Next, the paper will offer a synthetic overview of AI uses in the judicial system, especially in Brazil and its nascent legislative initiatives. With this framework, the article will reflect on possible reasons of risks AI poses to the maintenance or reinforcement of structural racism in the justice system. Finally, it will provide initial thoughts on safeguards to counter those risks.

II. STRUCTURAL RACISM IN BRAZIL AND THE SYSTEM OF JUSTICE

Structural racism consists of the internalization and normalization of historical, social, political, cultural, and institutional practices that place whites in a situation of supremacy and certain racial groups at a disadvantage and subject to adverse effects[3]. It is a system of oppression that is part of the social structure and embraces both the public and the private sphere. It is not only present at the conscience level but also permeates the subconscious. It "maintains, reproduces and recreates" inequality, thus contributing to upholding a status quo of discrimination[4].

According to the Aspen institute glossary, Structural Racism is:

A system in which public policies, institutional practices, cultural representations, and other norms work in various, often reinforcing ways to perpetuate racial group inequity. It identifies dimensions of our history and culture that have allowed privileges associated with "whiteness" and disadvantages associated with "color" to endure and adapt over time. Structural racism is not something that a few people or institutions choose to practice. Instead it has been a feature of the social, economic and political systems in which we all exist.[5]

Structural racism is ingrained in Brazilian culture and reflects for instance in lower formal employment rates, higher rates of homicide victims and higher percentage of prison population, high rates of police violence against people of color, lack of access to quality public policies[6].

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[3] Keith Lawrence ,Structural Racism, Aspen Institute on Community Change And Terry Keleher, Applied Research Center at UC Berkeley For the Race and Public Policy Conference 2004 available at https://www.intergroupresources.com/rc/Definitions%20of%20Racism.pdf

[4] Humberto Bersiani, Aportes teóricos e Reflexões sobre o racismo estrutural no Brasil Extraprensa, São Paulo, v. 11, n. 2, p. 175 – 196, jan./jun. 2018 p. 192 disponível em https://www.revistas.usp.br/extraprensa/article/view/148025/147028. "O racismo estrutural corresponde a um sistema de opressão cuja ação transcende a mera formatação das instituições, eis que perpassa desde a apreensão estética até todo e qualquer espaço nos âmbitos público e privado, haja vista ser estruturante das relações sociais e, portanto, estar na configuração da sociedade, sendo por ela naturalizado. Por corresponder a uma estrutura, é fundamental destacar que o racismo não está apenas no plano da consciência – a estrutura é intrínseca ao inconsciente. Ele transcende o âmbito institucional, pois está na essência da sociedade e, assim, é apropriado para manter, reproduzir e recriar desigualdades e privilégios, revelando-se como mecanismo colocado para perpetuar o atual estado das coisas".

[5] The Aspen Institute Glossary for Understanding the Dismantling Structural Racism/Promoting Racial Equity Analysis available at https://www.aspeninstitute.org/wp content/uploads/files/content/docs/rcc/RCC-Structural-Racism-Glossary.pdf

[6] Humberto Bersiani, Aportes teóricos e Reflexões sobre o racismo estrutural no Brasil Extraprensa, São Paulo, v. 11, n. 2, p. 175 – 196, jan./jun. 2018 p. 192 disponível em https://www.revistas.usp.br/extraprensa/article/view/148025/147028 "o racismo também apresenta

An excellent example of the impacts of structural racism in Brazil is of rates of imprisonment. In a recent conference held by Brazilian's National Council of Justice, the guiding question was why black people are the majority in Brazilian's prison facilities, and panelists emphasized that there is a "veiled racism that makes blacks already considered criminal, even before being prosecuted.[7]"

Historically Brazilian prison population is very similar to the homicide victims: young black men with low education levels. In 2019 man were 95,1%, and black people represented 66,7% of the imprisoned people[8]. According to the data, the rate of imprisonment of black people has increased, while in 2005, black people represented 58,4%, in 2019 the rate raised to 66,7%. In sum, there is substantial racial inequality in Brazilians' incarcerated population. Moreover, sanctions and penalties directed to black people tend to be more severe[9].

In other words: it appears that, in Brazil, prisons are becoming, year after year, spaces destined to an even more homogeneous population profile. In Brazil, more and more people are being arrested, but above all, more and more black people.[10]

On the police violence, significantly enough, according to the NGO Human Rights Watch, in 2019, the Police killed 6.357 people, and almost 80 percent of them were black[11].

In sum, structural racism is a reality in Brazil, and that directly affects the system of justice, as can be observed, for instance, by the imprisonment rates. The scope of the present paper is not to assess the whole spectrum of structural racism in Brazil and its impact on the judicial system, but only to briefly present it to provide subside for the debate we aim to foster: the risks of AI in the judicial systems in the maintenance or reinforcement of racism.

III. ARTIFICIAL INTELLIGENCE AND THE SYSTEMS OF JUSTICE

Artificial intelligence means such a paradigm shift that, after the third industrial revolution caused by mobile phones and the internet[12], it has been labeled as the fourth industrial revolution[13].

The Larrouse encyclopedia states that AI is a set of theories and techniques that aim at developing machines capable of simulating human intelligence[14]. Salahudin Ali affirms that AI is a computer program

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sua face institucional, seja pela violência praticada pelo Estado diariamente à população negra, pela Polícia Militar, seja pela forma como o Estado se revela em sua composição mediante a dificuldade de acesso ao poder e aos espaços de que dispõe (e isso será objeto de estudo oportunamente) ou, ainda, pela dificuldade de acesso a políticas públicas de qualidade."

[7] O encarceramento tem cor, diz especialista9 de julho de 2020Notícias CNJ / Agência CNJ de Notícias - https://www.cnj.jus.br/o-encarceramento-tem-cor-diz-especialista/# "Por que os negros são a maioria nas penitenciárias brasileiras? Essa foi a pergunta norteadora que direcionou o início dos debates do segundo dia do Seminário Questões Raciais e o Poder Judiciário, organizado pelo Conselho Nacional de Justiça (CNJ). Sob moderação do conselheiro do CNJ Mário Guerreiro, os participantes do painel "Negros no Sistema Carcerário e no Cumprimento de Medidas Socioeducativas" destacaram o racismo velado que faz com que o negro já seja considerado criminoso, antes mesmo de ser processado"

[8] Amanda Pimentel and Betina Warmling Barros, As prisões no Brasil: espaços cada vez mais destinados à população negra do país p. 306-307 Anuário Brasileiro de Segurança Pública 2020 https://forumseguranca.org.br/wp-content/uploads/2021/02/anuario-2020-final-100221.pdf

[9] Amanda Pimentel and Betina Warmling Barros, As prisões no Brasil: espaços cada vez mais destinados à população negra do país p. 306-307 Anuário Brasileiro de Segurança Pública 2020 https://forumseguranca.org.br/wp-content/uploads/2021/02/anuario-2020-final-100221.pdf

[10] Amanda Pimentel and Betina Warmling Barros As prisões no Brasil: espaços cada vez mais destinados à população negra do país p. 306-307 Anuário Brasileiro de Segurança Pública 2020 https://forumseguranca.org.br/wp-content/uploads/2021/02/anuario-2020-final-100221.pdf "Ou seja: verifica-se que, as prisões no Brasil estão se tornando, ano a ano, espaços destinados a um perfil populacional ainda mais homogêneo. No Brasil, se prende cada vez mais, mas, sobretudo, cada vez mais pessoas negras" translation by the authors

[11] https://www.hrw.org/pt/world-report/2021/country-chapters/377397#e4c692

[12] QIANG,Yang. The Fourth Revolution. In The Unesco Courier n. 3, 2018. Available at https://unesdoc.unesco.org/ark:/48223/pf0000265246

"*After the internet and mobile internet triggered the Third Industrial Revolution, artificial intelligence (AI) technologies, driven by big data, are fueling a Fourth Industrial Revolution".* Regarding the first and the second industrial revolution:

"While the First Industrial Revolution centered on textile manufacturing and the innovation of the steam engine, the Second Industrial Revolution focused instead on steel production, the automobile and advances in electricity." https://www.historycrunch.com/first-industrial-revolution-vs-second-industrial-revolution.html#/

[13] Abbott, R. (2020). The Reasonable Robot: Artificial Intelligence and the Law. Cambridge: Cambridge University Press. doi:10.1017/9781108631761 p. 2 "*Already impressive-sounding era titles such as the Fourth Industrial Revolution, the Second Machine Age, and the Automation Revolution are being used to describe the coming disruption."*

A good example of this shift is the Deep Blue The reasonable robot p. 17 *"In 1997, it was IBM´s deep Blue that beat world champion Garry Kasparov at chess, not Deep Blu´s programmers who, even if they had played against him as a team, would not have stood a chance at winning. Instead the programmers created an autonomous entity that engaged in activity beyond their own capabilities. At that time, Deep Blue was one of the most powerful supercomputers ever constructed, capable of evaluating 200 million chess positions per second. Today, chess programs running on smartphones can beat the world's best human players."*

[14] Ensemble de théories et de techniques mises en œuvre en vue de réaliser des machines capables de simuler l'intelligence humaine. Avec l'intelligence artificielle, l'homme côtoie un de ses rêves prométhéens les plus ambitieux : fabriquer des machines dotées d'un « esprit » semblable au sien. Pour John MacCarthy, l'un des créateurs de ce concept, « toute activité intellectuelle peut être décrite avec suffisamment de précision pour être simulée par une machine ». Tel est le pari – au demeurant très controversé au sein même de la discipline – de ces

capable of problem-solving that receives information as input, critically evaluates such information, and makes decisions on how to act. The program also keeps this decision-making process for its following activities. Machine learning is a step further and allows AI "(…) to train on massive pre-programmed data sets that are matched via algorithms through a variety of methods(…)[15]".

This revolution is progressively spreading throughout the legal field across the globe that each day more and has been used to jurimetrics[16], analyze documents and contracts[17] investigate frauds[18], facial recognition for law enforcement[19], crime prevention[20] and risk assessment of a defendant to become recidivist[21].

The Brazilian justice system is on the same lines undergoing a technological renewal process. Processes are being virtualized, and the Electronic judicial process (PJE) has become part of the lives of the justice system operators. The virtualization process also gives rise to juridical big data[22]. The National Council

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chercheurs à la croisée de l'informatique, de l'électronique et des sciences cognitives.
Malgré les débats fondamentaux qu'elle suscite, l'intelligence artificielle a produit nombre de réalisations spectaculaires, par exemple dans les domaines de la reconnaissance des formes ou de la voix, de l'aide à la décision ou de la robotique." https://www.larousse.fr/encyclopedie/divers/inteligence%20artificielle/187257

[15] Salahudin Ali, Coming to a Battlefield Near You: Quantum Computing, Artificial Intelligence, & Machine Learning's Impact on Proportionality, 18 SANTA CLARA J. INT'L L. 1 (2020).Available at: https://digitalcommons.law.scu.edu/scujil/vol18/iss1/3 p. 15 "Artificial intelligence can be generally defined as a computer science program's ability to solve complex problems through a process that mimics human critical thinking; it must be able to receive information, critically analyze information, act on such information, and store that decision-making process for future application. Machine learning adds another layer of intelligence to artificial intelligence by allowing it to train on massive pre-programmed data sets that are matched via algorithms through a variety of methods such as adversarial competition, micromanagement, and other corrective measures. Machine learning enables predictive models that may serve artificial intelligence in making rational decisions in a variety of environments. This ability to "think" and act critically in a given situation, as well as the ability to improve such behavior through programming and experience, make applications of QC and QIS all the more pressing for military powers." *See also Harvard Journal of Law & Technology Volume 31, Number 2 Spring 2018 THE ARTIFICIAL INTELLIGENCE BLACK BOX AND THE FAILURE OF INTENT AND CAUSATION Yavar Bathaee* P. 898 "Artificial intelligence refers to a class of computer programs designed to solve problems requiring inferential reasoning, decision-making based on incomplete or uncertain information, classification, optimization, and perception. AI programs encompass a broad range of computer programs that exhibit varying degrees of autonomy, intelligence, and dynamic ability to solve problems. On the most inflexible end of the spectrum are AI that make decisions based on preprogrammed rules from which they make inferences or evaluate options. For example, a chess program that evaluates every possible move and then selects the best move according to a scoring formula would fall within this category. On the most flexible end are modern AI programs that are based on machine-learning algorithms that can learn from data. Such AI would, in contrast to the rule-based AI, examine countless other chess games and dynamically find patterns that it then uses to make moves — it would come up with its own scoring formula. For this sort of AI, there are no pre-programmed rules about how to solve the problem at hand, but rather only rules about how to learn from data"*

[16] Jurimetry is statistics applied to legal cases in order to try to predict the likelihood of a judicial decision in a certain court. See for example the Brazilian AI company CONVEX https://www.convexla.com.br/

[17] For instance, AI companies such as LAWGEEX https://www.lawgeex.com/ and ROSS https://www.rossintelligence.com

[18] The United Kingdom Serious fraud office has used an AI robot to analyze documents in the Rolls-Royce case "AI powered 'Robot-Lawyer' helps step up the SFO's fight against economic crime" available at https://www.sfo.gov.uk/2018/04/10/ai-powered-robo-lawyer-helps-step-up-the-sfos-fight-against-economic-crime/

[19] See for instance the company Clearview AI https://clearview.ai/ . Among Clearview.ai clients are US Immigration and Customs Enforcement, the Department of Justice, the FBI, Interpol and a sovereign wealth fund in the United Arab Emirates Clearview AI's client list includes 2,200 organizations spanning law enforcement to universities: The FBI, ICE, Interpol, and the Department of Justice are on the list By Kim Lyons Feb 27, 2020, https://www.theverge.com/2020/2/27/21156678/clearview-ai-client-macy-fbi-doj-twitter-facebook-youtube Minneapolis, Boston, Portland and San Francisco prohibited the use of the technology of facial recognition for law enforcement since it might be prejudicial to people of color and other racial groups https://www.geledes.org.br/software-de-reconhecimento-facial-e-banido-na-cidade-de-george-floyd/

[20] See for instance the Israely company Cortica https://www.cortica.com "Cortica provides ultra-scale intelligence to enable cameras and drones with visual perception, analyzing the massive amounts of data captured daily by millions of security and drone cameras. The autonomous AI is capable of instant facial recognition, analysis of behavioral anomalies and situational predictability making cities smarter, safer, and more efficient. Smart cameras and drones protect lives and improve infrastructure with flexible, unsupervised AI."

[21] "Risk assessment instruments are statistical models used to predict the probability of a particular future outcome. Such predictions are accomplished by measuring the relationship between an individual's features (for example, their demographic information, criminal history, or answers to a psychometric questionnaire) and combining numerical representations of those features into a risk score. Scoring systems are generally created using statistical techniques and heuristics applied to data to consider how each feature contributes to prediction of a particular outcome (e.g., failure to appear at court). These scores are often then used to assign individuals to different brackets of risk". Report on Algorithmic Risk Assessment Tools in the U.S. Criminal Justice System by Partnership on AIhttps://www.partnershiponai.org/wp-content/uploads/2019/04/Report-on-Algorithmic-Risk-Assessment-Tools.pdf See for instance the company Equivant https://www.equivant.com/ with its Correctional Offender Management Profiling for Alternative Sanctions (COMPASS) https://www.equivant.com/northpointe-risk-need-assessments/ and New Jerseys Public Safety Assessment "A PSA is a risk evaluation tool that utilizes algorithm to assess the risks associated with releasing an individual prior to trial. There are nine (9) factors that are taken into account by the algorithm to arrive at a risk score utilizing prior historical data." https://www.newjerseycriminallawattorney.com/criminal-process/public-safety-assessment/

[22] Laboratório de Inovação concentra soluções tecnológicas voltadas ao PJe 26 de fevereiro de 2019https://www.cnj.jus.br/laboratorio-de-inovacao-concentra-solucoes-tecnologicas-voltadas-ao-pje/ "As pesquisas referentes à inteligência artificial estão concentradas no Centro de Inteligência Artificial aplicada ao PJe, que faz parte do Laboratório de Inovação e também foi instituído pela Portaria CNJ nº 25/2019."

of Justice has created an innovation hub to develop AI solutions related to the PJE[23] Softplan[24], for instance, is a company that has developed the "SAJ DIGITAL", a system that, among other features, automatically produces judicial pieces, uses AI and big data. They claim that their program is capable of an up to 80% reduction of time taken in the state court and also that repetitive and time-consuming activities might be performed by AI. The Brazilian Supreme Court has been using VICTOR, an AI system that recognizes themes of general repercussion and classifies processual files[25]. The Brazilian Superior Court of Justice has used AI for process classification and decision proposals[26]. The Federal Attorney General´s Office uses Sapiens, a system that develops legal contents and manages procedural and administrative flows[27]. The Public Defender´s Office is also starting to use AI technology to help classifying files and developing initial applications[28]. The Police of some states of the Federative Republic have been using facial recognition AI software for law enforcement[29]. According to the report issued by Fundação Getúlio Vargas[30], all superior tribunals and federal regional tribunals, as well as most of the tribunals of justice have ongoing AI projects.

In short, AI is a feature that is part of the Systems of Justice's backbone. It can be a beneficial tool but brings risks that must be acknowledged and addressed.

There is so far scarce specific regulation in Brazil concerning AI and the system of justice. The General Law on Data protection has some provisions that apply to the increasing AI in the field, since it states that personal and sensible personal data can be used in the judicial process (articles 7 and 11). The Law also points to the right not to be subjected to autonomous devices' decisions (art. 20)[31]. Article 6, IX states that personal data processing activities must observe the principle of non-discrimination.

In 2019 Brazil, among other countries, signed the OECD Principles on Artificial Intelligence[32], which includes non-discrimination as a cornerstone. Following OECD's principles, Law project 21 of 2020 was proposed[33]. There are currently two law projects, the project mentioned above and project 4120, of 2020; both are at an initial stage now at the Chamber of Deputies. While the projects state the principle of non-discrimination, they do not explicitly address racial bias. Directive Nº 271 de 04/12/2020 of the National Council of Justice rules the use of artificial intelligence by the Judiciary[34] but does not even mention discrimination. In Europe, for instance, AI and the judicial system is at a more mature stage. The European ethical Charter on the use of Artificial Intelligence in judicial systems[35] provides principles for AI and judicial systems, including the principle of respect of fundamental rights, which states that the design and

[23] See for instance the Brazilian company SOFTPLAN https://www.softplan.com.br/

[24] https://conteudos.sajdigital.com/saj-novidades

[25] Conheça VICTOR, o sistema de inteligência artificial do STF Bernardo Azevedohttps://bernardodeazevedo.com/conteudos/conheca-victor-o-sistema-de-inteligencia-artificial-do-stf/ see also Presidente do Supremo apresenta ferramentas de inteligência artificial em Londres http://www.stf.jus.br/portal/cms/verNoticiaDetalhe.asp?idConteudo=422699

[26] Presidente do STJ destaca importância da inteligência artificial na gestão e no planejamento da Justiça available at https://www.stj.jus.br/sites/portalp/Paginas/Comunicacao/Noticias/02072020-Presidente-do-STJ-destaca-importancia-da-inteligencia-artificial-na-gestao-e-no-planejamento-da-Justica.aspx "O presidente do STJ afirmou ainda que, com o uso da inteligência artificial, foi possível reduzir o número de processos no tribunal, em especial pela triagem e seleção das matérias repetitivas, sem perder de vista, contudo, a importância do trabalho humano. "Vamos nos valer da inteligência artificial, de programas que racionalizam os processos, mas o computador não decide, não faz voto. Ele pesquisa numa base de dados e propõe decisões, que muitas vezes precisam ser corrigidas", ressaltou. O ministro disse que é preciso combater a ideia de que a inteligência artificial vai tomar decisões. "Ela vai propor informações sobre as teses existentes, mas a decisão será sempre humana."

[27] AGU aperfeiçoa Sistema de Inteligência Jurídica e lança Sapiens 2.0 04/12/2020 https://www.gov.br/agu/pt-br/comunicacao/noticias/agu-aperfeicoa-sistema-de-inteligencia-juridica-e-lanca-sapiens-2.0

[28] Inteligência artificial agiliza atendimento na Defensoria Pública da União
Novo módulo do Sistema de Informações desenvolvido pelo Serpro aperfeiçoa classificação de petições da DPU, diminuindo o tempo de atendimento da população" https://www.serpro.gov.br/menu/noticias/noticias-2020/inteligencia-artificial-defensoria-publica-uniao

[29] Como por exemplo os estados da Bahia, São Paulo e Rio de Janeiro

[30] "Inteligência Artificial Tecnologia aplicada à gestão dos Conflitos no Âmbito do Poder judiciário Brasileiro "Coordination: Min Luiz Felipe Salomão. Available at https://ciapj.fgv.br/sites/ciapj.fgv.br/files/estudos_e_pesquisas_ia_1afase.pdf "A pesquisa detectou a existência de projetos de inteligência artificial já implementados, em fase de projeto-piloto ou em desenvolvimento, no âmbito do Poder Judiciário brasileiro. Todos os Tribunais Superiores e Tribunais Regionais Federais contam com iniciativas de IA, assim como, em Tribunais Regionais do Trabalho e em grande parte dos Tribunais de Justiça, foram identificados projetos de IA em diversas fases de implementação." P.66

[31] Art. 20. O titular dos dados tem direito a solicitar a revisão de decisões tomadas unicamente com base em tratamento automatizado de dados pessoais que afetem seus interesses, incluídas as decisões destinadas a definir o seu perfil pessoal, profissional, de consumo e de crédito ou os aspectos de sua personalidade. (Redação dada pela Lei nº 13.853, de 2019)

[32] https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0449

[33] Available at
https://www.camara.leg.br/proposicoesWeb/prop_mostrarintegra;jsessionid=node016ro07lz6hxk91s5jyk89iexjj8104966.node0?codteor=1853928&filename=PL+21/2020

[34] Avaliable at https://atos.cnj.jus.br/atos/detalhar/3613

[35] The charter "provides a framework of principles that can guide policy makers, legislators and justice professionals when they grapple with the rapid development of AI in national judicial processes"

implementation of AI programs must be in harmony with fundamental rights, and the principle of non-discrimination, that requires prevention of development or reinforcement of discriminations among individuals or groups of individuals[36].

To be clear, the proposal is not to make a colonial copy of the European system but to develop a democratic (with the participation of hidden people[37]) and consequently a decolonial system capable of being useful in a Brazilian context. This finding does not block the conclusion that, in Europe, there is an advance in the implementation of efficient Artificial Intelligence for that context.

IV. IMPACTS OF ARTIFICIAL INTELLIGENCE ON STRUCTURAL RACISM

AI is capable of accelerating the speed of the judicial process, making possible a timelier decision. It can also be a beneficial tool to process data and help efficiency. AI is also described as a police ally in law enforcement. AI can even be a tool to counter racial discrimination such as Stanford project "Mitigating bias in charging decisions with automated race redaction."[38]

Nonetheless, it also encompasses risks. Among those risks is the possibility of reinforcing patterns of structural racism.

United Nations Special Rapporteur on racism, Tendayi Achiume, stressed that technology is not impartial:

It is fundamentally shaped by the racial, ethnic, gender and other inequalities prevalent in society, and typically makes these inequalities worse. It is resulting in discrimination and unequal treatment in all areas of life, from education and employment to healthcare and criminal justice.[39]

In this sense, the European Ethical Charter on the use of Artificial Intelligence in judicial systems and their environment alert for the risk of AI as regards to discrimination and contains a duty to ensure that algorithmic methods do not maintain or enhance discrimination:

Given the ability of these processing methods to reveal existing discrimination, through grouping or classifying data relating to individuals or groups of individuals, public and private stakeholders must ensure that the methods do not reproduce or aggravate such discrimination and that they do not lead to deterministic analyses or uses.[40]

Among the issues that might generate the risk that AI reinforces racial discrimination are:

1.The developers and operators team are not diverse, which might unintendedly cause racial bias.

2.The big data that the system uses as a basis for its action and learning reflects a reality of structural racism, and thus the system might encompass/ reinforce this bias.

3.Lack of adequate establishment of a human-machine relationship that establishes 3.1) activities that must be developed by humans 3.2) training regarding the human-machine interaction and the system's capabilities and flaws.

On the diversity of teams programing and deploying AI, one can observe critical flaws following the lack thereof. A Study on facial recognition showed that those systems are quite accurate regarding white males and have a high degree of failure regarding black people and women[41]. These facial recognition failures occurred

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[36] EUROPEAN COMMISSION FOR THE EFFICIENCY OF JUSTICE (CEPEJ) European ethical Charter on the use of Artificial Intelligence in judicial systems and their environment December 2018 available at https://rm.coe.int/ethical-charter-en-for-publication-4-december-2018/16808f699c p. 5

[37] In this sense see Sanin Restrepo´s lessons RESTREPO, Ricardo Sanín. Cinco tesis desde el pueblo oculto. Revista Internacional de Ética y Política. N.1. Otoño 2012. Pp.10-39.

_____. Decolonizing democracy: power in a solid state. London. New York: Rowan & Littlefield, 2016.

_____. Decrypting the constitutional Coup de d'état in Brazil. 2016. Disponível em: https://www.academia.edu/27739305/DECRYPTING_THE_CONSTITUTIONAL_COUP_D_%C3%89TAT_IN_BRAZIL_Op-Ed_The_Philosophical_Salon_. Acesso em 02.Maio.2018.

[38] To reduce potential bias in charging decisions, we designed a new algorithm that automatically redacts race-related information from free-text case narratives. In a first-of-its-kind initiative, we deployed this algorithm at the San Francisco District Attorney's Office to help prosecutors make race-blind charging decisions on incoming felony cases." Available at https://policylab.stanford.edu/projects/blind-charging.html

[39] Independent rights expert says emerging technologies entrenching racism, discrimination - Special Rapporteur on racism, Tendayi Achiume, presented her concerns in a report delivered on Wednesday to the UN Human Rights Council in Geneva.available at https://news.un.org/en/story/2020/07/1068441

[40] European ethical Charter on the use of Artificial Intelligence in judicial systems and their environment p. 9

[41] Study finds gender and skin-type bias in commercial artificial-intelligence systems

Examination of facial-analysis software shows error rate of 0.8 percent for light-skinned men, 34.7 percent for dark-skinned women. https://news.mit.edu/2018/study-finds-gender-skin-type-bias-artificial-intelligence-systems-0212 Study conducted by Joy Buolamwini, a researcher in the MIT Media Lab's Civic Media group "In the researchers' experiments, the three programs' error rates in determining the gender of light-skinned men were never worse than 0.8 percent. For darker-skinned women, however, the error rates ballooned — to more than 20 percent in one case and more than 34 percent in the other two.

The findings raise questions about how today's neural networks, which learn to perform computational tasks by looking for patterns in huge

since its programmers were mainly white males and trained them with white male data. AI programs of facial recognition for law enforcement have been banned in some United States cities due to their racial discrimination potential[42]. While in countries such as the United States, facial recognition for law enforcement has been debated by the congressman and civil society, in Brazil, the discussion is still nascent. Nonetheless, AI surveillance systems of facial recognition are being used in Campinas, São Paulo, and Bahia[43].

In criminal matters, there are also potential risks of discrimination when one considers that these tools, which are constructed and interpreted by humans, can reproduce unjustified and already existing inequalities in the criminal justice system concerned; instead of correcting certain problematic policies, technology may end up legitimizing them.[44]

Regarding the problem of the data the AI system is using as a basis for assessing learning and deciding mechanisms, there is also a red flag. Some AI programs, especially those dealing with criminal issues, use sensitive personal data such as ethnic or racial origin, religion, political opinions. "All this sensitive data therefore deserves special vigilance. Their mass dissemination would present serious risks of discrimination, profiling and violation of human dignity"[45].

If systems decide on a massive amount of data and data in Brazil reflects structural racism, the AI will likely foster the maintenance of even aggravate patterns of discrimination. For instance, if most of the incarcerated population is black, a system of facial recognition or crime prediction is likely to enhance structural racism since it might deem black people are more prone to crime and suggest the maintenance of their imprisonment or more severe sentences.

In the policing context, the unthinking use of algorithmic instruments will reinforce historical race-based patterns of policing. This may occur because algorithmic predictions will vary depending on the quality of the training data used to construct the predictive function.[46]

Concerning the human-machine interface and the automation bias, it is essential to note that humans and machines envision and signify the world differently. Thus, they are likely to fail in uneven venues. In this regard, Daniele Amoroso, while discussing general issues of human-intelligent machine relationship, proposes primary obligations - regarding tasks that a human must develop; and ancillary obligations that aim at assuring the quality of human participation in the human-machine relation[47].

Regarding primary obligations on judicial uses of AI, he presents four situations that go in a crescendo of the necessity of human control privileges: a) a human creates the judicial activity with the aid of an AI program b) An AI program suggests a problem-solving approach and the human operator must approve/disapprove it. Disapproval requires justification c) An AI program decides a judicial dispute, and human review occurs only upon request of the parties to the conflict d) An AI program issues a final and binding decision. Amoroso argues that the use of AI features, such as machine learning, increases the programs' unpredictability, which is a relevant reason to apply the highest degree of human control, which is the one described in "a." If the program's biases do not impact human deliberation, "a" is unproblematic. Routine activities could be suitable to "b" and "c" levels of human control. In the context of decisions that touch upon fundamental rights, "a" and "b" levels of human control must be assured. "d" is regarded contrary to a human control requirement but could be used concerning disposable rights if the involved parties agree on it[48].

Ancillary obligations aim "(…) at allowing users and operators to take advantage of AI and autonomous technology without forfeiting human judgement and critical sense, and without succumbing to the so-called automation biases.[49]" A human operator might not, at first sight, comprehend an AI flaw unless (s)he develops skills to do so. The human role might be hindered by automation bias. Many studies point that humans

data sets, are trained and evaluated. For instance, according to the paper, researchers at a major U.S. technology company claimed an accuracy rate of more than 97 percent for a face-recognition system they'd designed. But the data set used to assess its performance was more than 77 percent male and more than 83 percent white."

[42] Minneapolis, Boston, Portland and San Francisco prohibited the use of the technology of facial recognition for law enforcement since it might be prejudicial to people of color and other racial groups https://www.geledes.org.br/software-de-reconhecimento-facial-e-banido-na-cidade-de-george-floyd/

[43] Dell Cameron , Por que o reconhecimento facial não deveria ser usado pela polícia. 2019 https://gizmodo.uol.com.br/reconhecimento-facial-policia/

[44] European ethical Charter on the use of Artificial Intelligence in judicial systems and their environment p. 54

[45] European ethical Charter on the use of Artificial Intelligence in judicial systems and their environment p. 26

[46] Aziz Z. Huq, Racial Equity in Algorithmic Criminal Justice, 68 *Duke Law Journal* 1043-1134 (2019) Available at: https://scholarship.law.duke.edu/dlj/vol68/iss6/1 p. 1076

[47] Daniele Amoroso, Autonomous Weapons Systems and International Law: A Study on Human-machine Interactions in Ethically and Legally Sensitive Domains, Nomos, 2020, p. 264

[48] Daniele Amoroso, Autonomous Weapons Systems and International Law: A Study on Human-machine Interactions in Ethically and Legally Sensitive Domains, Nomos, 2020 264-266

[49] Daniele Amoroso, Autonomous Weapons Systems and International Law: A Study on Human-machine Interactions in Ethically and Legally Sensitive Domains, Nomos, 2020. 265

are prone to trust the machine blindly or to follow their suggestions. The path to diminishing this risk of flaw is adequate training on the system´s capability, limitations, and operational functioning.

The Brazilian Superior Court president has argued the AI systems they are currently using do not decide, it proposes decisions based on big data and existing thesis, but the final decision is human[50]. It is probably a system as described in "b." The question we pose here is if the ancillary obligation described by Amoroso is accomplished: are operators of such systems trained about the AI´s operational mode and limitations? And about the risk of racial discrimination flaws, as well as how to counter it?

The argument that AI judicial decisions are neutral as a form to legitimize them is a fallacy for two reasons a) the data on which it is based is a result of human interpretations, and b) programmers' inherent bias is also entrenched in the programs[51], and racial discrimination is a significant problem that results from the increasing introduction of AI in the judicial system.

V. CONCLUSIONS

We argued that if the programmers and operators team is not diverse, the big data AI uses reflects a structural racism pattern, and the human-machine relationship is not well defined, there is a risk that the AI´s actions/ suggestions might be unintentionally reinforcing racism.

We claim that it is necessary that when the system of justice contracts and deploys AI programs, it requires/ assures that developers and user teams are diverse and include black people to guarantee a more plural view and avoid unintended racial bias. As the Special Rapporteur on racism, Tendayi Achiume argued: "To prevent and eliminate racial discrimination in technological design will require having more racial and ethnic minorities in decision-making in the industry."[52]

If data in Brazil reflects structural racism, systems must be developed and deployed aware of this issue and aiming at developing mechanisms to counter such flaws. We envision, for instance, feedback loops between users, recipients, and developers to adjust such failures when they occur. It is also vital to create paths for feedback by the recipients and civil society, such as an ombudsman. System developers must provide transparency about AI´s operational mode and mechanisms to prevent and counter racial bias, such as randomization. [53]

In this sense, the European Ethical Charter on the use of Artificial Intelligence in judicial systems and their environment:

When such discrimination has been identified, consideration must be given to corrective measures to limit or, if possible, neutralize these risks and as well as to awareness-raising among stakeholders. However, the use of machine learning and multidisciplinary scientific analyses to combat such discrimination should be encouraged.[54]

Concerning human-AI relations, it is necessary to develop primary obligations that predefine tasks that humans must develop. It is also essential to ascertain ancillary obligations to assure the quality of this human-machine relation, including continuous training of the AI´s operators to be aware of how the specific AI program develops its task and its limitations[55]. It is crucial to raise awareness about possible racial bias and develop skills to take this bias into account before deciding to avoid a tendency to reinforce structural racism.

If AI programs operating in the context of the justice system cause damage, it is crucial to assure effective remedies, both civil and criminal, which will have a threefold function: deterrence, education, and compensation. In some cases, a ban will be an adequate option to counter AI systems that cause racial discrimination. [56]

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[50] https://www.stj.jus.br/sites/portalp/Paginas/Comunicacao/Noticias/02072020-Presidente-do-STJ-destaca-importancia-da-inteligencia-artificial-na-gestao-e-no-planejamento-da-Justica.aspx

[51] André Vasconcellos Roque, Inteligência artificial na tomada de decisões judiciais: três premissas básicas, 2019 http://genjuridico.com.br/2019/11/27/inteligencia-artificial-decisoes-judiciais/

[52] Independent rights expert says emerging technologies entrenching racism, discrimination - Special Rapporteur on racism, Tendayi Achiume, presented her concerns in a report delivered on Wednesday to the UN Human Rights Council in Geneva.available at https://news.un.org/en/story/2020/07/1068441

[53] Aziz Z. Huq, Racial Equity in Algorithmic Criminal Justice, 68 *Duke Law Journal* 1043-1134 (2019) Available at: https://scholarship.law.duke.edu/dlj/vol68/iss6/1 p. 1078

"That is, if police activity is predicted by race, then subsequent policing (and hence the costs of policing) will be unevenly allocated by race. The result is greater black exposure to arrest and incarceration. Again, it is worth flagging the possibility of technical solutions. The computer science literature demonstrates that such effects can be buffered by incorporating an element of randomization into the algorithm."

[54] Page 9 European ethical Charter on the use of Artificial Intelligence in judicial systems and their environment

[55] As proposed by professor Daniele Amoroso. Daniele Amoroso, Autonomous Weapons Systems and International Law: A Study on Human-machine Interactions in Ethically and Legally Sensitive Domains, Nomos, 2020

[56] Independent rights expert says emerging technologies entrenching racism, discrimination - Special Rapporteur on racism, Tendayi Achiume, presented her concerns in a report delivered on Wednesday to the UN Human Rights Council in Geneva.available at

One of the venues to implement such safeguards is through legislation. It is relevant to note that the Brazilian ongoing law project 21/2020 recognizes non-discrimination as a cornerstone, states the importance of technical capacitation and accountability. According to project 21, stakeholders have, for instance, the right to access information, but there is no right to provide feedback on possible misdoings. The law project does not explicitly address the risk of racial discrimination, neither the diversity in the programmers' team, nor mechanisms to safeguard and counter racial discrimination, nor do the actions that humans must develop. We claim that measures to assure the diversity of the team of developers and (if possible the users), a set of activities that humans cannot delegate to AI (which amoroso calls primary obligations), ancillary obligations to assure the quality of human-machine relation, and mechanisms of the feedback loop are necessary. Another possible suggestion is to develop certifications, similar to ISSO for tribunals and program developers, like the current Project for the accreditation of artificial intelligence products in light of the European Ethical Charter's principles[57]. Brazil is starting to build its legal framework on AI and the system of justice. Racial discrimination must be considered to prevent reinforcing or aggravating the structural racism that, unfortunately, is part of Brazilian history.

https://news.un.org/en/story/2020/07/1068441 "States must also provide the full spectrum of effective remedies for those against whom emerging digital technologies have racially discriminated", she added. "This includes accountability for racial discrimination, and reparations to affected individuals and communities. As recent moves to ban facial recognition technologies in some parts of the world show - in some cases the discriminatory effect of digital technologies will require their outright prohibition.""

[57] "Following the adoption of the European Ethical Charter on the use of artificial intelligence in judicial systems and their environment in December 2018, the CEPEJ is currently exploring the feasibility of a certification mechanism for AI products used in judicial systems with regard to the Charter. This work will be aimed at public decision-makers, who will be able to use specific assessment criteria to evaluate AI tools and services, as well as the private sector, which is currently leading the development of AI tools and services, which would benefit from methodological and operational advice on how each principle of the Charter should be applied" https://www.coe.int/en/web/human-rights-rule-of-law/-/project-for-the-certification-of-artificial-intelligence-products-in-the-light-of-the-principles-of-the-european-ethical-charter-of-the-cepej .