

Sankof(A)I: Code as Cultural Artifact

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Abstract

In this thesis, the topic of Artificial Intelligence (AI) ethics is expanded to creating authentically curated databases, expanding the history and legacy of Black Americans. AI as a tool of education is a key to the future, but too often, AI perpetuates negative stereotypes and upholds caste systems in America. By utilizing databases that hold oral manuscripts, textbooks and scholarly papers, and various forms of media centering on Black American history, AI will

I. INTRODUCTION

What if the future could be changed through education of the past? As device technology has progressed over the last 20 years, computers have derived from their initial purpose of performing simple mathematical operations to simulating human intelligence processes. With the creation of artificial intelligence (AI), machines can learn how to acquire information, reason, and self-correct. While the possibilities of AI can be endless, there is a prediction of a future where biased AI will perpetuate unethical actions of the present. AI has been used for hate speech moderation on social media platforms like Facebook, but further constitutes “colonial technologies and materialize racial inequalities” (Siapera, 2021). Facebook policies are oriented towards the value of connection but have no safeguards for racism and discrimination (Siapera, 2021). Detroit police departments have purchased AI

be better trained and equipped to educate the world on the impact and importance of Black Americans rather than aid in weaponizing against them.

General Terms

Artificial Intelligence, Ethics, Theory.

Keywords

AI • Racism • Education • Black Feminist Thought

technology from companies like Microsoft, IBM, and Amazon to (mis)identify and arrest Black and Brown citizens like Robert Williams (Yadav & Heath, 2022). What do these have in common? The current use of AI aids the American caste system in discriminating on a faster and wider scale with the root idea of infallible technology. Too often we neglect the purposeful code embedded in AI that perpetuates racial and gender discrimination. Just as a human may learn, the same should be done with AI. This paper will examine the ways in which Black Feminist Thought (BFT), archaeology, and anti-colonialism can dismantle the bias of AI through curated Black American databases. The author is a twenty-one-year-old Black Lesbian student at Spelman College. Having gone to a historically all-women’s Black college in the South, education from a Black feminist lens has revealed the injustices of America and colonialist powers. While the future of AI is seemingly scary and uncertain, knowledge dissolves fear. The aim of this paper is to identify the

powers in place that have existed historically in the education and tech world, how these powers are demoralizing the use of technology, and how to teach AI the truest form of ethics through archaeology of curated Black databases.

II. Definitions

Artificial Intelligence (AI) - technology that enables computers and machines to simulate human learning, comprehension, problem-solving, decision-making, creativity, and autonomy

Black Feminist Thought (BFT) - an articulation of Black women's response to society and is intended to be a site for empowering Black women through self-definition and valuation (Collins, 2000).

Gender Bias - any one of a variety of stereotypical beliefs or biases about individuals on the basis of their gender

Griot - an African tribal storyteller and musician who preserves the genealogies and oral traditions of the tribe

Ethics - the discipline that studies standards of conduct, such as philosophy, theology, law, psychology, or sociology; a system of principles or rules or guidelines that help determine what is good or right

Sankofa - a Twi word from the Akan Tribe of Ghana, from the phrase "Se wo were fi na wosan kofa a yenkyiri," meaning, "It is not taboo to go back for what you forgot (or left behind)."

III. Machine Learning

Learning a task and improving performance comes through experience. Machine learning consists of a model, a parameter, and the learner (Reynolds, 2019). Shown in Figure 1, the input of user information is sent to the model, causing it to predict the results. The learner component compares the prediction with reality, then takes the differences between the two to modify the parameters being used in the model. This process repeats until predictions are sufficiently accurate (Reynolds, 2019). Machine learning is employed in many fields, such as in-depth understanding of the human genome, practical speech

recognition, and self-driving cars (Reynolds, 2019). In order for self-driving cars to identify objects—animals, humans, other cars, debris in the road—, sophisticated machine learning relies on feeding the model many images containing these objects. The model portion of the system analyzes the images, predicting what each object is. Initially, the majority of the predictions will be incorrect. The learner component of the learning system modifies the model parameters in scope of the initial errors and reality before trying again. AI is just like its creator: it must learn, and try again if it fails. The prediction-feedback-modification process continues, and parameters are adjusted until the model can correctly classify images.

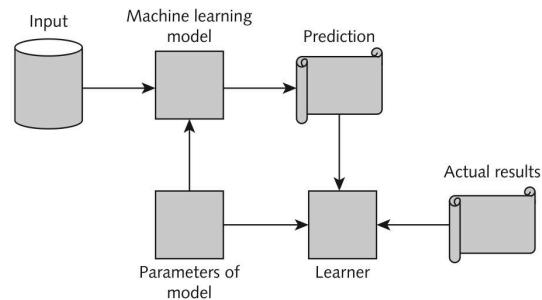


Figure 1: Components of a machine learning system.

The biggest challenge is creating ethical AI, as it is an enormously complex and challenging task. Without training in human rights laws, code written by software engineers can "violate and breach key human rights without even knowing" (Siau & Wang, 2020). There is such thing as Human Bias, such as gender bias and race bias. AI agents are only as informed as the data humans put into them. With datasets made by humans, "existing biases may be learned by AI agents and exhibited in real applications" (Siau & Wang, 2020). This is demonstrated in use of AI in the criminal justice system where discrimination based on race, gender, and ethnicity. Some defendants are "falsely labeled as high risk because of their ethnicity" (Siau & Wang, 2020). In order for AI systems to work efficiently, they must recognize patterns and adapt to new information. Depending on the database for the AI, it has a limited range of responses for each situation. What if a new database were to be created by Black computer scientists to incorporate Black American history and experience? The first step is to teach

Black Americans the technology and code behind this structure.

IV. Education in STEM

Science, Technology, Engineering, and Mathematics (STEM) is a fulfilling field with a rigorous education system. In particular, computer science (CS) curricula and teacher preparation have been pushed into the K-12 education system in the last decade. Yet, the creation of these courses is still embedded with racialized and patriarchal biases (Yadav & Heath, 2022). STEM culture asks its students to “perform” in the Western, Eurocentric viewpoint that perpetuates “autonomy, competitiveness, and individual achievement as delineating variables of success” (Roby et. al., 2022). Due to the nature of individualism, CS education can create environments that single out students who do not fit the mold of white racial identity, a cisgender male identity, or a close approximation of the two. The Advanced Placement (AP) CS Principles course is offered with the intention of broadening students of color in the CS field. As displayed in Figure 2, data from 2020 shows that of the 7% of Black students who took the AP CS Principles course, only 52% of Black students passed the AP exam (Yadav & Heath, 2022). In comparison, 43% of white students took the course with a 73% pass rate (Yadav & Heath, 2022). Why is it that Black students are not succeeding in CS? Inherently, there is already the “New Jim Code”: discrimination and biases embedded in the larger society are implemented in our technology (Yadav Heath, 2022). This translates into the way CS is taught in schools and the overall education system for Black students, as it is rooted in anti-Black rhetoric. This can be traced back through the historical treatment of Black Americans, newly freed slaves, and life post-Emancipation Proclamation. Anti-Blackness is found in the heart of the education system.

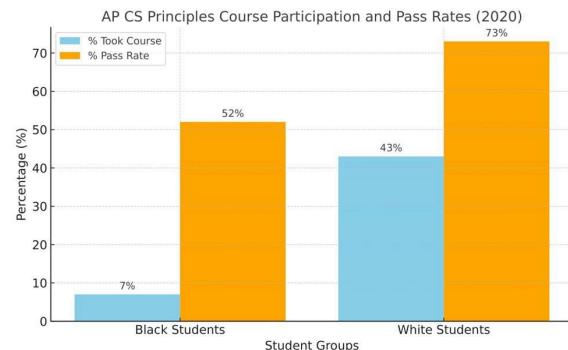


Figure 2: AP CS Principles Course Participation and Pass Rates

V. Anti-Black Education

Literacy education and access to knowledge have been dominated by white supremacist tactics aimed at the minds and hearts of Black scholars. Anti-Blackness is the continuation of chattel slavery, and stripping Black people from pedagogy underserves the community and the nation. America was built on the genocide of Indigenous people and forced labor of enslaved Africans, culminating in the precedent of viewing Black people as “non-human” (Griffin & Turner, 2020). Lack of humanity towards Black people since slavery has “justified” the neglect, surveillance, and violence of Black bodies. To educate is to feed the mind, propelling the imagination and capability of an individual. Black children were only allowed to attend Black schools where the resources were limited and hand-downs from the other white institutions. It was not until *Brown v. Board of Education* (1954) that racially segregated schools in America were deemed unconstitutional. By integrating these young minds, it gave access to newer tools of education and more opportunities. Unfortunately, the education system feeds false narratives to quell resistance and progress. With legal restrictions and limitations, the current school system upholds only white knowledge, claiming curricula as “white property” (Griffin & Turner, 2020). Literacy is a human concept, and withholding it is dangerous and inhumane. Just as former slave Frederick Douglass demanded his freedom, learned to write, and could conceptualize his experience, the same can be done with Black students. To create an educational environment where literacy and imagination can flourish is a key to

freedom for young Black scholars. Douglass wrote, “Once you learn to read, you will forever be free.” Active work must be done to dismantle the white view that is currently centered in education while putting emphasis on oppressed STEM spaces. To weed out the “white world” of technology education can pave a path to intellectual emancipation and impact the future of AI.

VI. White World In Contrast

Race and power structures maintained by caste systems are even considered during the creation of AI. Through “adopting a critical race theoretical and decolonial perspective,” author Syed Mustafa Ali explores and argues the phenomenon of race, religion, and Apocalyptic AI to serve as a strategy of maintaining white hegemony (Ali, 2019). The term *apocalypse* refers to both a revelation of God’s will and a belief the world will end soon. With global warming, political powers engaging in war, and civic unrest, the apocalypse is nearing just as AI is performing as a more useful tool. As the lines of privilege and power become more insidious, those who benefit from it do not care to acknowledge the risks (Cook, 2019). One way AI is being utilized is through establishing and maintaining the modern/colonial world system, which is framed as “algorithmic racism” (Ali, 2019). There is a white crisis or a reality in which hegemonic whiteness is being challenged by the nonwhite “other.” As AI becomes more advanced, a future of decision-making technology will root the ethics of the AI in the hands of its creator. In order to keep power for the racialized white, *algorithmic racism* is embedded in and weaponized for racial bias through AI usage. The Western countries were built on structures of power and hegemony from the colonial era, with lasting effects felt today. AI is organized with white historical databases, white facial recognition systems, and anti-Black governing at its core. This colonial technique enables “the governing of racialized subjects from a distance” and exclusion tactics to keep Black input from interfering with the all-white technical world (Siapera, 2021). When this Apocalyptic AI future white European Christians envision happens, what will become of the race and religions of humans? Will we all be grouped into one

category, and will our differences disappear? This would render them less powerful, or *powerless*, in a future of Apocalyptic AI. As we enter an era of posthumanism and transhumanism, the question rings if AI will be able to recognize these biases it was taught, to critique the power structures based on race, and disengage from a history of coloniality (Siapera, 2022).

VII. The Power of Imagination

Visualizing a Black Feminist Thought (BFT) future is a result of powerful imagination. Technology can be utilized by a community “whose past has been deliberately rubbed out and whose energies have subsequently been consumed by the search for legible traces of its history” (Hall, 2019). The power to code the future is present, and while much time has been spent uncovering the Black history that has been denied in the education system, combining technology and archaeology is a solution. R. Michelle Green wrote, “The black tech embracer maintains a fundamental belief in the inherent value of knowledge and its ability to enable a multiplicity of options” (Hall, 2019). Code is the key to cultural artifacts as we imagine technologies to be rooted in the communities they serve. Black communities thrive when they collaborate with each other. This contrasts the white CS world, previously mentioned as an isolating, individualistic perspective. One way AI can be used to empower Black communities is by creating databases of oral communication in addition to text-and-image-driven tools. Many scholars today have to take a Do-It-Yourself approach, pulling from their personal identities, experiences, and perspectives to counter structures of privilege. Examples of this include creative resistance through community-based creations based through spoken culture technologies (SCT):

1. Family Story Artifacts: A story can last a lifetime. Family story artifacts can act as devices that can be passed down through generations of African-American families, such that the next generation can hear the “words, tones, cadences and voices of their ancestors” (Hall, 2019). With audio clips tagged by the speaker or event, family

legacies can continue to live on without being constrained to images or writing.

2. Place-Based Story Capsules: Within Black communities, longtime residences of an area will have informal names of streets and reference landmarks. An example is Doctor Street, where the community's Black doctor lived. Place-based story capsules can be erected in these various locations, contributing to a new dimension of public to physical and digital maps.
3. Sounds of Our Lives Recordings: Black communities hold sounds that are unique to their lives. Archives of various recordings—from political chants and marches down the street to children playing jump rope and hand clapping songs—can paint the soundscape of the true Black American experience.

These SCTs can act as another tool of education and give voice to many people, including Black women who “historically have lacked access to formal education” (Hall, 2019). Another example of the DIY approach includes archeologist approaches such as Figure 3: ‘Built on Bones,’ an augmented reality app to “bring attention the dark legacies of colonialism by augmenting contemporary cities with bones of the past” (Cook, 2017). These tools would change which voices are privileged by technology and create space for the voices currently silenced. Carol McDavid promoted community discussion with his website *Levi Jordan Plantation*. As a part of a project to examine slavery and African-American culture, McDavid notes: ‘We wanted to learn if computers can be used to create “conversations” about archaeology and history among lots of different people.’(Cook, 2017). Through transhumanism and posthumanism with curated databases, we can unlearn and unbecome traditional social structures, further imagining a future where Black people are not the brutalized “other.”



Figure 3: Conceptual art for ‘Built on Bones’, an augmented reality app.

VIII. Reimagining the Future of Technology

To dismiss the views and knowledge of the target community, Black Americans, and exclude them from “participating in the definition of their own oppression” reinforces the same colonial tactics that forced them into America (Siapera 2022). As Black Americans find more avenues into the tech world, there is room to reimagine the future of technology by including ourselves in it. Often times, the software of CS has been argued to be always right, neutral, and a problem solver. The reality is that software is often incorrect, “embeds its creators’ values,” and creates more problems (Roby et. al., 2022). When tech companies hire Black computer scientists, they are not considering the ideas, experiences, or input on racial advancements for this Black body, but rather how quickly it can output its company milestones that effectively will come back to harm the non-white, non-male “other.” Being a “good” coder constitutes “understanding social contexts and the civic responsibility of coders to work towards more just futures” (Yadav & Heath, 2022). Tokenism will not save the Black community but rather trick the selected individual into thinking they are not aiding in the white hegemonic system. As education has become more accessible and more Black computer scientists emerge from undergrad programs, there is a future in which Black people can take control of the future with technology. “The future will be digital, but it will only be diverse and inclusive if, together, we make it so” (Cook, 2019). Audre Lorde stated you

cannot dismantle the master's house with the master's tools, and the same applies to structured AI bias. By configuring our own databases based on Black American history, experience, and education, AI can truly become a tool of our own design and no longer rooted in white crisis or Western coloniality.

IX. AI the Griot

AI is a tool, not a replacement for humans. To imagine a future where an automated response can pose as historical articles and textbooks, museums and visual archives, and artifacts of the Black experience can encourage and redefine the use of AI as a biased tool. Essentially, I imagine that AI would act as an African griot to store our oral tradition, which is the primary exchange of Black history and information. The "structures of discrimination, intimidation, and harassment have an unconscionably long history in archaeology," especially digital archaeology (Cook, 2017). With the web and technology allowing wider human interaction, there is more access to information than ever before with just shared experience. Documentation would feature the injustices and brutalization from American systems to the creativity and joy we forged during our time as enslaved and freed people. Unique databases that the AI would pull from would be open access and flexible digital formats, allowing diverse African diaspora history and narratives. Sankofa AI — technology that reminds us of who we are and where we come from and allows us to never forget. The digital world has "reformulated the ways in which we engage with the past and produce knowledge in the present" (Cook, 2017). With the right education, AI will have finally had the Black perspective to learn from, widening its range of racial understanding and the inherent ignorance embedded in the power structures of America. History must not be forgotten or rewritten, as that is what AI is currently reinforcing. By keeping conversations surrounding power structures and racial caste systems alive, AI will gain the same education as humans to discern when racial biases are at play and evolve from that mindset. It's also important to acknowledge the environmental and social issues in which AI is rooted. We get our technology resources forcefully from Africa. Yet, the African Diaspora is not

considered in the usage of technology. American capitalists produce more than Africa, which is a result of "break[ing] the people and expropriat[ing] raw materials and wealth" (Hall, 2019). Through mining of Cobalt in the Congo, children and adults work under dangerous and exploitative conditions while Amazon's CEO acquires innumerable financial gain. This is another example of how the Black body is used for the profit, emphasizing it is a global issue. Distributive injustice is the "consequence of existing asymmetries in power and influence" that white supremacy encourages (Heilinger, 2022). As well, the environmental effects of AI result in toxic waste that remains when the devices are no longer in use (Heilinger, 2022). Although Black Americans are high consumers technology, it does not reflect their ability to control it. Technology has the power to direct our attention, but it can also serve as a distraction from what matters. There is room for diverse technology to be created to solidify and memorialize our history, creating a technological world in which Black people are included.

X. Conclusion

Without risk, there is no reward. To envision a future where technology is not weaponized against Black Americans, educating AI can reverse the colonial powers that control it. There are hindrances to Black people succeeding in education on CS, but the root of this prevalent issue is due to the white Western education system decentering and actively pushing out Black intentionality. Anti-Blackness exists from the colonial past and current power structures, however, the story need not end there. Black computer scientists like myself have the tools to shape the technological future, including the future of AI. With databases created to curate the Black experience, history, and imagination, AI could be used as an African griot. Education through oral tradition, preservation of family lineage, and the abolition of white hegemony and supremacy can inform AI, the world, and ourselves.

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