**IMPACT ANALYSIS**

Global competitiveness has increased as a result of AI, both between nations and between businesses, leading to faster technological advances and the formation of strategic alliances. In the military sector, the integration of AI into autonomous systems and drones has sparked concerns about an arms race in automated warfare raising ethical and strategic questions regarding international security (Roper, 2020). Furthermore, global problems such as climate change, public health, and cyber security can be addressed more effectively through international cooperation in AI research and development. It is crucial to have agreements that facilitate knowledge sharing and encourage use of technology.

In the environmental field, artificial intelligence is used in the optimization of energy management, helping to reduce energy consumption in buildings and industrial processes (Li, 2023). This contributes to the reduction of greenhouse gas emissions and the sustainable use of resources. Moreover, AI models enhance the precision of climate forecasting, which is crucial for natural disaster management and climate change adaptation. AI is also used in the identification of endangered species, wildlife monitoring, and conservation of fragile ecosystems (Onpassive, 2023). These efforts contribute to the preservation of biodiversity and protection of habitats.

On the negative side, training AI models, especially large ones, requires significant computational resources, which in turn consumes a lot of energy. As datasets and models become more complex, the energy needed to train and run these models increases, directly affecting greenhouse gas emissions. Since 2012, the amount of computing power required to train cutting-edge AI models has doubled every 3.4 months. By 2040, emissions from the Information and Communications Technology (ICT) industry are expected to reach 14% of global emissions (Kanungo, 2023).

In the social field, as AI automates routine tasks, the labor market may be disrupted. This raises the need for or employment retraining initiatives and job creation in technology-related areas. Automated AI-based decisions may reflect inherent biases in training data, which can lead to discrimination in areas such as employment, housing, and justice. Ensuring fairness in AI systems is a major challenge (Sheikhansari, 2023).This technology is also utilized for medical diagnosis and personalized care, both of which have the potential to improve medical care. However, concerns of privacy and data security must be addressed in healthcare (Murphy, 2023).

AI systems can be used for malicious actions, since Ai tools can generate realistic-looking text, images, and videos, such as *deepfakes*. These are synthetic media in which a person in an existing image or video is replaced with someone else’s likeness, making it look like the person is saying or doing things they never did. This can be used to spread false information that appears credible, damage reputations, manipulate public opinion, and incite conflicts (Villasenor, 2020)

Artificial Intelligence technologies, hailed for their objectivity and efficiency, have permeated various sectors, including the criminal justice system, promising more informed decision-making. However, the application of AI, exemplified by the Correctional Offender Management Profiling for Alternative Sanctions (COMPAS) program in the United States, raises significant concerns, especially in the context of bias and discrimination. In this case, the use of biased AI algorithms exacerbated existing social and economic disparities. Black individuals, who were already disproportionately affected by systemic disadvantages, faced additional hurdles due to biased sentencing (Buranyi, 2017). The unjust imposition of harsher sentences deepens the cycle of disadvantage, limiting opportunities for affected individuals and their communities. In this way, biased AI algorithms not only reflect societal inequalities but also actively reinforce and perpetuate them.

In the economic field, AI can boost productivity by automating repetitive tasks, allowing workers to focus on more creative and strategic activities. AI drives innovation in industries such as education, precision agriculture, autonomous mobility, personalized healthcare manufacturing, logistics and customer care. This creates economic opportunities and new markets, and has the potential to change the economic structure of regions and countries, requiring adaptive policies and support for affected industries. Unfortunately, the economic impact of AI is not evenly distributed. Companies and individuals with access to technological resources and skills may profit more. This raises concerns about economic inequality and the need for measures to address it (Bughin et al., 2018).

*AI Harmony: Classifying Songs As Rock Or Hip-Hop With Artificial Intelligence*

This Artificial Intelligence project can serve as a prototype or proof of concept for more complex music genre classification systems. It provides a starting point to assess the feasibility and potential utility of such systems before expanding to include additional genres.

In the music industry, artists and record labels often use binary genre labels as a marketing and promotional strategy. It allows them to target specific audiences and demographics more effectively.

From a resource perspective, using a binary classification approach often requires less computational power and storage compared to multi-class classification. This efficiency can be particularly important in real-time or resource-constrained applications.

On a negative side, since this project aims to determine which attributes are significantly influential to classify a song as either hip-hop or rock, the obtained results may bias composers and musicians of this genre, limiting their view of what makes a hip hop or rock song. This can lead to them not trying to experiment on the creation of new songs, thus stagnating these genres.

As this project identifies the attributes that make a song hip-hop or rock, its results can help musical producers, making their creative process easier. As this can benefit people who take advantage of these technologies, it can cause great disadvantages to producers who don’t, and may even cause - in a worst case scenario - a monopolization of the hip-hop and rock industries by the first group mentioned above.

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