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COMMENTARY

Leveraging Artificial Intelligence in the Field of Social Policy against Social Inequalities: The Current Landscape

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Abstract

Artificial Intelligence (AI) has become an integral part of daily human activity in both societal and political terms. Thus, it has also rapidly grown into a tool of ever-growing importance for addressing social inequalities. The increasing adoption of AI in various economical and societal aspects of daily life has significant implications for social welfare and policy development. This commentary attempts to bring the issue of the deployment of AI in social policy into the fore, examining its potential in countering and mitigating inequalities and disparities in various areas of life such as healthcare, education, and economic empowerment. There seems to be a scientific consensus that AI can be effectively utilized to mitigate social inequalities.

Keywords: AI, Economic Empowerment, Education, Employment, Healthcare, Social Inequalities, Social Policy

Introduction

Throughout human history, social inequalities have always been part of the social life, especially in industrial and post-industrial capitalist societies. Social policy aims to promote social welfare and address inequalities within society. Traditional methods have often been hampered by limited resources and inefficiencies. In this post-modern social, financial and political landscape, AI offers a transformative potential by providing data-driven insights, automating processes, and enabling more personalized interventions.

Social inequalities have historically been a constant and pervasive issue across the globe, with significant implications for individual well-being and societal cohesion. The use of Artificial Intelligence (AI) in social policy has the potential to address these inequalities by improving the efficiency and effectiveness of policy interventions. This commentary aims to provide an overview of

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the current state of AI applications in social policy.

Current State of AI in Social Policy

The use of Artificial Intelligence (AI) in social policies is a rapidly evolving field that has significant implications for addressing social inequalities. There is a scientific consensus that AI technology can play a pivotal role in public policy formatting, modeling, planning, implementing and evaluating such social policies (Henman, 2022; Margalit & Raviv, 2023; Ruiz Estrada, Park & Stainewski, 2023). AI applications in social policy are diverse and include areas such as education, healthcare, and economic empowerment. In this paper, the current state of AI in social policy is discussed, highlighting both the benefits and challenges it faces, and identifying key areas where AI can be effectively utilized to mitigate social inequalities.

AI has been increasingly utilized in various social policy domains, including education, healthcare, and economic empowerment. For instance, AI-powered chatbots have been employed in healthcare to improve patient engagement and access to healthcare services (Lohmann et al., 2021), while AI-driven educational platforms have also been developed to enhance personalized learning and improve education results (Dai, 2013). The integration of AI in social policy offers several benefits, including improved data analysis, enhanced decision-making, and increased efficiency. However, there are also challenges associated with AI adoption, such as data bias, job displacement, and the need for significant infrastructure investments (Mustafa, 2023).

AI in Healthcare

AI technologies are revolutionizing healthcare by improving diagnosis, treatment, and patient management. AI-driven diagnostic tools can identify diseases at early stages, particularly in underserved communities where medical resources are scarce (Esteva et al., 2017). At the same time, machine learning is already being used in forecasting hospital re-admissions – an important factor on evaluating healthcare and health policies – a process with important economic significance (Michailidis et al., 2022). In addition, AI algorithms can analyze large datasets to identify health trends and predict outbreaks, enabling proactive public health interventions (Rajkomar et al., 2018). Moreover, AI has the potential to reduce health disparities by personalizing medical care. Machine learning models can tailor treatment plans to individual patients based on genetic, environmental, and lifestyle factors, thus addressing the specific needs of marginalized groups (Obermeyer & Emanuel, 2016).

However, there is a risk of perpetuating existing biases if the data used to train AI systems is not

representative of diverse populations (Mehrabi et al., 2019). Furthermore, AI-powered chatbots have been used to improve patient engagement and access to healthcare services. For example, a study found that AI-powered chatbots can significantly reduce the time spent by patients in healthcare facilities, improving patient satisfaction and reducing healthcare costs (Peña-Acuña, 2023).

AI in Education

Educational inequality is a significant barrier to social mobility and economic development. Traditional educational systems often struggle to meet the diverse needs of students, particularly those from marginalized communities. AI-driven educational platforms have been developed to enhance personalized learning and improve educational outcomes. In education, AI can provide personalized learning experiences, helping to bridge the achievement gap. Adaptive learning systems adjust the curriculum based on the student's learning pace and style, providing targeted support where needed (Holmes, Bialik & Fadel, 2019). This is particularly beneficial for students from disadvantaged backgrounds who may not have access to additional tutoring resources.

Moreover, predictive analytics can identify students at risk of dropping out or underperforming, allowing educators to intervene early (Baker & Siemens, 2014). By analyzing patterns in student data, AI systems can recommend tailored interventions to improve academic outcomes and retention rates. These platforms can adapt to individual student needs, providing tailored content and support. Additionally, AI can be used to analyze student data and identify areas where interventions are needed, allowing for more targeted and effective policy decisions (Schiff, 2021).

This technology in general, can combat established inequalities. AI-powered chatbots and virtual tutors can provide students with additional support and resources, improving access to education for less privileged students (Bohnenberger, 2023) who can be in danger of marginalization. Adaptive learning systems use AI to customize educational content to individual learners' needs, enhancing engagement and comprehension. These systems analyze student performance data to adjust the difficulty and type of content delivered, ensuring that each student receives a tailored educational experience (Pane et al., 2014). For instance, platforms like DreamBox and Knewton use algorithms to provide real-time feedback and adjust lesson plans to suit individual learning paces and styles (Johnson et al., 2016).

Intelligent Tutoring Systems (ITS) provide personalized instruction and feedback, simulating one-on-one tutoring. These systems, such as Carnegie Learning’s Cognitive Tutor, use AI to understand students' problem-solving processes and offer targeted support to address specific weaknesses (VanLehn, 2011). Research shows that ITS can significantly improve learning outcomes, particularly for students who lack access to quality tutoring resources (Kulik & Fletcher, 2016).

AI in economic empowerment

Artificial Intelligence (AI) is transforming the economic landscape by creating new opportunities and reshaping existing ones. Economic opportunity is a cornerstone of social policy, crucial for promoting social mobility and reducing inequality. AI offers unprecedented opportunities to enhance economic activities through automation, data analysis, and personalized services.

Machine learning can achieve high levels of forecasting accuracy concerning unemployment (Gogas, Papadimitriou & Sofianos, 2021) and thus, timely plan, format and implement the necessary policy tools in order to prevent social, economic, financial and political turbulence. Also, AI-driven platforms are revolutionizing the recruitment process by using algorithms to match job seekers with suitable opportunities. These platforms analyze vast amounts of data, including resumes, job descriptions, and market trends, to recommend positions that align with candidates' skills and experiences (Brynjolfsson & McAfee, 2017). For example, platforms like LinkedIn and Indeed use AI to connect employers with potential employees more efficiently.

In another matter of equivalent importance, AI tools can augment human productivity by automating routine tasks and providing decision support. In industries such as manufacturing, AI-powered robots and intelligent systems are improving efficiency and reducing the need for manual labor (Acemoglu & Restrepo, 2018). This shift allows workers to focus on higher-value tasks, potentially leading to higher wages and better job satisfaction.

Conclusions

Artificial intelligence is now present and has spread across all areas of human activity like a giant octopus. Social policy is no exception. AI holds significant promise in addressing social inequalities through its applications in healthcare, education, and economic empowerment. However, realizing this potential requires careful consideration of ethical issues, including bias, data privacy, and the digital divide.

In addition, known artificial intelligence programs are unable to perceive, understand and express emotions, a virtue necessary for the subtler aspect of social politics, that of developing «empathy», the ability to put the therapist in the shoes of the treated. As the ancient Greek philosopher Heraclitus taught us though, "Everything flows." For yet another critical moment in human history, science is faced with an enormous challenge.

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