**The Ethical Perspective of AI Systems In Predicting Long-Term Unemployment**

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CCJ3071: Artificial Intelligence for Social Good

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February 16, 2024

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LTU, also known as Long-term unemployment, means being out of the workforce for over a year while actively seeking out to find employment. This issue has often affected certain groups over time, moreover minorities. Now, we're using AI more and more to help with hiring along with figuring out who might stay out of work for a longer period of time. This tech has the ability to be a suitable way to make things more efficient, but it also brings some interesting problems. Although AI has the potential to improve long-term unemployment prediction accurately, its application has raised many ethical issues as well as questions related to privacy, bias, and data misuse.

The case study by Martínez de Rituerto de Troya et al. (2018) highlighted that Portugal had one of the highest rates of long-term unemployment in Europe, with women, older workers, and individuals with disabilities being the ones disproportionately affected. This situation has led to these groups, more often than not, having the same disparity in income together with social status as others. For example, if an AI system is trained on data that shows how women were unemployed for a longer period from 2007 to 2017, it might start to prefer hiring men, thinking they're less likely to be out of work for long. This is not a fair assessment because it uses past issues to make decisions for the future, keeping the same unfair patterns repeating.

Although racial or ethnic bias isn't specifically addressed in the case study by Martínez de Rituerto de Troya et al. (2018), the ethical issues raised by gender, age, and disability can also apply to the racial or ethnic bias. While creating AI models to forecast long-term unemployment, it is important to take into account how different racial and ethnic groups are represented in the data. When previous violations or societal biases are present in the training data, bias might develop and cause the AI to make predictions that unfairly reject particular racial or ethnic groups only within the bounds that it is given.

For example, the AI model might mistakenly conclude that people from particular racial groups are more likely to experience long-term unemployment if the data indicates a higher prevalence of unemployment within those groups due to systemic concerns like discrimination in hiring processes throughout the past. This could result in a vicious loop where people in these groups are unjustly selected for more extensive job-seeking assistance programs or are mistakenly denied jobs due to inaccurate risk assessments. To eliminate such preconceived notions, we must ensure diversity in the data.

The effective utilization of AI to forecast LTU is crucially reliant on protecting personal data and ensuring that such information is not shared improperly. The case study data contains a lot of personal information, including but not limited to geographical locations, disabilities, job performance, and various demographic details such as gender, race, and past income. The incorporation of such intimate details into an algorithm's dataset raises profound privacy issues. Not only does this raise the question of consent along with the individuals' awareness of their data being used in such a manner, but it also poses the risk of this data being accessed by unauthorized third parties, which could lead to exploitation or discrimination.

The case involving Facebook and Cambridge Analytica is a significant example of sensitive information being shared without consent. In 2018, it came to light that Cambridge Analytica had accessed the data of up to 87 million Facebook users without their consent (Raymond, 2022). The data was used for voter profiling and targeting in the context of political campaigns. The incident with Facebook and Cambridge Analytica shows the serious risks of ignoring safety measures. It's a warning for future tech projects, especially those dealing with sensitive information. Robust privacy safeguards must be established to ensure that personal data utilized for LTU prediction does not become a tool for unfair practices. The use of AI affects real people and society, so we must handle it with great care and respect for everyone's privacy.

Predicting LTU using AI can raise ethical questions similar to hiring processes. In chapter six of "Weapons of Math Destruction," Kyle Behm's rejection based on a personality test demonstrates the risk of discriminatory practices (O'Neil, 2016, pp. 102-116). Similarly, AI algorithms that forecast unemployment may unjustly target or exclude people based on biased inputs, such as gender, race, or disability. This comparison highlights the possibility that, although intended to help governments develop policies, these predictive models might unintentionally reinforce societal injustices and systemic biases.

Ethical issues, such as bias and discrimination, intersect in AI's role in hiring and unemployment prediction, yet their applications diverge significantly in scope and outcome. AI selections for employment directly impact people by deciding who receives a job offer and who does not. In contrast, AI in LTU prediction affects larger social groups and broader economic policies. What kind of data is used also varies; while LTU prediction often relies on more sensitive personal data, which raises privacy concerns, hiring through AI may emphasize professional credentials more. Furthermore, the goals between the two vary as well. AI recruiting tools look for a person who would be the best fit for the position. In contrast, LTU predictions usually try identifying unemployment-risk groups, which may lead to discrimination.

Government and public institutions increasingly use algorithmic systems for decision support and decision-making. Decisions made by these systems must be clear to those in the position of managing them, whether they are public servants, case workers, or somebody else, and the individuals for whom they are making decisions, as a consequence, must have access to actionable recourse. While it is impractical to expect civil servants who interact with the public to understand a predictive algorithm's inner workings fully, we should help them comprehend the final decisions these systems make. Trust in these systems is also essential for users to actually utilize system output rather than ignore it.

In “Data-Driven Approach for Predicting and Explaining the Risk of Long-Term Unemployment” by Linan (Frank) Zhao, a tool that ensured fairness and transparency in an efficient model for long-term unemployment was the use of Aequitas (Zhao, 2020). Aequitas Aequitas was the foundation of providing the frame of reference for surveying AI learning models, which would allow researchers to classify the true existence of biases across various diverse demographic groups (Zhao, 2020). By leveraging Aequitas, Linan Zhao has demonstrated how workforce management needs an understanding of commitment to true transparency and identifying accountability in AI decision-making (Zhao, 2020). An approach like this not only gains a greater reliability of performance in predicting but also improves the quality and trust in the various outcomes generated by the algorithms

Researchers can look through the lens of Aequitas and perceive the true fairness and effectiveness of the models, improving many organizations in their decisions that not only increase inclusivity and diversity but effectively improve the performance of the hiring processes. By integrating Aequitas into the LTU framework prediction, advocating for an approach that promotes social justice and equality while also still being data-driven is grounds for all work practices to strengthen.

AI's predictive capabilities offer a promising tool for tackling LTU. However, the ethical concerns—stemming from potential bias, privacy invasion, and misuse of data—cast a shadow over these systems' unregulated deployment. AI’s potential in predicting LTU is promising, yet ethical concerns like bias and privacy infringement loom large. Balancing benefits with ethical considerations is crucial to ensure these models serve the public good without exacerbating social disparities or violating individual rights.

**References**

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