NeuroComputational Ethics, Automation and the Future of Work

Introduction

Artificial Neural Networks (ANNs) and automation technology in general raise important social and ethical concerns, especially about accountability, autonomy, dignity, and justice.

We focus on the specific concerns arising from how the emerging automation technology will affect the workforce of the future, including increasing the indirect pressure to use neuroenhancement.

We adopt the view that we must engage with stakeholders or their representatives to understand the implications of a technology that might directly or indirectly affect the stakeholders’ (workers) lives, livelihoods, or wellbeing.

Methods

We recruited and conducted 12 open-ended interviews with a diverse sample of workers

- Interviews were structured to understand the ethical and societal challenges from their perspective during the implementation of automation.
- Data analysis was carried out concurrently with data collection to enable the integration of information from each step of the process.
- Codes were developed by using abductive analysis, a form of qualitative content analysis that combines elements of both induction and deduction
- Five analytic stages were employed:
  1. (i) familiarization with the data through transcript reading
  2. (ii) identification of a thematic framework reflecting the ideas discussed;
  3. (iii) indexing the data, i.e., identifying patterns across the transcripts;
  4. (iv) charting the data
  5. (v) mapping and interpreting the data (making sense of the data holistically)

Results: Trends and Observations


Further subcodes were then developed for expansion of themes with new data

Theme 1

- General trend is that less than 50% of applications were sent to the employment centers.
- Only 3 subjects indicated being in the workforce for 10 years and the only stress to have given no indication of ever having completed a full-time education.
- Attitude towards work associated with automation is different when asked from the perspective of a worker who applied for a job that they believe they are not suitable for their current work.
- Overall employees are satisfied and those who are not are currently working towards obtaining further education.
- Sense of purpose satisfaction from work appears to be linked with how connected they feel with other people.
- Positive attitude towards work.

Theme 2

- Health is a pretty safe field right now (though indicated being healthed and healthful is often seen as a positive attribute).
- Higher skill job more applications will come in data and computer science an increased earning 5th application.

Theme 3

- Healthcare is a pretty safe field right now (though indicated being healthed and healthful is often seen as a positive attribute).
- Higher skill job more applications will come in data and computer science an increased earning 5th application.

Conclusion

We find that although workers agree that automation will significantly impact future of the workforce with opening new jobs, they are apprehensive about the prospects of immediate job loss and want their employers to be straightforward in how the introduction of automation will affect them.

Workers have sophisticated views; they understand the limitations of automation and identify the threat to others livelihood; they express value in their own vocation and refuse to believe that it could also be automated.

We submit that these findings, based on direct inputs from workers, should be considered seriously in decision-making about questions of socioeconomic justice.