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Dr. Órla Hayes, *Postdoctoral Researcher with HECAT in SETU Waterford and the SETU HECAT team*, has written a blog on the needs for Standards in Public Employment Services.

Public Service Algorithms: The Need for Standardisation Now

Across their lifetime 50% of people in OECD countries will engage with Public Employment Services (PES). Of these, many will be allocated interventions through the arbitration of a profiling algorithm, designed to predict those most at risk of Long-Term Unemployment. However, concerningly, few are aware of the very application of such models in their unemployment journey and transparency pertaining to such systems is shallow.

As debate surrounding AI, spurred further by the recently vindicated EU AI Act^[1], continue to rage, the discussion of transparent and open AI systems and their application in daily life continue to the mainstream. Additional concern calls for ethical navigation of these modelling systems, considering the human, data subject at the heart of such models across their design, development and deployment.

With this in mind, the need for open and transparent public service algorithms becomes a key priority where digital-first approaches to PES allocation continue to be advanced globally. While approaching regulation will go some way in regulating AI application in everyday life, there is still much thought needed on the effects of algorithms that both profile and contribute to decision-making across public services. This short blog considers the need for timely standardisation of such models.

Adoption of Profiling Algorithms in Public Employment Services

In an age where technology-first approaches are seen as increasingly viable, the datafication of public services is undertaken as a means of digitalising, modernising, and providing enhanced service efficiency (OECD, 2019). Governments, in particular, see the increased benefits and value of adopting such data-driven technologies as entities that possess large arrays of valuable datasets, both historical and current (Redden, 2018). Especially prevalent is the increased adoption of modelling, where profiling algorithms have become a key resource in the provision of advanced employment services (Griffin et al., 2020).

Here, decision-making, based on machine discernment is replacing the judgement, based on professional experience and tacit knowledge, of PES employees, namely caseworkers. The automated nature of algorithm support has much potential to increase decision-making effectiveness and service quality. However, the efficiencies and proficiencies of such systems are based on a range of ethical considerations, including thought for statistical accuracy, potential for misuse and bias and low trust in automated systems from the general public. Increasingly, calls for advanced transparency and openness regarding PES' use of algorithms recognises the array of potential social and ethical issues associated with the use of these tools. For PES, an increased need to balance efficiency, with equality becomes apparent as further examination of statistical profiling tools emerge (Desiere and Struyven, 2020).

Why A Reporting Standard Is Needed

To date, much of this form of modelling remains unregulated, again contributing to growing possibilities for harm. Indeed, as algorithm profiling becomes a new norm within PES, there is an expanding need to examine the ramifications of such technologies in front-facing public services. Though efforts have been made to provide standardisation recommendations in pursuit of worthy AI use, including the forthcoming EU AI Act, little has been explored in relation to public services where AI, Machine Learning (ML) and automated technologies such as algorithms continue to increase in adoption (OECD, 2022). Most of these systems are designed, built and deployed by commercial companies who have little understanding of the effect that it can have on end-users.

Key Requirements of a Public Service Reporting Standard

As such, reporting standards need to be created with specificity for public service algorithms and AI adoption. In preparing reporting standards, a detailed explanation of algorithm design, development and deployment must be maintained. It is also important to clearly note the processes and variables involved in such decision systems and how they particularly affect the end user. In PES, this is not presently the norm. Transparency should be a key component of all reporting standards where algorithms are concerned. This is paramount for maintaining trustful, ethically minded systems and is one of the most widely noted guiding principles in ethical modelling design (Ryan and Stahl, 2020).

Though the ideal scenario would see extensively transparent and open reporting on all aspects of public service profiling algorithms, minimum reporting standards suggested providing the basis for ensuring advanced visibility to all stakeholders. These are summated in what is coined by HECAT the 'appliance label', a visual representation on the elements that need to be reported on in all application cases to provide minimum transparency.

These include reporting on the following:

- Precision on variables used and weighted
- Precision on training data and revision/learning approach
- Precision on the imposed capacity constraint
- Reporting on disaggregated false positives and false negative data
- Formal post-hoc/outrun accuracy

HECAT have recently published a policy brief entitled "Algorithm Profiling in Public Employment Services (PES): Reporting Standards" which can be found here: <https://zenodo.org/record/7921614>

References

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Supplementary Information

HECAT is a multi-disciplinary research consortium brought together to achieve the mammoth task of developing an ethical, algorithmic based platform to assist Public Employment Services (PES) and unemployed people in making informed, transparent, and integrated decisions.

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[1] The AI Act is currently undergoing amendments The latest draft version is available [here](#)

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