



Response to:

Australian Human Rights Commission
Human Rights and Technology Discussion
Paper

March 2020

Introduction

pymetrics is pleased to provide a response to the Australian Human Rights Commission *Human Rights and Technology Discussion Paper*.

We contributed to the original request for submission and note that some of our discussion points and examples are included in the Discussion Paper.

Before we move to our responses to specific proposal and questions in the Discussion Paper, here is a reminder of who we are and what we do.

pymetrics

pymetrics is an enterprise Software as a Service (SaaS) company that offers a talent matching platform that makes workforce decisions - from talent acquisition to talent management - more efficient, accurate, and fair. Instead of using resumes, we measure the cognitive, social, and emotional attributes of individuals and use a data-driven approach to match them with the right job - based on their potential, not their pedigree. Founded in 2013 by Harvard and MIT-trained PhDs, pymetrics uses neuroscience data and artificial intelligence (AI) to help global clients like Unilever, Accenture and LinkedIn reduce the time to hire by 75%, increase hire yield by 100%, decrease costs by 25%, while hiring their most diverse teams. We have over 80 enterprise clients and offices in New York City, London, Singapore, Melbourne and Sydney. More than 1.5million job candidates around the world have played pymetrics' games.

Access to employment is a lifeline. Sexism and racism in hiring, job loss from automation for the working class, and lack of access to good jobs for disadvantaged populations all prevent access to employment. pymetrics tackles all these using behavioral science and AI.

pymetrics replaces the resume as a first-pass filter by using online game play to assess candidates based on their true potential – their inherent cognitive, emotional, and social make-up. Using algorithms that are trained on high-performing employees at a company, pymetrics builds a trait profile of a company's top performers to select best-fit talent. These algorithms are proactively audited for demographic bias using an algorithmic bias detection tool, which evaluates candidates based on their traits rather than their resume, reducing the likelihood of implicit bias against applicants based on gender or race that is sadly common in the traditional hiring context. If a person is not appropriate for the initial job, pymetrics will match the individual to other opportunities within the same or at a different company.

pymetrics was named a Technology Pioneer by the World Economic Forum for its breakthrough work to bring efficacy and equality to the hiring process. The World Economic Forum's Technology Pioneers community are early-stage companies from around the world that are involved in the design, development and deployment of new technologies and innovations, and are poised to have a significant impact on business and society.

Response to Proposal 1

The Australian Government should develop a National Strategy on New and Emerging Technologies. This National Strategy should:

(a) set the national aim of promoting responsible innovation and protecting human rights

(b) prioritise and resource national leadership on AI

(c) promote effective regulation—this includes law, co-regulation and self-regulation

(d) resource education and training for government, industry and civil society.

pymetrics supports the creation of a National Strategy on New and Emerging Technologies, but notes that any legal, co-regulation and self-regulation must be devised and applied in a context-specific manner.

Developers and innovators need to think about the specific environment in which their systems will be used and consider the impact within that environment. Algorithmic guidelines must therefore reflect the relevant laws and norms of the space in which they are being used.

For example, the industrial organisational (IO) psychology team at pymetrics identifies whether AI services can meet the client's needs in the fairest way possible. We believe that this context-specific approach to governance is ideal for mitigating the risks of AI and maximising its utility.

We then have the ability to test every hiring model we build for fairness by committing to a specific definition of statistical discrimination and never deploying technology that violates this rule.

The standards for fairness that pymetrics adopts are informed by legal requirements. Backtesting through Adverse Impact Testing, provides further evidence of fairness. As a pre-hire assessment, pymetrics models must pass the US Equal Employment Opportunity Commission's four-fifths rule for gender and race/ethnicity. While other jurisdictions have not necessarily settled on a firm threshold, like the four-fifths rule, the underlying concept of proving discrimination statistically is not unique to the U.S.

There is nothing inherent in the design of pymetrics' technology that requires the U.S. standard to be used in all contexts, but we have found that the rationale has translated easily across diverse clients. In working with many international employers, pymetrics regularly explain our default to the four-fifths rule to companies around the world, because we believe transparency is critical for building trustworthy automated HR solutions. If employers or governments were to develop their own statistical definitions of discrimination, we could easily incorporate these into our systems. In fact, pymetrics' clients often ask for a more rigorous standard of fairness than what U.S. law requires.

Response to Proposal 2

The Australian Government should commission an appropriate independent body to inquire into ethical frameworks for new and emerging technologies to:

(a) assess the efficacy of existing ethical frameworks in protecting and promoting human rights

(b) identify opportunities to improve the operation of ethical frameworks, such as through consolidation or harmonisation of similar frameworks, and by giving special legal status to ethical frameworks that meet certain criteria.

pymetrics believes that whilst ethical frameworks are important vehicles for communicating broader societal norms, any ethical framework related to protecting human rights must be evaluated for its practical utility - that is how it can be made actionable for stakeholders developing and using new technologies.

When considering how to make ethical any framework(s) actionable across multiple contexts, pymetrics would highlight the Singapore Government's [approach](#) to its AI Model Governance Framework which revolves around two high-level principles for promoting the trust and use of ethical AI technologies: 1. Explainable, transparent and fair processes and 2. Human-centric solutions.

Singapore's Model Framework takes a sector and technology-agnostic approach that complement's sector-specific requirements and guidelines (see response to Proposal 1 related to context-specific legal, co-regulation and self-regulation).

To ensure and encourage its practical application, an Implementation and Self-Assessment Guide for Organisations ("ISAGO") has been developed to help organisations assess the alignment of their AI governance practices with the Model Framework. It also provides an extensive list of useful industry examples and practices to assist with implementation. In addition, the Compendium of Use Cases demonstrates how local and international organisations across different sectors and sizes implemented or aligned their AI governance practices with all sections of the Model Framework. The Compendium also illustrates how the featured organisations have effectively put in place accountable AI governance practices and benefitted from the use of AI in their line of business.

The Australian Government should consider including similar initiatives to run in tangent with any ethical framework(s) to ensure and encourage practical utility.

pymetrics contributed several practical examples to the Singapore Government's [Second Version of Model AI Governance Framework](#) and would welcome the opportunity to contribute similar to any Australian Government initiative.

Response to Proposal 8

Where an AI-informed decision-making system does not produce reasonable explanations for its decisions, that system should not be deployed in any context where decisions could infringe the human rights of individuals.

In areas where we currently expect the decisions being made about us to be logical and explainable, AI should be held to a similar standard.

For example, pymetrics was founded with the core principle of using only explainable algorithms. We operate in the hiring and talent management space and this reflects our sector-norms; candidates may not always get a detailed explanation of why they did not get a job, but should have the confidence and expectation that were they to ask for one, a logical and explainable justification exists.

However, when it comes to highly complex AI-driven technologies that involve deep learning, oversight is much less meaningful and careful consideration should be made as to whether the benefit of its deep learning output outweighs the difficulty humans may have in interpreting its decisioning.

Response to Proposal 13

The Australian Government should establish a taskforce to develop the concept of 'human rights by design' in the context of AI-informed decision making and examine how best to implement this in Australia. A voluntary, or legally enforceable, certification scheme should be considered. The taskforce should facilitate the coordination of public and private initiatives in this area and consult widely, including with those whose human rights are likely to be significantly affected by AI-informed decision making

pymetrics believes that mandatory third-party audits should be used to ensure the responsible use of algorithms applied to certain key decision making – for example, education, healthcare, financial services and employment. Knowing that they will face such an audit, developers should be encouraged to engage in a more conscientious design process before being released.

Depending on how consequential the algorithm is deemed (i.e., 1 = virtually no impact on human rights and 5 = severe implications for human rights), the algorithm can face varying degrees of regulatory scrutiny.

Further, as technology continues to evolve, sharing of resources and knowledge will be imperative to continue to ensure the removal of bias from AI-informed decision making.

In 2019, pymetrics open-sourced the internal tool that it uses to test for bias so that it can be removed prior to a model's deployment - audit-AI. The tool can be used to systematically evaluate any machine learning model for fair treatment across demographic groups by determining whether a specific data input is yielding a statistically significant disadvantage against a subpopulation. This type of analysis is crucial when developers are building applications that have significant human consequences, such as predictions that inform financial lending, academic admissions, and criminal sentencing. Of course, while the type of check facilitated by audit-AI can detect sources of unfairness in a model, decisions about how to mitigate any imbalances remain up to the discretion of those creating and deploying automated systems.

pymetrics would welcome the opportunity to serve on any taskforce that included industry players.