

25 May 2022

**National Committee for Information and Communication Sciences submission on the
Issues Paper: Positioning Australia as a leader in digital economy regulation
- Automated Decision Making and AI Regulation**

The National Committee for Information and Communication Sciences welcomes the opportunity to comment on the Department of the Prime Minister and Cabinet's Issues Paper on Positioning Australia as a leader in digital economy regulation - Automated Decision Making and AI Regulation.

The National Committee notes:

- the need for oversight of qualifications of the artificial intelligence and machine learning engineers building the systems discussed in the Issues Paper
- the need to balance high accessibility to artificial intelligence training with the qualified workforce capacity to build trustworthy systems
- the differentiation of the workforce that is qualified to build the technologies from users of the technologies.

The National Committee urges the Taskforce to consider oversight of qualifications of the artificial intelligence (AI) and machine learning (ML) engineers building the AI and automated decision-making solutions to avoid instances of 'accidental' or 'opportunistic' work. There does not appear to currently be any form of minimum credentialing standards. However, minimum credentials should be considered alongside AI accessibility initiatives (such as [Ai4ALL](#)) and the imperative to remove structural barriers that deter diversity¹. There is a need to balance accessibility to AI training with the qualified workforce capacity to build trustworthy systems.

Additionally, the National Committee urges the Taskforce to address the need to differentiate the workforce that is qualified to *build* the explainable, trusted and secure AI technology from those who can *use* these technologies. There are considerable advancements in big tech companies in the development of auto AI/ML tools and libraries, such as [TensorFlow](#), [Keras](#) and [PyTorch](#), however currently only about 15 companies globally hold the bulk of the world's AI talent². Roughly twenty thousand people exist who can program and build the technologies discussed in the Issues Paper, and around three hundred thousand who have the skills to utilise toolkits and libraries to develop solutions³. In this respect, Australia's research strengths are not necessarily aligned to its needs, and steps should be taken to strengthen our AI/ML workforce and capability pipeline.

These numbers should also be considered alongside the potentially millions of users who have little or no insight or understanding of the so-called 'impenetrable blackboxes', and the concomitant need to both improve the quality of and better integrate information and communications technologies teaching in schools and tertiary education institutions. More information may be found in the National Committee's 2019 publication, [Preparing for Australia's Digital Future](#).

To discuss or clarify any aspect of this submission, please contact Mr Chris Anderson, Director Science Policy at Chris.Anderson@science.org.au.

¹ Preparing for Australia's digital future: A strategic plan for information and communication science, engineering and technology | Australian Academy of Science. (2019). www.science.org.au. <https://www.science.org.au/support/analysis/decadal-plans/ics/preparing-australias-digital-future>

² Manyika, J., & Sneider, K. (2018). AI, automation, and the future of work: Ten things to solve for. McKinsey & Company. <https://www.mckinsey.com/featured-insights/future-of-work/ai-automation-and-the-future-of-work-ten-things-to-solve-for>

³ Vincent, J. (2017, December 5). Tencent says there are only 300,000 AI engineers worldwide, but millions are needed. The Verge; The Verge. <https://www.theverge.com/2017/12/5/16737224/global-ai-talent-shortfall-tencent-report>