COUNTRY REPORTS

Australia

National AI Strategy

In November 2019, the Australia government published a Roadmap for AI, to "help develop a national AI capability to boost the productivity of Australian industry, create jobs and economic growth, and improve the quality of life for current and future generations."[119] Australia's AI Technology Roadmap is intended to help guide future investment in AI and provide a pathway to ensure Australia captures the full potential of AI.[120] As well as identifying three high potential areas of AI specialization, the Roadmap elaborates the foundations needed in terms of skills, data governance, trust research, infrastructure and ethics, underscoring the mutual complementarity of the OECD AI Principles.

The Roadmap identifies three domains of AI development and application where AI could transform Australian industry, based on existing strengths and comparative advantages, opportunities to solve Australian problems, and opportunities to export solutions to the rest of the world. These domains are Heath, Aging and Disability; Cities, Town and Infrastructure (including connected and automated vehicle technology); and National Resources and Environment (especially building on strengths related to mining and agriculture).

CSIRO, the national science agency, has said that AI "represents a significant opportunity to boost productivity and improve the national economy."[121] The agency is deploying AI for gene sequencing in crops, sustainable fishing, to predict the failure of infrastructure, and in hospitals to forecast demand to ensure access to emergency care.

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[119] Data61, *Artificial Intelligence Roadmap: Australia's artificial intelligence roadmap, developed by CSIRO's Data61 for the Australian Government.* https://data61.csiro.au/en/Our-Research/Our-Work/AI-Roadmap
[120] Australian Government, CSIRSO, and Data 61, *Artificial Intelligence: Solving problems, growing the economy and improving our quality of life* (2019), https://data61.csiro.au/~/media/D61/AI-Roadmap-assets/19-00346_DATA61_REPORT_AI-Roadmap_WEB_191111.pdf
[121] CSIRO, *Artificial Intelligence,* https://www.csiro.au/en/Research/AI

Australia has also published an AI Ethics Framework to "help guide businesses and governments looking to design, develop, and implement AI in Australia."[122] Key goals are to achieve better outcomes, reduce the risk of negative impact, and practice the highest standards of ethical business and good governance. The eight AI Ethics Principles are Human, social and environmental wellbeing, Human-centered values, Fairness, Privacy protection and security, Reliability and safety, Transparency and Explainability, Contestability, and Accountability.[123] The Australian government notes that the principles are derived from the Ethically Aligned Design report by IEEE.

The Roadmap and the Ethics Framework were put forward at the AI Technology Summit in 2019.[124] Over 100 leaders and experts in artificial intelligence (AI) technology gathered at the public summit to "help shape Australia's AI future."

Public Participation

Standards Australia is embarking on a consultation process with Australian representatives of industry, government, civil society and academia to examine how technical specifications and related material can support artificial intelligence in Australia.[125] In March 2020, Standards Australia published *Artificial Intelligence Standards Roadmap: Making Australia's Voice Heard*.[126]

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[122] Australian Government, Department of Industry, Science, Energy and Resources, *AI Ethics Framework*, https://www.industry.gov.au/strategies-for-the-future/artificial-intelligence

[123] Australian Government, Department of Industry, Science, Energy and Resources, *AI Ethics Principles*, https://www.industry.gov.au/data-and-publications/building-australias-artificial-intelligence-capability/ai-ethics-framework/ai-ethics-principles

[124] Australian Government, Department of Industry, Science, Energy and Resources, *Techtonic: Shaping Australia's AI Future* (Nov. 27, 2019), https://www.industry.gov.au/news-media/techtonic-shaping-australias-ai-future

[125] Standards Australia, *Standards Australia sets priorities for Artificial Intelligence* (Mar. 12, 2020), https://www.standards.org.au/news/standards-australia-sets-priorities-for-artificial-intelligence

[126] Standards Australia, *FINAL REPORT: An Artificial Intelligence Standards Roadmap: Making Australia's Voice Heard* (Mar. 2020), https://www.standards.org.au/getmedia/ede81912-55a2-4d8e-849f-9844993c3b9d/R_1515-An-Artificial-Intelligence-Standards-Roadmap-soft.pdf.aspx

The development of Australia's AI Ethics Framework followed a public consultation. The Minister for Industry, Science and Technology Karen Andrews released a discussion paper to encourage conversations on how to design, develop, deploy and operate AI in Australia.[127] In particular, the Australian government sought feedback on the draft AI Ethics Principles presented in the discussion paper. The Minister received more than 130 submissions from government, business, academia, non-government organizations and individuals. According to the Minister, the submissions generally supported a principles-based framework to guide the design, development, deployment and operation of AI in Australia. There were questions about how the draft principles can be applied in practice. The Law Council of Australia provided extensive comments on the Ethics Framework. The Council expressed concerns about the administrative law implications of AI, "an AI involved in a government decision should be able to explain its decision-making process."[128]

Noted Australian AI ethics researcher Roger Clarke published a critical assessment of the AI Ethics Principles. In 2019 Clarke undertook an extensive survey of AI policy frameworks and identified 10 themes and 50 principles.[129] Clarke concluded that the AI Ethics Principles for Australia adequately addressed only 13 of the 50 Principles.[130] "An additional 19 are partly or weakly addressed, and 18 are not addressed at all." Clarke states that "the key to achieving trust is to ensure trustworthiness of the technologies and of organisations' uses of the technologies. That requires a comprehensive set of principles of real substance; articulation of them for each stage of the supply chain; educational processes; means of encouraging their application and discouraging behaviour in breach of the principles; a credible regulatory framework; and the enforcement of at least baseline standards."

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[127] The Hon Karen Andrews MP, Minister for Industry, Science and Technology, *Seeking feedback on ethics of artificial intelligence* (Apr. 5, 2019), https://www.minister.industry.gov.au/ministers/karenandrews/media-releases/seeking-feedback-ethics-artificial-intelligence

[128] Law Council of Australia, *Artificial Intelligence: Australia's Ethics Framework* (June 28, 2019), https://www.lawcouncil.asn.au/docs/b3ebc52d-afa6-e911-93fe-005056be13b5/3639%20-%20AI%20ethics.pdf

[129] Roger Clarke, *Responsible AI Technologies, Artefacts, Systems and Applications: The 50 Principles,* http://www.rogerclarke.com/EC/AIP.html#App1

[130] Roger Clarke, *The Australian Department of Industry's 'AI Ethics Principles' of September / November 2019: Evaluation against a Consolidated Set of 50 Principles* (Nov. 12, 2019), http://www.rogerclarke.com/EC/AI-Aust19.html

A 2020 survey of Australian attitudes toward AI found high levels of support for the use of AI to address social, humanitarian and environmental challenges.[131] The survey also found high levels of support for legislation to ban the use of lethal autonomous weapons, ensure the safety of autonomous vehicles, and protect data privacy.

There is currently a public consultation on "Mapping Australia's Artificial Intelligence and Autonomous Systems Capability."[132] Part A of the survey seeks information at an organizational level about Australia's national artificial intelligence and autonomous systems capabilities. Part B of the survey focusses on unique, world-leading and significant Australian case studies and projects.

Global Partnership on AI

Australia joined the Global Partnership on AI as a founding member in June 2020.[133] Minister Andrews stated, "Australia is committed to responsible and ethical use of AI. Membership of the GPAI will allow Australia to showcase our key achievements in AI and provide international partnership opportunities which will enhance our domestic capability." Andrews further stated, "Membership of the GPAI will build on the work the Government started at last year's National AI Summit, which brought together 100 AI experts to discuss the challenges and opportunities which AI will present for the Australian economy."

Algorithmic Transparency

The concept of Algorithmic Transparency is briefly addressed in the AI Ethics Framework. The Victorian Information Commissioner warns of risks associated with "corporate cooption" of transparency and

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[131] Monash Data Futures Institute, *AI FOR SOCIAL GOOD? Australian public attitudes toward AI and society (Aug. 2020),*
https://www.monash.edu/__data/assets/pdf_file/0019/2313262/MDFI_AI_for_Social_Good_report_Final.pdf
[132] Australian Government, *Department of Industry, Science, Energy and Resources, Mapping Australia's Artificial Intelligence and Autonomous Systems Capability* (Oct. 2, 2020) (closes Nov. 29, 2020), https://consult.industry.gov.au/digital-economy/mapping-australias-ai-capability/
[133] The Hon Karen Andrews MP, Minister for Industry, Science and Technology, *Australia joins global partnership on artificial intelligence* (June 16, 2019), https://www.minister.industry.gov.au/ministers/karenandrews/articles/australia-joins-global-partnership-artifical-intelligence

accountability mechanisms.[134] The paper argues that "significant resources must be invested in developing the necessary skills in the public sector for deciding whether a machine learning system is useful and desirable, and how it might be made as accountable and transparent as possible."

In early 2019, the Australian Human Rights Commission called for an AI Policy Council to guide companies and regulators as artificial intelligence technology. "When companies use AI decision-making systems, they must build them in a way that allows a person to understand the basis of decisions that affect them. This is fundamental to ensuring accountability and will be really important for all companies that use AI," Human Rights Commissioner Ed Santow said.[135]

In a 2020 paper, Santow called on the Australian government to modernize privacy and human rights laws to take into account the rise of artificial intelligence.[136] "We need to apply the foundational principles of our democracy, such as accountability and the rule of law, more effectively to the use and development of AI," he said.

OECD/G20 AI Principles

Australia has endorsed the OECD and the G20 AI Principles. Regarding implementation of the AI Principles, the OECD notes the Australia Roadmap for AI, the AI Ethics Framework, and the Australia's AI Standards Roadmap, "currently under development and intended to identify priority areas for AI standards development and a pathway for Australian leadership on international standardisation activities for AI."[137] The OECD also notes the work of Australia on trustworthy AI for health.

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[134] Goldenfein, Jake, *Algorithmic Transparency and Decision-Making Accountability: Thoughts for Buying Machine Learning Algorithms* (Aug. 31, 2019), https://ssrn.com/abstract=3445873
[135] James Eyers, *Call for 'AI policy council' to govern how algorithms use personal information*, Financial Review (Mar. 15, 2020), https://www.afr.com/technology/call-for-ai-policy-council-to-govern-how-algorithms-use-personal-information-20190315-h1cej1
[136] Australian Human Rights Commission, *Human Rights and Technology: Discussion Paper* (Dec. 2019), https://tech.humanrights.gov.au/sites/default/files/2019-12/TechRights2019_DiscussionPaper.pdf
[137] OECD, G20 Digital Economy Task Force, *Examples of National AI Policies* (2020), https://www.mcit.gov.sa/sites/default/files/examples-of-ai-national-policies.pdf

Human Rights

Australia is a signatory to many international human rights treaties and conventions. Freedom House ranked Australia very highly (97/100) in 2020 and reported that, "Australia has a strong record of advancing and protecting political rights and civil liberties. Challenges to these freedoms include the threat of foreign political influence, harsh policies toward asylum seekers, and ongoing difficulties ensuring the equal rights of indigenous Australians."[138]

Evaluation

Australia has set out an AI Roadmap and an AI Ethics Framework. Australia has encouraged public participation in the development of AI policy, joined the Global Partnership on AI and has a strong record on human rights. Australia has independent agencies, including a national regulator for privacy and freedom of information[139] and a human rights commission that is engaged in AI oversight. But actual AI practices are difficult to evaluate. While there is, at the moment, no express support for the Universal Guidelines for AI or the Social Contract for the Age of AI, Australia's adopted policies are similar to those recommended in those documents. Questions have also been raised about the adequacy of the Ethics Framework.

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[138] Freedom House, *Freedom in the World 2020 – Australia* (2020), https://freedomhouse.org/country/australia/freedom-world/2020
[139] Australian Government, Office of the Australian Information Commission, https://tech.humanrights.gov.au/sites/default/files/2019-12/TechRights2019_DiscussionPaper.pdf