Automation of Decision-Making in Environmental and Planning Law: Webinar Opening Remarks

A Brief History of AI and ADM

1 In 1950 British mathematician and computer scientist, Alan Turing, published a paper titled “Computing Machinery and Intelligence” in which he advanced a test that he called the “Imitation Game” to assess a machine's ability to exhibit intelligent behaviour indistinguishable from that of a human. The test involves a human evaluator appointed to judge communications between a human and a machine where that evaluator is not made aware which party is a computer. If the evaluator cannot tell the machine from the human, the machine is said to have passed the test. Turing predicted that a machine would be able to pass the test by the year 2000.[1]

2 While his prediction took another five years from that date to materialise, in the intervening years growth in artificial intelligence (“AI”) has been exponential since the formulation of the Imitation Game.

3 For example, on 11 May 1997 a chess-playing computer developed by IBM named “Deep Blue” became the first machine to beat a grand chess master in a six game match under standard time controls when it defeated Garry Kasparov.[2]

4 In 2005 Eugene Goostman, a chatbot emulating a Ukrainian teenager with a pet guinea pig, won an Imitation Game. The accomplishment was not without controversy and only a third of the judges were deceived.[3]

5 In 2008 developers working under the pseudonym “Satoshi Nakamoto” released a white paper describing a model for a blockchain. A year later, Nakamoto created and launched the first blockchain to be used as the public ledger for a form of cash that could be exchanged without the need for a central bank or other authority to operate and maintain the ledger, and thus bitcoin.[4]

6 And in 2011 IBM’s question-answering system “Watson” won the American quiz show *Jeopardy!*.[5]

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[1] Chris Smith, “The History of Artificial Intelligence”, 9 <https://courses.cs.washington.edu/courses/csep590/06au/projects/history-ai.pdf>.
[2] Jack Watson, "Artificial Intelligence," LawNow, 22:1 1997, 36-38.
[3] Ian Sample and Alex Hern, “Scientists dispute whether computer ‘Eugene Goostman’ passed Turing test” 10 June 2014 (The Guardian) <https://www.theguardian.com/technology/2014/jun/09/scientists-disagree-over-whether-turing-test-has-been-passed>.
[4] Institute of Chartered Accountants in England and Wales, “Blockchain History” <https://www.icaew.com/technical/technology/blockchain/blockchain-articles/what-is-blockchain/history>
[5] Institute of Chartered Accountants in England and Wales, “Blockchain History” <https://www.icaew.com/technical/technology/blockchain/blockchain-articles/what-is-blockchain/history>

7 AI and automated decision-making ("ADM") now pervades almost all facets of our daily lives. In 2002 iRobot launched the *Roomba* autonomous vacuum cleaner. In 2009 Google built the first self-driving car for urban conditions. Between 2011 and 2014 personal assistants such as *Siri* and *Alexa* were born.[6]

8 AI is responsible for facial recognition, the personalisation of our social media feeds, adaptive spam blocking, high performance web searches, spell check, traffic monitoring on various apps, and our personalised list of Netflix recommendations.[7]

9 However, the benefits of AI also come with significant burdens, such as the ethical and legal issues concerning driverless cars,[8] the use of drones in war,[9] ever increasing intrusion into our privacy, the collection of large swathes of our personal data,[10] and the dissemination of fake news posing an existential threat to democracy. There are, as we have become increasingly aware, significant human rights implications resulting from the use of AI and ADM.[11]

10 In Australia the dangers of ADM were exposed by the Commonwealth's Robodebt scheme.[12] The scheme was unlawful[13] and resulted in a successful class action in the Federal Court of Australia.[14] The United Nations Special Rapporteur on Extreme Poverty and Human Rights, Philip Alston, when warning about the risk of a "digital welfare dystopia," singled out Robodebt as a prime example of the risk to human rights posed by poor AI design.[15]

11 These problems notwithstanding, the prevalence of automated decision-making continues to grow in Australia. As at 2019, no less than 11

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[6] University of Queensland, "History of Artificial Intelligence" <https://qbi.uq.edu.au/brain/intelligent-machines/history-artificial-intelligence>.
[7] Bernard Marr, "The 10 Best Examples of How AI is Already Used in Our Everyday Life" 16 December 2019 (Forbes) <https://www.forbes.com/sites/bernardmarr/2019/12/16/the-10-best-examples-of-how-ai-is-already-used-in-our-everyday-life/?sh=4098052b1171>.
[8] Caroline Lester, "A Study on Driverless-car Ethics Offers a Troubling Look into our Values" 24 January 2019 (New York Times) <https://www.newyorker.com/science/elements/a-study-on-driverless-car-ethics-offers-a-troubling-look-into-our-values>.
[9] Dan Sabbagh, "Killer drones: how many are there and who do they target?" 18 November 2019 (The Guardian) <https://www.theguardian.com/news/2019/nov/18/killer-drones-how-many-uav-predator-reaper>.
[10] Cameron F. Kerry, "Protecting privacy in an AI-driven world" 10 February 2020 (Brookings Institute) <https://www.brookings.edu/research/protecting-privacy-in-an-ai-driven-world/>.
[11] Terry Carney, "Robo-Debt Illegality: A Failure of Rule of Law Protections?" 30 April 2019 (Aus Pub Law) <https://auspublaw.org/2018/04/robo-debt-illegality/>.
[12] *Deanna Amato v The Commonwealth of Australia* (No VID611/2019) Order, 27 November 2019 <https://www.comcourts.gov.au/file/Federal/P/VID611/2019/3859485/event/30114114/document/1513665>.
[13] *Deanna Amato v The Commonwealth of Australia* (No VID611/2019) Order, 27 November 2019 <https://www.comcourts.gov.au/file/Federal/P/VID611/2019/3859485/event/30114114/document/1513665>.
[14] Dr Kobi Leins, "What is the Law When AI Makes the 'Decisions'?" 4 December 2019 (University of Melbourne) <https://pursuit.unimelb.edu.au/articles/what-is-the-law-when-ai-makes-the-decisions>.
[15] Dr Kobi Leins, "What is the Law When AI Makes the 'Decisions'?" 4 December 2019 (University of Melbourne) <https://pursuit.unimelb.edu.au/articles/what-is-the-law-when-ai-makes-the-decisions>.

Commonwealth departments were using automated decision-making systems.[16]

12 This webinar focuses on the implications of automation in environmental decision-making in NSW, including in environmental impact assessments.

[16] Dr Kobi Leins, "What is the Law When AI Makes the 'Decisions'?" 4 December 2019 (University of Melbourne) <https://pursuit.unimelb.edu.au/articles/what-is-the-law-when-ai-makes-the-decisions>.