The ethics of data science conference

Addressing the future use and misuse of our data

Hosted by the University of Sydney from 27–29 March 2019, this forum will bring together world-renowned experts to address the current crisis in confidence around algorithms.

Invited speakers
Nicolas Hohn (QuantumBlack)
Professor Simon Jackman (USYD)
Associate Professor Seth Lazar (ANU)
Associate Professor Julia Powles (UWA)
Professor Toby Walsh (UNSW)
Dan Jermyn (CBA)

Date and location
27–29 March 2019
F23 Administration Building The University of Sydney

Contact
events.rsvp@sydney.edu.au

sydney.edu.au/data-science
Draft program

This program is a draft and it is current at the time of publishing. Further changes and updates may follow.

Wednesday 27 March 2019

4.30pm: Registration (30 minutes) - F23 Exhibition space

5pm: Welcome, Professor Sally Cripps, Director CTDS, The University of Sydney - F23 Auditorium

5.05pm: Acknowledgement of Country, Bianca Williams, Mana Yura Project Officer, Student Support Services, The University of Sydney - F23 Auditorium

5.10pm: Opening remarks by Professor Sally Cripps, Director CTDS, The University of Sydney - F23 Auditorium

5.20pm: Keynote speaker - F23 Auditorium

6pm: Welcome reception (1 hour) - F23 Exhibition space

Thursday 28 March 2019

8.30am: Arrival tea and coffee (30 minutes) - F23 Exhibition space Chair: Dr Roman Marchant, Data Scientist, CTDS, the University of Sydney

9am: Keynote speaker: - F23 Auditorium

9.40am: Keynote: 10 ways to get smarter about responsible AI. Nicolas Hohn, Associate Partner at McKinsey, Chief Data Scientist, QuantumBlack Australia. - F23 Auditorium

This talk will discuss practical steps that organisations can take to address ethical concerns when developing or using machine learning techniques.

10.20am: Coffee Break (25 minutes) - F23 Exhibition space

10.45am: Paper presentations session 1

- 10.45-11.00 Cybersecurity and the Ghost of Future Anonymity: Alexander Vipond, The University of Sydney

- 11.00-11.15 Computer says “no”: automation, algorithms and artificial intelligence in Government decision-making: Dominique, Hogan- Doran, Barnet

- 11.15-11.30 Computational complexity, completeness and uncertainty in algorithmic governance: Elia Perrier, University of Technology Sydney


-11.45-12.00 Are Algorithms Affecting the Democracy in Brazil: Victor N. Silva, University of Alberta

12.00pm: Lunch (1 hour) - F23 Exhibition space

Chair: Professor Sally Cripps, Director CTDS, The University of Sydney

1.00pm: Keynote: Studying humans in the age of machine learning: practical and ethical challenges. Professor Simon Jackman, CEO, US Studies Centre, University of Sydney - F23 Auditorium

Large data sets on human behaviour and attitudes coupled with machine learning techniques are increasingly deployed in commercial and public sector settings. Ethical issues can easily arise in constructing predictive models and in implementing insights derived from these models, say, when features such as age, gender, ethnicity, sexual orientation, health or criminal histories — often deemed to be “protected characteristics” in employment law and many other settings — are predictive with respect to the behaviour or attitude of interest. These issues long predate the use of ML, but are especially acute with “black box” ML models, where the mapping from features to predictions has been discovered after model fitting, and is likely to be non-linear and dependent on other variables. I discuss insights and solutions applicable at (a) the design phase of public policy analysis, (b) the model-building phase, (c) the model interpretation phase; (d) the policy implementation phase. I stress that algorithms per se are neither ethical nor unethical. Rather, the humans using algorithms in these settings have the same ethical obligations researchers have always had, but with some sensitivity and awareness required for the special challenges posed by big data sets on human subjects in the age of machine learning.

1.40pm: Keynote: What we don't talk about, when we talk about ethical AI. Julia Powles, Associate Professor of Technology Law & Policy, University of Western Australia - F23 Auditorium

2.20pm: Paper Presentations Session 2 - F23 Auditorium

- 2.20-2.35 On the impossibility of formalising fairness in ML: Finnian, Lattimore, The Gradient Institute

- 2.35-2.50 Ethical algorithms “by design”: Peta Mitchell, Queensland University of Technology

- 2.50-3.05 Machine learning might be the answer: but can we ask the proper question?: Lucas Beck, IT University of Copenhagen

- 3.05-3.20 Interpreting Social Respect: A Normative Lens for ML Models: Ben Hutchinson, Google

- 3.20-3.35 Algorithmic Stereotypes: Implications for Fairness of Generalising from Past Data: Daniel McNamara

3.35pm: Coffee Break (25 minutes) - F23 Exhibition space
Friday 29 March 2019

Chair: Professor Nick Enfield, Professor of Linguistics at the University of Sydney, Director Sydney Social Sciences and Humanities Advanced Research Centre, and the Sydney Centre for Language Research

9am: Keynote: Dan Jermy, Head of Digital & Customer, Commonwealth Bank of Australia - F23 Auditorium

9.40am: Keynote: On the possibility of moral AI
Seth Lazar Associate Professor of Philosophy at Australian National University, head of school of philosophy, and project lead of the Humanising Machine Intelligence Grand challenge. - F23 Auditorium

Many people seem to think that there are profound obstacles to our ever developing ‘moral AI’. Some of these apparent obstacles derive from specific, often highly contentious philosophical assumptions. In this talk, I will identify and argue against those assumptions, suggesting that moral AI is not such a lofty (or unreachable) goal after all.

10.20am: Coffee Break (30 minutes) - F23 Exhibition space

10.50am: Paper presentations session 4 - F23 Auditorium

- 10.50-11.05 Algorithmic judges and human dignity a dignitarian approach to algorithmic discrimination
Andre Dao, University of Cambridge

- 11.05-11.20 Algorithmic decision-making and the control problem
John Zerilli, University of Otago

- 11.20-11.35 Ethical algorithms in the Age of the Centaur
David Tuffley, Griffith University

- 11.35-11.50 Making Heuristics Real Practical Processes and Tools for Building-in Accountability by Design
Peter Leonard, University of New South Wales

- 11.50-12.05 The value of consciousness and free will in a technological dystopia
Allan McCay, The University of Sydney

- 12.05-12.20 The Rule of Law and Automation of Government Decision Making
Monika Zalnieriute, University of New South Wales

12.20pm: Lunch (1 hour)

Chair: Roman Marchant, Data Scientist, CTDS, The University of Sydney

1.20pm: Keynote: AI and Ethics: Why all the fuss?
Professor Toby Walsh, Scientia Professor of Artificial Intelligence, UNSW, - F23 Auditorium

Covering topics from autonomous vehicles to killer robots, Professor Walsh will discuss the new issues AI is bringing to the table, and the old issues that are resurfacing as a result.

2pm: Coffee break (30 minutes) - F23 exhibition space

2.30pm: Workshops (2 hours)

- Workshop 1: Ethics of AI in Law and Criminal Justice.
F23 Auditorium 1

Ashley Brinson, Chief Executive Officer, The Warren Centre – Chair
Alan Kirkland, Chief Executive Office, Choice
Carla Hoorweg, Head of Government and Industry Relations, Challenger Limited.
Dr Tiberio Caetano, Co-founder and Chief Scientist of Gradient Institute

F23 Auditorium 2

- Workshop 3: Human rights.
Edward Santow, Australian Human Rights Commissioner.
Function room, Level 5

- Workshop 4: Health, genomics and patient privacy.
Stephen Bolinger, Chief Privacy Officer, Cochlear.
Warren Kaplan, Chief of Informatics, Kingshorn Centre for Clinical Genomics, Garvan Institute of Medical Research.
Ben Gilbert, Attorney (Australia and New Zealand) Corporate, External, and Legal Affairs, Microsoft.
Room 515, Level 5

- Workshop 5: Autonomous systems, robotics and computer vision. A/
Professor Ian Manchester, Associate Director (Research), Centre for Robotics and Intelligent Systems, The University of Sydney.
Executive Boardroom, Level 5

4.30pm: Closing remarks Professor Sally Cripps, Director CTDS, The University of Sydney - F23 Auditorium

4.35pm: Networking drinks (30 minutes) - F23 Exhibition space

5.05pm: End of Conference
Keynote speakers

Nicolas Hohn
Chief Data Scientist at QuantumBlack Australia

Nicolas is an Associate Partner at McKinsey, and the Chief Data Scientist for QuantumBlack Australia. He advises organisations on starting or progressing along their analytics journeys. He provides thought leadership and expertise across data science and key enablers such as talent and technology. Prior to joining Digital McKinsey in 2016, Nicolas was Head of Data Science for Dun & Bradstreet Australia.

Professor Simon Jackman
CEO of the United States Studies Centre

Simon Jackman’s teaching and research centres on public opinion, election campaigns, political participation, and electoral systems. He is known for his work on poll averaging – combining polls over the course of an election campaign to produce better predictions of election outcomes.

Professor Toby Walsh
Scientia Professor of artificial intelligence, UNSW

Toby Walsh is a leading researcher in the field of artificial intelligence. He leads the Algorithmic Decision Theory group at Data61, Australia’s Centre of Excellence for ICT Research, and is guest professor at the Technical University of Berlin. He has been elected a fellow of the Australian Academy of Science, and has won the Humboldt research award as well as the NSW Premier’s Prize for Excellence in Engineering and ICT.

Associate Professor Julia Powles
Associate Professor of Technology Law & Policy, UWA

Julia joined UWA in January 2019, after more than a decade in Europe and the US. Her research focuses on civic and rights-based responses to emerging technologies. She is an expert in privacy, intellectual property, internet governance, and the law and politics of data, automation, and artificial intelligence.

Associate Professor Seth Lazar
Philosophy Head of School, ANU

Seth has published widely on the ethics of war, moral decision-making under risk and uncertainty, and other topics in moral and political philosophy. He has written one monograph, Sparing Civilians, and has another under contract, Duty under Doubt, with Oxford University Press. He also edited the Oxford Handbook of Ethics of War.
Workshop facilitators

**Warren Kaplan**  
Garvan Institute’s Chief of Informatics

Warren Kaplan founded and leads Garvan’s Data Intensive Computer Engineering (DICE) group, that designed and built Garvan’s High Performance Computing, Cloud and Big Data infrastructure.

**Ed Santow**  
Human Rights Commissioner

Edward Santow has been Human Rights Commissioner at the Australian Human Rights Commission since August 2016. He is currently leading the Commission’s work on detention and implementing the Optional Protocol to the Convention Against Torture (OPCAT); refugees and migration; human rights issues affecting LGBTI people; counter-terrorism and national security; technology and human rights; freedom of expression; and freedom of religion.

**Alan Kirkland**  
CEO of CHOICE

Alan is CEO of CHOICE, Australia’s national consumer organisation. He has a background in public policy, social movements and the justice system.

**Ben Gilbert**  
Attorney (Australia and New Zealand) Corporate, External, and Legal Affairs, Microsoft

Ben is a commercial attorney supporting Microsoft ANZ. In particular he supports the teams engaged in licensing cloud products and digital transformation solutions to large enterprise and public sector customers, and Microsoft’s consulting services business. He is currently Microsoft’s ANZ’s legal lead for the Health and Retail industries. Ben was shortlisted as the Australasian Young In-house Lawyer of the Year at the 2018 Australasian Law Awards.