

November 2, 2017

The Honourable Malcolm Turnbull MP
Prime Minister
Parliament House
CANBERRA ACT 2600

Dear Prime Minister Malcolm Turnbull,

**RE: AN INTERNATIONAL BAN ON
THE WEAPONIZATION OF ARTIFICIAL INTELLIGENCE (AI)**

As members of the Australian AI research community, we wish to applaud you for placing innovation at the centre of your plans for Australia, and in particular the investment that Australia is making in AI research and innovation through bodies like the Australian Research Council and Data61.

As you know, AI research—the attempt to build machines that can perform intelligent tasks—has made spectacular advances during the last decade. The evolution of classical AI, bolstered by rapid advances in machine learning, has revived the ambitions of the AI community to build machines that can carry out complex operations with or without human oversight or intervention. Proliferating applications already underpin a growing variety of products for consumers, for the improvement of infrastructure, transportation, education, the arts, the military, medicine, and for businesses. AI is of transformative significance. The transformations—actual and potential—demand our understanding and, increasingly, our heightened moral attention.

It is for these reasons that Australia's AI research community is calling on you and your government to make Australia the 20th country in the world to take a firm global stand against weaponizing AI. Lethal autonomous weapons systems that remove *meaningful human control* from determining the legitimacy of targets and deploying lethal force sit on the wrong side of a clear moral line. To this end, we ask Australia to announce its support for the call to ban lethal autonomous weapons systems at the upcoming United Nations Conference on the Convention on Certain Conventional Weapons (CCW). Australia should also commit to working with other states to conclude a new international agreement that achieves this objective.

In this way, our government can reclaim its position of moral leadership on the world stage as demonstrated previously in other areas like the non-proliferation of nuclear weapons. With Australia's recent election to the UN's Human Rights Council, the issue of lethal autonomous weapons is even more pressing for Australia to address. It is worth remembering that in 2013 the Special Rapporteur Professor Christof Heyns was the first to call upon the Human Rights Council to address this issue. He argued that "Machines lack morality and mortality, and many people believe they should as a result not have life and death powers over humans."

We warmly welcome the decision of CCW to establish a Group of Governmental Experts (GGE) on Autonomous Weapon Systems. Many members of our research community are eager to lend their expertise to the Government of Australia in this regard. As many AI and robotics corporations—including Australian companies—have recently urged, autonomous weapon systems threaten to become the third revolution in warfare. If developed, they will permit armed conflict to be fought at a scale greater than ever before, and at timescales faster than humans can comprehend. The deadly consequence of this is that machines—*not people*—will determine who lives and dies. Australia's AI community does not condone such uses of AI. We want to study, create and promote its beneficial uses.

The strong leadership that Australia continues to demonstrate through its focus on technology and innovation will ensure our reputation as an international leader in the technological development of AI only if it also includes considerations of the broader legal, ethical and social implications. We therefore urge you to take a strong and leading position against Autonomous Weapon Systems on the international stage at the upcoming November 2017 CCW meetings at the United Nations.

Sincerely,

Damminda Alahakoon

Professor of Business Analytics & Director, Research Centre for Data Analytics and Cognition, La Trobe Business School.

Aldeida Aleti

Senior Lecturer, Faculty of Information Technology, Monash University.

Daniel Angus

Senior Lecturer, Computer Science, The University of Queensland.

Haris Aziz

Scientia Fellow & Senior Lecturer, AI Research Group, School of Computer Science & Engineering, University of New South Wales, Sydney.

Mehala Balamurali

Postdoctoral Research Associate, Australian Centre for Field Robotics (ACFR), The University of Sydney.

Tim Baldwin

Professor, School of Computing and Information Systems, The University of Melbourne.

Nick Barnes

Associate Professor, Research School of Engineering, College of Engineering & Computer Science, The Australian National University.

Alan Blair

Senior Lecturer, AI Research Group, School of Computer Science & Engineering, University of New South Wales, Sydney.

Michael Blumenstein FACS

Associate Dean & Head, School of Software, Faculty of Engineering and IT, University of Technology Sydney.

Vic Ciesielski

Associate Professor, Computer Science and Software Engineering, School of Science, RMIT.

Mark Carman

Senior Lecturer, Faculty of Information Technology, Monash University.

Franck Cassez

Associate Professor, Department of Computing, Macquarie University.

Lawrence Cavedon

Associate Professor and Associate Dean of Computer Science and IT, School of Science, RMIT University.

Jeffery Chan

Lecturer, Computer Science and IT, School of Science, RMIT University.

Peter Christen

Professor, Data Mining & Matching, Research School of Computer Science, The Australian National University.

Trevor Cohn

Associate Professor & Future Fellow, School of Computing and Information Systems, The University of Melbourne.

Peter Corke FTSE FIEEE

Distinguished Professor, School of Electrical Engineering and Computer Science, Queensland University of Technology, and Director ARC Centre of Excellence for Robotic Vision.

Michael Curtotti

Honorary Lecturer, Research School of Computer Science, The Australian National University.

Robert Dale

Adjunct Professor, Department of Computing, Macquarie University.

Vladimir Estivill-Castro

Professor, School of Information & Computing Technology, Griffith University.

Gabriela Ferraro

Research Scientist, DATA61, and Honorary Lecturer, College of Engineering and Computer Science, Australian National University.

Robert Fitch

Associate Professor, Centre for Autonomous Systems, School of Mechanical and Mechatronic Engineering, University Technology Sydney.

Marcus Gallagher

Associate Professor, School of Information Technology and Electrical Engineering, University of Queensland.

Maria Garcia de la Banda

Professor and Deputy Dean, Faculty of Information Technology, Monash University

Serge Gaspers

ARC Future Fellow, AI & Algorithms Research Groups, School of Computer Science & Engineering, University of New South Wales, Sydney.

Geoffrey J Goodhill

Professor, Queensland Brain Institute and School of Mathematics & Physics, University of Queensland.

Felipe Gonzalez

Associate Professor, Australian Centre of Excellence for Robotic Vision, School of Electrical Engineering and Computer Science, Queensland University of Technology.

Stephen Gould

Associate Professor, Australian Centre of Excellence for Robotic Vision, Research School of Computer Science, The Australian National University.

Charles Gretton

Senior Lecturer, Research School of Computer Science, The Australian National University.

Reza Haffari

Senior Lecturer, Faculty of Information Technology, Monash University.

James Harland

Associate Professor & Associate Dean, Computer Science and Software Engineering, RMIT.

Richard Hartley FAA

Professor, Research School of Engineering, The Australian National University.

Bernhard Hengst

Senior Research Fellow, Centre of Excellence for Autonomous Systems, School of Computer Science and Engineering, University of New South Wales.

Byeong Ho Kang

Professor & Head of ICT, School of Engineering and ICT, University of Tasmania.

Sankalp Khanna

Senior Research Scientist, CSIRO and Adjunct Research Fellow, Institute for Integrated and Intelligent Systems, Griffith University.

Phil Kilby

Principal Research Scientist, Data61, and Honorary Visiting Fellow, College of Engineering and Computer Science, Australian National University.

Michael Kirley

Associate Professor, School of Computing and Information Systems, The University of Melbourne.

Gerwin Klein,

Professor, Trustworthy Systems Research Group. DATA61.

He Kong

Research Fellow, Australian Centre for Field Robotics, School of Aerospace, Mechanical and Mechatronic Engineering, University of Sydney.

Ryszard Kowalczyk

Professor of Intelligent Systems, Faculty of Science, Engineering and Technology, Swinburne University of Technology.

Xiaodong Li

Professor of Artificial Intelligence, School of Science (Computer Science and Software Engineering), RMIT University.

Jiuyong Li

Professor, School of Information Technology and Mathematical Sciences, University of South Australia.

Alan Wee-Chung Liew

Associate Professor, School of Information and Communication Technology, Griffith University.

Nir Lipovetzky

Lecturer, School of Computing and Information Systems, The University of Melbourne.

Fei Liu

Senior Lecturer, Department of Computer Science & Information Technology, La Trobe University.

Qing Liu

Research Scientist, Software and Computational Systems Program, DATA61.

Wei Liu

Senior Lecturer, Computer Science and Software Engineering, The University of Western Australia.

John Lloyd

Emeritus Professor, Research School of Computer Science, The Australian National University.

David Lovell

Professor and Head of School, Electrical Engineering and Computer Science, Queensland University of Technology.

Jei Lu

Distinguished Professor, Centre for Artificial Intelligence, University of Technology Sydney.

Michael Maher

Associate Professor, Director of Reasoning Research Institute, School of Engineering and Information Technology, UNSW Canberra.

Frederic Maire

Robotics and Autonomous Systems, School of EECS, Queensland University of Technology.

Graham Mann

Senior Lecturer & Head of Applied Artificial Intelligence Laboratory, Murdoch University.

Kim Marriott

Professor of Computer Science, School of Information Technology, Monash University.

Jon McCormack

Professor, School of Information Technology, Monash University.

Bernd Meyer

Professor and Deputy Dean Education, School of Information Technology, Monash University.

Ajmal Mian

Associate Professor, Computer Science & Software Engineering, The University of Western Australia.

Diego Mollá-Aliod

Senior Lecturer, Department of Computing, Macquarie University.

Ann Nicholson

Professor & AI researcher, Faculty of Information Technology, Monash University.

Frank Neumann

Professor, School of Computer Science, The University of Adelaide.

Rony Novianto

Postdoctoral Fellow, Social Cognitive Robotics, School of Software, University of Technology Sydney.

Giles Oatley

Senior Lecturer in Computer Science, School of Engineering & Information Technology, Murdoch University.

Kok-Leong Ong

Associate Professor, Program Director (Business Analytics), College of Arts, Social Sciences and Commerce, La Trobe Business School.

Mehmet Orgun

Professor, Department of Computing, Division of Information and Communication Sciences, Macquarie University.

Lin Padgham

Professor of Artificial Intelligence, Computer Science and Software Engineering, RMIT.

Maurice Pagnucco

Professor & Head of School, School of Computer Science & Engineering, University of New South Wales, Sydney.

Wei Peng

Senior Lecturer, Data Mining & Machine Learning, College of Arts, Social Sciences and Commerce, La Trobe Business School.

Oscar Pizarro

Principal Research Fellow, Australian Centre for Field Robotics, The University of Sydney.

Ross Quinlan

Professor, Machine Learning, Rulequest.

Shri Rai

Lecturer, School of Engineering and Information Technology, Murdoch University.

David Rajaratnam

Senior Research Associate, AI Research Group, School of Computer Science & Engineering, University of New South Wales, Sydney.

Mark Reynolds

Associate Professor and Head of School, School of Computer Science and Software Engineering, The University of Western Australia.

Marian-Andrei RizoIU

Research Fellow, Research School of Computer Science, The Australian National University.

Jonathan Roberts

Professor in Robotics, Electrical Engineering and Computer Science, Queensland University of Technology.

Malcolm Ryan

Senior Lecturer, Department of Computing, Macquarie University.

Nasser Sabar

Research Fellow, Smart Transport Research Centre, Queensland University of Technology.

Abdallah Saffidine

DECRA Fellow, AI & Algorithms Research Groups, School of Computer Science & Engineering, University of New South Wales, Sydney.

Flora Salim

Senior Lecturer, School of Computer Science and Information Technology, School of Science, RMIT.

Claude Sammut

Professor and Head of AI Research Group, School of Computer Science & Engineering, University of New South Wales, Sydney.

Sebastian Sardina

Associate Professor, School of Computer Science and Information Technology, RMIT.

Abdul Sattar FACS

Professor of Artificial Intelligence, Director of the Institute for Integrated and Intelligent Systems, School of Information and Communication Technologies, Griffith University.

Rolf Schnitter

Senior Lecturer, Department of Computing & Centre for Language Technology, Macquarie University.

Andreas Schutt

Senior Research Scientist, Decision Sciences Group, DATA61.

Paul Scott

Research Fellow, Planning and Optimisation, Research School of Computer Science, The Australian National University.

Mao Shan

Research Fellow, Australian Centre for Field Robotics, The University of Sydney.

Raymond Sheh

Senior Lecturer, Intelligent Robotics Group, School of Electrical Engineering and Computing, Curtin University.

Michael Sheng

Professor, ARC Future Fellow and Head, Department of Computing, Macquarie University.

Dhirendra Singh

Research Fellow, Computer Science and Software Engineering, RMIT University.

Harald Sondergaard

Associate Professor, School of Computing and Information Systems, University of Melbourne.

Andy Song

Senior Lecturer, School of Computer Science and Information Technology, RMIT.

Robert Sparrow

Adjunct Professor, Monash Bioethics Centre, Monash University.

Maria Spichkova

Lecturer, Computer Science and Information Technology, School of Science, RMIT.

Hanna Suominen

Senior Lecturer, Research School of Computer Science, The Australian National University.

Andrew Talyor

Senior Lecturer & Associate Head, School of Computer Science & Engineering, University of New South Wales, Sydney.

Kerry Taylor

Associate Professor, Data Science, College of Engineering and Computer Science, The Australian National University.

Maolin Tang

Senior Lecturer, School of Electrical Engineering and Computer Science, Queensland University of Technology.

Dacheng Tao

Professor of Computer Science & Laureate Fellow, Centre for Quantum Computation and Intelligent Systems, Faculty of Engineering and Information Technology, University of Technology Sydney.

John Thangarajah

Associate Professor & Associate Dean, Computer Science and Software Engineering, RMIT.

Sylvie Thiebaut

Professor of Artificial Intelligence, College of Engineering and Computer Science, The Australian National University.

James Underwood

Senior Research Fellow, Australian Centre for Field Robotics (ACFR), The University of Sydney.

Svetha Venkatesh

Alfred Deakin Professor, Department of Pattern Recognition and Data Analytics, Deakin University.

Bao Quoc Vo

Associate Professor, Faculty of Science, Engineering and Technology, Swinburne University of Technology.

Mark Wallace

Professor & Deputy Dean (Research), Faculty of Information Technology, Monash University.

Toby Walsh FAA

Scientia Professor of Artificial Intelligence, School of Computer Science & Engineering, University of New South Wales, Sydney.

Kewen Wang

Professor, School of Information and Communication Technology, Griffith University.

Geoff Webb

Research Professor & Director, Centre for Data Science, Faculty of Information Technology, Monash University.

Lyndon While

Senior Lecturer, School of Computer Science and Software Engineering, The University of Western Australia.

Janet Wiles

Professor of Complex and Intelligent Systems, School of Information Technology and Electrical Engineering, The University of Queensland.

Mary-Anne Williams

Distinguished Research Professor & Director of the Innovation and Enterprise Research Laboratory (The Magic Lab), School of Software, University of Technology Sydney.

Troy Wilson

Research Associate in Robotics and Machine Learning, Australian Centre for Field Robotics, University of Sydney.

Wayne Wobcke

Associate Professor, AI Research Group, School of Computer Science & Engineering, University of New South Wales, Sydney.

Kevin Wong

Associate Professor, Information Technology, School of Engineering and Information Technology, Murdoch University.

Lexing Xie

Associate Professor, College of Engineering and Computer Science, The Australian National University.

Nitin Yadav

Research Fellow, The University of Melbourne.

Fabio Zambetta

Senior Lecturer, Computer Science & Software Engineering, School of Science, RMIT.

Chengqi Zhang

Distinguished Professor, Centre for Artificial Intelligence, University of Technology Sydney.

Dongmo Zhang

Associate Professor & HDR Director, School of Computing, Engineering and Mathematics, Western Sydney University.

Minjie Zhang

Professor & Director, Centre for Big Data Analytics and Intelligent Systems, School of Computing and Information Technology, The University of Wollongong.

Xiuzhen (Jenny) Zhang

Associate Professor, Computer Science, School of Science, RMIT.

Ying Zhang

Associate Professor, School of Software, Centre for Artificial Intelligence, University of Technology Sydney.

Jun Zhou

Senior Lecturer, School of Information and Communication Technology, Griffith University.

Ingrid Zukerman

Professor, School of Information Technology, Monash University.