P03 / Governance and Policy Design Lessons for Trust Building and Responsible Use of AI, Autonomous Systems and Robotics

Topic : SCIENCE, INTERNET AND TECHNOLOGY POLICY

Chair : Araz Taeihagh (National University of Singapore)

Second Chair : Devyani Pande (National Law School of India University)

Third Chair : Shaleen Khanal (The University of Nottingham Ningbo China)

Fourth Chair : Lili Li (Auburn University)

GENERAL OBJECTIVES, RESEARCH QUESTIONS AND SCIENTIFIC RELEVANCE

Artificial intelligence (AI), Autonomous Systems (AS) and Robotics are key features of the fourth industrial revolution, and their applications are supposed to add $15 trillion to the global economy by 2030 and improve the efficiency and quality of public service delivery (Miller & Sterling, 2019). A McKinsey global survey found that over half of the organisations surveyed use AI in at least one function (McKinsey, 2020). The societal benefits of AI, AS, and Robotics have been widely acknowledged (Buchanan 2005; Taeihagh & Lim 2019; Ramchurn et al. 2012), and the acceleration of their deployment is a disruptive change impacting jobs, the economic and military power of countries, and wealth concentration in the hands of corporations (Pettigrew et al., 2018; Perry & Uuk, 2019).

However, the rapid adoption of these technologies threatens to outpace the regulatory responses of governments around the world, which must grapple with the increasing magnitude and speed of these transformations (Taeihagh 2021). Furthermore, concerns about these systems' deployment risks and unintended consequences are significant for citizens and policymakers. Potential risks include malfunctioning, malicious attacks, and objective mismatch due to software or hardware failures (Page et al., 2018; Lim and Taeihagh, 2019; Tan et al., 2022). There are also safety, liability, privacy, cybersecurity, and industry risks that are difficult to address (Taeihagh & Lim, 2019) and The opacity in AI operations has also manifested in potential bias against certain groups of individuals that lead to unfair outcomes (Lim and Taeihagh 2019; Chesterman, 2021).

These risks require appropriate governance mechanisms to be mitigated, and traditional policy instruments may be ineffective due to insufficient information on industry developments, technological and regulatory uncertainties, coordination challenges between multiple regulatory bodies and the opacity of the underlying technology (Scherer 2016; Guihot et al. 2017; Taeihagh et al. 2021), which necessitate the use of more nuanced approaches to govern these systems. Subsequently, the demand for the governance of these systems has been increasing (Danks & London, 2017; Taeihagh, 2021).

CALL FOR PAPERS

Many studies have highlighted the urgency for and the challenges of governing AI, AS and Robotics (Firlej and Taeihagh 2021; He et al. 2020; Tan and Taeihagh 2021; Tan et al. 2021; Radu 2021; Taeihagh 2021). In this panel, we are interested in governance and policy design lessons for Responsible Use and Building trust in AI, AS and Robotics by answering the following key research questions:

· What governance and policy design lessons have been learnt so far in addressing risks and unintended consequences of adopting AI, AS and Robotics in different domains and geographies?

· What are the challenges of responsible use of AI, AS and Robotics, particularly in the public sector?

· What are the emerging theoretical, conceptual and empirical approaches to understanding new and unconventional regulatory approaches, governance strategies, institutions and discourses to govern these systems?

· What lessons have been learnt so far from the public and private organisations' standard setting and

development of guidelines in managing these systems?

· How can the public and expert viewpoints be better considered for the regulation and governance of AI, AS, and Robotics to increase trust in AI?

· What is the role of governments in promoting trustworthy AI and building trust in AI?

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Session 1

Wednesday, June 28th 10:20 to 12:20 (KHE118A)

Discussants
Shaleen Khanal (The University of Nottingham Ningbo China)
Kritika Sha (National University of Singapore)

(Virtual) Artificial Intelligence (AI) for Peace and Stability
Yihan CAI
Xun Wu

Local approaches to governance of AI systems in China: Challenges of adopting national AI policy
Shaleen Khanal (The University of Nottingham Ningbo China)
Hongzhou Zhang (The S. Rajaratnam School of International Studies)
Araz Taeihagh (National University of Singapore)

The Impact of Cultural Factors on Citizen Acceptance of Public Sector Applications and Governance of Artificial Intelligence
Ashley Khor (University of Pittsburgh)

Comparative Analysis of Governance of Biometrics in AI systems
Lynnette Hui Xian Ng (Carnegie Mellon University)
Abigail Lim (National University of Singapore)
Araz Taeihagh (National University of Singapore)

Facing Frankenstein: bringing back democratic governance in AI in electricity systems
Irene Niet (University of Technology Eindhoven)