

An Ecology of AI - Reflections for Researchers

Retno Larasati^{1,*†}, Venetia Brown^{1,†}, Soraya Kouadri Mostéfaoui^{2,†},
Syed Mustafa Ali^{2,†} and Tracie Farrell^{1,†}

¹Knowledge Media Institute, The Open University UK, United Kingdom

²School of Computing and Communications, The Open University UK, United Kingdom

Abstract

We summarise the first Workshop on Ecology of AI (EcAI 2023), co-located with 2nd International Conference on Hybrid Human-Artificial Intelligence (HHAI 2023), held on June 26,2023 in Munich, Germany.

1. Introduction

Pratyusha Kalluri of the Radical AI Network has proposed that asking whether AI is good or fair is not the right question if we want to look at potential benefits and harms [1]. We have to look at power. More specifically, we have to look at how AI impacts power relationships that preserve inequality within our society in very real and material terms, particularly through the vehicle of industrial racialised capitalism. One can consider the meta-ethical question of goodness or badness in many different ways, but the project of "ethical AI" often becomes conflated with specific ideas of morality, shifting the conversation toward the cultural arena (which makes it easier to dismiss or considerations of ethical AI to be siloed). We can see evidence of this through the abstraction of ethics in research (e.g. lacking specific consideration of specific harms), based primarily on White, Western notions of harm, focusing on "single issue" conversations of equity (rather than global and historical power asymmetries) and mitigated through mathematical means [2].

Having a frank discussion, with multiple, diverse stakeholders, in which money, power and influence are part of the discussion of potential harm and benefit of AI was one of the aims of this workshop. To be able to consider the broader, world-systems thinking around harm and benefit, in the short-, medium- and long-term, we propose a frame of Ecology of Artificial Intelligence.

1.1. Topics and Issues

We invited reflection papers covering any aspect of AI including, but not limited to:

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*Corresponding author.

†These authors contributed equally.

✉ retno.larasati@open.ac.uk (R. Larasati); venetia.brown@open.ac.uk (V. Brown); tracie.farrell@open.ac.uk (T. Farrell)



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- The impact of AI on:
 - non-normative bodies and identities
 - oppressed and/or under-served populations
 - communication and interaction between groups
 - the development of communities and infrastructures
 - the balance of ecosystems and resources
 - the climate, the planet context
- Short-, medium- and long-term beneficiaries of AI
- AI Ethics: Framework, Principles, and Guidelines
- AI Ethics education and awareness
- Accountability, responsibility and liability of AI-based systems
- Explainable AI and interpretable AI
- Avoiding harm and negative side effects in AI-based systems
- Self-explanation, self-criticism and the transparency problem
- Ethical human-machine (AI) interaction
- Regulating AI-based systems: standards and certification
- Evaluation problems for AI bias and fairness
- Human-in-the-loop, bias, and the oversight problem
- Potential harm in AI-based systems, including in industrial processes, health, automotive systems, robotics, critical infrastructures, war, among others.
- The potential of AI to shape or preserve existing power relationships
- Criticisms around the inevitability of AI

2. Workshop Organisation

2.1. Organisers

Dr. Retno Larasati (Organiser) is Postdoctoral Research Associate in Artificial Intelligence at the Knowledge Media Institute (KMi) at The Open University. Her work spans AI, HCI, and explainable AI, looking at how explanations are understood and trusted by layperson. Her research focuses on ethical and fair AI, AI for social good, their methodologies and their ethical considerations, as well as their outputs/beneficiaries. She has been workshop program committees of several workshops and international conferences.

Dr. Venetia Brown (Organiser) is a Postdoctoral Research Associate in Qualitative Methods at the Knowledge Media Institute (KMi) at The Open University. Her research focuses on the pedagogical component of Ethics and Fairness in AI with interest in how AI researchers learn about ethical principles and how they are applied in their work. Her additional research interests include online pedagogical approaches with educational technologies and exploring how they can facilitate learning, engagement and a sense of community in STEM courses.

Dr. Tracie Farrell (Organiser) is a UKRI Future Leaders Fellow at the Knowledge Media Institute of the Open University. Her fellowship explores the impacts of Artificial Intelligence and its subfields on society, particularly through the lenses of queer, intersectional feminisms. This includes the impacts of AI for non-normative bodies or identities, the consequences of historical power asymmetries on the benefits and harms associated with AI, and the influence of projected power relationships resulting from geopolitical and economic realities. As a social scientist and former educator, she is also interested in how different stakeholders learn to conceptualise and evaluate the future impacts of AI.

2.2. Program Committees

- Soraya Kouadri Mostéfaoui - School of Computing and Communication, The Open University, United Kingdom.
- Syed Mustafa Ali - School of Computing and Communications, The Open University, United Kingdom.
- Aisling Third - Knowledge Media Institute, The Open University, United Kingdom.
- Pinelopi Troullinou - Trilateral Research Ethical AI, Ireland
- Ana Tomicic - ARETE Institute for Sustainable Prosperity, North Macedonia

3. Workshop Summary

The primary objective of the EcAI 2023 workshop was to broaden the perspectives of artificial intelligence (AI) researchers and delve into the profound and far-reaching impacts of their own work. This endeavor was motivated by the recognition that prevailing notions of "ethical" or "responsible" AI and "AI for Social Good" tend to be informed predominantly by Western European moral frameworks. The workshop organizers aimed to underscore the extensive ecosystem involved in AI implementation and the potential influence of AI on global systems.

The workshop attendees, comprising researchers from diverse backgrounds and nations, actively participated in both in-person and virtual capacities. They contributed through the presentation of their own research findings and by engaging in substantive conversations. The workshop fostered an environment conducive to collaboration and critical thinking, as the participants explored ethical considerations, societal implications, and strategies for mitigating possible adverse effects associated with AI.

3.1. Submission

We invited authors to submit a short reflection, preferably on their own previous or current work in AI, that considers a wide scope of potential impacts of this work, direct and indirect beneficiaries, projected into the future. We asked participants, to the best of their ability, to consider longer-term impacts, and existing or projected power relationships that make certain consequences more likely (good or bad, and everything in between). The purpose of this statement was to help spark discussion and explore the questions that may assist AI researchers to broaden their view on potential impacts of their work. The target audience size was 15-18

participants, and was attended by 10 participants. We received a total of four submissions. Each paper was peer-reviewed by at least three Program Committee (PC) members.

3.2. Detailed Program

The EcAI 2023 program was organised in one invited talk, one paper session, and one group activity. Workshop Program is shown below:

Opening

Opening Talk by Syed Mustafa Ali: “*The Political Economy, Ecology, Theology of AI.*”

Paper Session

Protected Characteristics and Abuse Detection - Tracie Farrell

Social Media Platform Structures and Their Implications - Vijay Keswani

The Broader Impacts of AI Development - Maria Elahi

AI in Healthcare - Reflection on Potential Harms and Impacts - Retno Larasati

Group Activity

Reflection Guide Stage

Discussion on Power

Acknowledgement

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References

- [1] Kalluri P. Don't ask if artificial intelligence is good or fair, ask how it shifts power. *Nature*. 7 July 2020. doi: <https://doi.org/10.1038/d41586-020-02003-2>
- [2] Birhane A, Ruane E, Laurent T, S. Brown M, Flowers J, Ventresque A, L. Dancy C. The forgotten margins of AI ethics. In 2022 ACM Conference on Fairness, Accountability, and Transparency, 2022 Jun 21 (pp. 948-958). <https://doi.org/10.1145/3531146.3533157>