A Robot Rights Curriculum Informed by Western and Eastern Principles

Gabrielle Kaili-May Liu

MIT Department of Mathematics & Department of Brain and Cognitive Sciences

Abstract

With the rise of social robotics and assistive AI, the debate over robot rights is becoming increasingly important. What are robot rights? How should we navigate the complex landscape of human and robot rights from moral, legal, and social perspectives? As AI competition increases between East and West, can we bridge the growing divide by achieving a shared framework of robot rights applicable in cross-cultural settings? At present it is unclear how researchers, engineers, AI practitioners, and legal professionals will be able to address these questions. This project seeks to develop a curriculum on robot rights informed by Western and Eastern principles as a step toward uniting our global community. Our aim is to provide a foundational framework for students and researchers to engage in critical thinking, understanding, and discussion of decisions regarding robot rights. To our knowledge, no such pedagogical materials of similar focus, scope, and target audience exist.

Introduction

In recent years, great strides in artificial intelligence (AI) and social robotics have led scholars to question whether and how society should have any responsibility toward intelligent systems. Regardless of stance, scholars, engineers, and AI professionals find general agreement in that robots are taking on increasing importance in social contexts. This raises questions regarding our mutual interactions, whether robots should be treated as entities beyond mere tools, and whether they should have rights. Such considerations have prompted an influx of academic attention to the moral, social, and legal status of robots.

Even if we recognize robots with moral standing, how should societies situate them within an existing hierarchy of values? While many current legal systems prioritize human beings, recent studies have indicated that people are likely to hesitate to sacrifice robots in order to save humans, likely due to the increasing anthropomorphization of robots. As robots continue to evolve, how should we navigate the complex landscape of human and robot rights from moral, legal, and social perspectives?

With increasing AI competition between the West and East, there is a growing divide in the progress of intelligent systems that may open the door to disastrous consequences, exacerbate inequity, and shift global power dynamics. How can we attempt to strike a balance between divergent ideals in the development of robot rights?

There is an urgent need to equip current and future researchers, engineers, and AI practitioners with the ability to understand, address, and engage effectively on robot rights, and this must be done with an eye toward future global adoption of AI technologies. In this project, we sought to address this need by developing a curriculum for the study of robot rights motivated by both Western and Eastern principles that serves as a first step toward addressing existing gaps in knowledge and discourse on robot rights.

Objectives

AIM 1: Create a series of pedagogical materials that explains the historical development and trajectory of robot rights and related ethical contexts in Western and Eastern cultures.

AIM 2: Produce an educational framework appropriate for use in secondary and undergraduate instruction across a range of existing fields of study.

AIM 3: Develop a curriculum understandable from the political, social, technical, and cultural contexts of various nations and which incorporates shared tenets such as community discourse and policy decision-making.

Robot Rights Curriculum

The objective of this project was to develop a curriculum structured around a series of modules each providing insight into one key area of robot rights. These modules are designed to operate in conjunction with each other but may be adapted for use in isolation. Modules provide a mixture of introductory and intermediate-level material drawing from various fields of study. Discussion questions and activities may be adapted for use in homework assignments, group projects, or recitation as instructors see fit. They are intended to promote engagement beyond the text and provide avenues for further exploration.

Curriculum Content

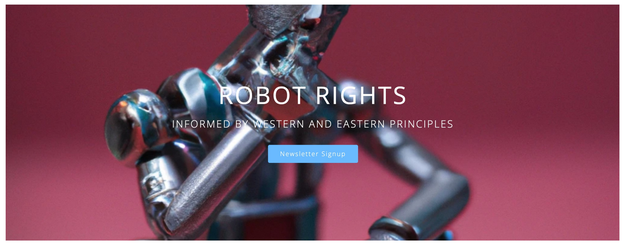
Unit	Topic
1	Introduction to Foundational Questions in Robot Rights • Module 1: Introduction to Robot Rights • Module 2: Machine Ethics • Module 3: Comparison of Western and Eastern SERC Principles • Module 4: Machines in the Media
2	History and Trajectory of Robot Rights in the East and West • Module 5: Robot Rights in the US & EU • Module 6: Robot Rights in East Asia • Module 7: Robot Rights Today
3	Robots and Humanity • Module 8: Medical AI and Robotics • Module 9: Anthropomorphic, Animal, and "Inanimate" Robots • Module 10: Killer Robots • Module 11: Robots and Work • Module 12: Robots, Love, and Friendship

Expected Student Outcomes

Upon completion of the curriculum, students will able to accomplish at least the following:

- Describe the concept of robot rights and understand its nuances.
- Gain familiarity with the problems of AI ethics and some of the possible solutions specifically related to robots.
- Describe the landscape of robot rights discourse today from both Western and Eastern perspectives.
- Identify and discuss the relationship and dynamics between robot-rights-related Western and Eastern principles over time.
- Analyze the social, ethical, and technical consequences of various frameworks and notions of robot rights.
- Identify challenges associated with public engagement on robot rights issues in which different communities have differing interests that are inherently in opposition.
- Discuss challenges facing engineers and researchers working on robot rights-related technologies.
- Discuss implications for robot rights in the context of law enforcement, government regulation, private corporations, research institutions, and scientific research.
- Apply ethical understanding to analyze case studies involving AI, engineering, society, politics, and governance.

Online Hosting for Free Public Access (robotrights.webflow.io)



OVERVIEW

With the rise of social robotics and assistive AI, the debate over robot rights is becoming increasingly important. What are robot rights? How should we navigate the complex landscape of human and robot rights from moral, legal, and social perspectives? As AI competition increases between East and West, can we bridge the growing divide by achieving a shared framework of robot rights applicable in cross-cultural settings?

We present a robot rights curriculum in which we construct and work through a foundational framework to engage in critical thinking, understanding, and discussion of decisions regarding robot rights. We cultivate an understanding of the robot rights debate informed by Western and Eastern principles as a step toward uniting our global community. Through the study of robot rights motivated by both Western and Eastern principles, we take an important first step toward addressing existing gaps in knowledge and discourse on robot rights.

CURRICULUM

INSTRUCTORS

Curriculum Guide - Instructor edition

STUDENTS

Curriculum Guide - Student edition

READINGS

Curriculum - Compiled readings

Module 2: Machine Ethics

Readings	• "Ethics of Artificial Intelligence and Robotics," Stanford Encyclopedia of Philosophy, April, 2020 https://plato.stanford.edu/entries/ethics-ai/ • Deng, "Machine ethics: The robot's dilemma," Nature, July, 2015 https://www.nature.com/articles/523024a • Jermsittiparsert, "The Influence of Machine Ethics on the Performance of AI of the ASEAN Countries," Social Science Asia, 2021 http://164.115.28.46/nrctejournal/file_upload/digital_file/296_37e16.pdf • (Optional resource) The Moral Machine https://www.moralmachine.net/ • Foundational Texts: o Anderson & Anderson, *Machine Ethics,* Chapters 1-3 o Thompson, *Machine Law, Ethics, and Morality in the Age of Artificial Intelligence*, Chapters 5, 7, 8
Study Questions	1. What criteria does Asimov lay out about the objectives of robotics? Do you believe they are sufficient or not, and why? Are Asimov's criteria admissible across the East and West? 2. Do you believe AGI is ethical? Why or why not? 3. What do Anderson and Anderson propose as the ultimate goal of machine ethics? What are the counters to those concerns as discussed by those authors and also by Desol? 4. What are the benefits and drawbacks of the value-sensitive design (VSD) approach toward machine ethics? How would you judge the objectives of machine ethics on this basis?
Lesson Objectives	This module aims to introduce students to: • Machine ethics, with a step toward understanding differing perspectives on the impacts of AI between the East and West. • Aspects of philosophical and ethical theory closely tied to machine ethics. • The importance of machine ethics toward creating ethical agents. • Relevant ethical problems within AI. • The distinction between the mechanical and the machinic – the impact of art on our perception of machines and machine ethics.
Instructor Notes	Guide students in discussion of the questions below by drawing upon their personal experiences; encourage students to draw upon the readings and point out important passages to support discussion. Bring in relevant concepts and explanations of theoretical knowledge as appropriate.

Significance

A. There is a need for more precise understanding and discourse regarding rights at all levels of education and practice.

Can and should robots have rights? What are robot rights? While rights are frequently discussed in both moral and legal contexts, most individuals and many professionals are unaware of the word's precise meaning. This lack of precision can be problematic and dangerous, and its consequences will only become magnified as assistive AI and social robots take on increasing roles and responsibilities in human society.

B. There is a need to recognize and understand the ways in which robot rights are distinct from, and why they need not be identical to, human rights.

"Robot rights" are often conflated with "human rights," leading to the incorrect assumption that the two must be synonymous and interchangeable. This is observed not only in popular press but also in academic literature and policy debates. More broadly, most questions of rights are often immediately assumed to involve all human rights, without the recognition that the rights relegated to one type of entity (e.g. animals) are not necessarily equivalent to those of another type of entity (e.g. humans).

C. There is a need to recognize how Western and Eastern notions of robot rights differently frame decisions, outcomes, and consequences alongside progress in AI.

A prerequisite to remarking on the moral and legal status of a robot or AI agent is to determine whether such agents are capable of being legally recognized as a person. Decisions about legal personality generally operate on the basis that the world is divided into the two exclusive ontological categories of persons and property. Notably, this categorization is subject to influences that are culturally specific. Further, differences in political alignment and moral circle expansion have been found to apply to robots and AI and their legal considerations.

Module 1 Readings

Module 2 Readings

Module 3 Readings

Acknowledgments

This project was funded by the Peter J. Eloranta Summer Undergraduate Research Fellowship award and the MIT Undergraduate Research Opportunities Program.

Selected References

Balkin, J. (2015). The Path of Robotics Law. California Law Review 6. Available at: https://digitalcommons.law.yale.edu/fss_papers/5150.

Bennett, B., and Daly, A. (2020). Recognising Rights for Robots: Can We? Will We? Should We? *L. Innovation Tech.* 12 (1), 60–80. doi:10.1080/17579961.2020.1727063

Darling, K. (2016). "Extending Legal Protection to Social Robots: The Effects of Anthropomorphism, Empathy, and Violent Behavior towards Robotic Objects," in *Ryan Calo, A. Michael Froomkin, and Ian Kerr. Editors R. Law First Edition* (Cheltenham, UK: Edward Elgar Pub).

De Graaf, M. M., Hindriks, F. A., & Hindriks, K. V. (2021, March). Who wants to grant robots rights?. In Companion of the 2021 ACM/IEEE International Conference on Human-Robot Interaction (pp. 38-46).

Dvorsky, G. (2017, June 2). *When Will Robots Deserve Human Rights?* Gizmodo. https://gizmodo.com/when-will-robots-deserve-human-rights-1794599063

Gellers, J. C. (2020). *Rights for Robots: Artificial Intelligence, Animal and Environmental Law*. Routledge. doi:10.4324/9780429288159

Gunkel, D. J. (2018). *Robot rights*. Massachusetts: MIT Press.

Gunkel, D. J., and Wales, J. J. (2021). Debate: What Is Personhood in the Age of AI? *AI Soc.* 36, 473–486. doi:10.1007/s00146-020-01129-1

Martínez, E., & Winter, C. (2021). Protecting Sentient Artificial Intelligence: A Survey of Lay Intuitions on Standing, Personhood, and General Legal Protection. *Frontiers in robotics and AI*, 8, 788355. https://doi.org/10.3389/frobt.2021.788355

Miller, L.F. (2015). Granting Automata Human Rights: Challenge to a Basis of Full-Rights Privilege. *Human Rights Review*, 16, 369-391.

Pietrzykowski, T. (2018). *Personhood beyond Humanism: Animals, Chimeras, Autonomous Agents and the Law*. doi:10.1007/978-3-319-78881-4

Smith, J. K. (2021). *Robotic Persons: Our Future with Social Robots*. Westbow Press.

Tavani, H. (2018). Can Social Robots Qualify for Moral Consideration? Reframing the Question about Robot Rights. *Information* 9 (4), 73. doi:10.3390/info9040073

Torrance, S. (2008). Ethics and consciousness in artificial agents. *AI Soc.* 22, 495–521. doi:10.1007/s00146-007-0091-8

Turner, J. (2018). *Robot Rules: Regulating Artificial Intelligence*. Palgrave Macmillan.