

Robot Rights across the East and West

Course Number

Instructor name

[Instructor email](#)

Course Site:

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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? In this course, we will construct and work through a foundational framework to engage in critical thinking, understanding, and discussion of decisions regarding robot rights. We will 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 will take an important first step toward addressing existing gaps in knowledge and discourse on robot rights!

Key Learning Goals:

- 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 benefits and 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 your ethical understanding to analyze case studies involving AI, engineering, society, politics, and governance

Grading:

Readings must be completed before class, and you will be called upon to participate in graded class discussions.

- Weekly written assignments (60% / 45%): Each week starting the second week of class, students must answer each study question in a paragraph or so.
These assignments are due each week at 11:59 pm the night before class.
The first assignment will be due on DATE.
- Classroom participation (30% / 35%): Students are required to attend class and are expected to make contributions to class discussion.
- Book Annotations (10% / 5%): We will be working through the texts *Robot Rights* by Gunkel and *Machine Ethics* by Pereira and Lopez. Please see specifications on the course site.
- Final Paper (0% / 15%): Students taking the advanced version of this course will be required to complete a final paper demonstrating their ability to analyze a particular topic relevant to the course material. Please see specifications on the course site.

Readings and Digital Resources:

- Required Textbooks
*Gunkel, *Robot Rights* (2018 Edition)
*Pereira & Lopez, *Machine Ethics: From Machine Morals to the Machinery of Morality* (2020 Edition)
- Required Readings on Course Website
Additional readings consist of articles and research publications.
- Recommended Books
Anderson & Anderson, *Machine Ethics* (2011 Edition)
Pasquale, *News Laws of Robotics: Defending Human Expertise in the Age of AI* (2020 Edition)
Thompson, *Machine Law, Ethics, and Morality in the Age of Artificial Intelligence* (2021 Edition)
- Digital Resources:
Kami Annotation Tool

**For annotation assignments.*

Unit One: Introduction to Foundational Questions in Robot Rights

Module 1: Introduction to Robot Rights

We will give an overview and discuss:

- Gunkel, “2020: The Year of Robot Rights,” The MIT Press Reader, January, 2020
<https://thereader.mitpress.mit.edu/2020-the-year-of-robot-rights/>
- Falk, “The rise of smart machines puts spotlight on 'robot rights',” NBC Mach, December, 2017
<https://www.nbcnews.com/mach/science/rise-smart-machines-puts-spotlight-robot-rights-ncna825791>
- Sherman & Shaw, “Now is the time to figure out the ethical rights of robots in the workplace,” CNBC Work, December, 2018
<https://www.cnbc.com/2018/12/27/now-is-the-time-to-figure-out-the-ethical-rights-of-robots-in-the-workplace-.html>
- Banik, “Will Sentient AI Gain Equal Rights as Humans in the Future?,” Analytics Insight, June, 2022
<https://www.analyticsinsight.net/will-sentient-ai-gain-equal-rights-as-humans-in-the-future/>
- Chan, “What you need to know about China’s AI ethics rules,” TechBeacon, January, 2022
<https://techbeacon.com/enterprise-it/what-you-need-know-about-chinas-ai-ethics-rules>
- Cole, “The Global Race to Robot Law: 5th Place, China,” October 2012
https://www.roboticsbusinessreview.com/legal/the_global_race_to_robot_law_5th_place_china/
- Foundational Texts:
 - Gunkel, *Robot Rights*, Introduction & Chapter 1 (Thinking the Unthinkable)

Study Questions*:

1. What do you consider a robot?
2. How do we define a right? How do *you* define a right? How *should* a right be defined?
3. What are the key ethics issues involving robot rights?
4. How should we as a society (Eastern, Western, or otherwise collaborative) pursue the risk vs. benefits of the pursuit of robot rights?

**For this week, study question responses are not required to be turned in.*

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>
- Jermstittiparsert, “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:
 - Anderson & Anderson, *Machine Ethics*, Chapters 1-3
 - 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?

Module 3: Comparison of Western and Eastern SERC Principles

Readings:

- Sharma, “Robots bring Asia into the AI research ethics debate,” November, 2017
<https://www.universityworldnews.com/post.php?story=20171124143449109>
- Gal, “Perspectives and Approaches in AI Ethics: East Asia,” June, 2019
https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3400816
- “Asia’s AI Agenda: The Ethics of AI,” MIT Technology Review Insights, July, 2019
<https://mittrinsights.s3.amazonaws.com/asiiethics.pdf>
- Jones, “Is the AI ethics issue hindering innovation?” *Techwire Asia*, February, 2021
<https://techwireasia.com/2021/02/is-the-ai-ethics-issue-hindering-innovation/>
- Kratsios, “AI That Reflects American Values,” *Bloomberg Opinion*, January, 2020
<https://www.bloomberg.com/opinion/articles/2020-01-07/ai-that-reflects-american-values>
- Hongladarom, “The case for uniting the East and West to build ethical AI,” *Quartz*, May, 2019
<https://qz.com/1620028/we-need-to-unite-eastern-and-western-philosophies-to-build-ethical-ai/>
- Tan, “Alternative ethical frameworks for AI: A critical view of AI ethics,” Association for Progressive Communications, August, 2020
<https://www.apc.org/en/blog/engagemedia-alternative-ethical-frameworks-ai-critical-view-ai-ethics>

- (Optional) “Artificial Intelligence: Policies in East Asia,” Asian Pacific Foundation of Canada, 2019
https://www.asiapacific.ca/sites/default/files/filefield/ai_report_2019.pdf

Study Questions:

1. Do we need “globally acceptable guidelines” for AI ethics? What are the key arguments in support of and against devising a global framework of (AI) ethics united across East and West? Do you think achieving this is possible? Why or why not?
2. What are the key stances, arguments, and evidence for and against “partner AI” in East Asia?
3. What are the societal concerns addressed in the MIT Tech Review Insights report?
4. How might we make an AI ethical framework actionable and enforceable?

Module 4: Machines in the Media

No readings or study questions this week – first book annotation due. We will screen the movie *Hi, AI* during class and discuss briefly afterward.

Unit Two: History and Trajectory of Robot Rights in the East and West

Module 5: Robot Rights in the US & EU

Readings:

- “Principles of Robotics,” UK Research and Innovation
<https://webarchive.nationalarchives.gov.uk/ukgwa/20210701125353/https://epsrc.ukri.org/research/ourportfolio/themes/engineering/activities/principlesofrobotics/>
- Cuddy, “Robot Rights Violate Human Rights, Experts Warn EU,” EuroNews, April, 2018
<https://www.euronews.com/2018/04/13/robot-rights-violate-human-rights-experts-warn-eu>
- Open Letter to the European Commission on Artificial Intelligence and Robotics,
<http://www.robotics-openletter.eu/>
- Marko, “Robot rights – a legal necessity or ethical absurdity?” Diginomica, January, 2019
<https://diginomica.com/robot-rights-a-legal-necessity-or-ethical-absurdity>
- Langman, et al., “Roboethics principles and policies in Europe and North America,” Science News Applied Sciences, November, 2021
<https://link.springer.com/article/10.1007/s42452-021-04853-5>
- Calo, “Robots in American Law,” University of Washington School of Law, April, 2016
<http://euro.ecom.cmu.edu/program/law/08-732/AI/Calo.pdf>
- Foundational Texts:
 - Gunkel, *Robot Rights*, Chapter 2 (!S1→!S2)
 - Pasquale, *News Laws of Robotics: Defending Human Expertise in the Age of AI*, Introduction

Study Questions:

1. Would you want to live in a world in which you cannot determine whether you are interacting with a human or a machine? Why or why not?
2. How transparent should a machine's behavior be to humans? Why?
3. What are the key issues of regarding AI versus human expertise, and how do they relate to 5 principles outlined in "Principles of Robotics?"
4. Based on this week's readings, what are the key arguments for and against granting legal personage to robots and AI machines?

Module 6: Robot Rights in East Asia

Readings:

- Zhu, Williams, and Wen, "Confucian robot ethics," Computer Ethics, 2019
https://digitalcommons.odu.edu/cepe_proceedings/vol2019/iss1/12/
- 机器人是否应当拥有权利吗？如果机器有自我意识了又该怎么做呢？Tencent, December, 2019
<https://cloud.tencent.com/developer/news/491257>
- 人工智能机器人的权利与义务 OfWeek, August, 2018
<https://mp.ofweek.com/ai/a745673727306>
- 機器人的生命權力——《再·創世》專題 PanSci, August, 2021
<https://pansci.asia/archives/328929>
- 智能机器人还不能成为法律上的人 June, 2019
<http://it.people.com.cn/n1/2019/0619/c1009-31167451.html>
- 对机器人“法律人格论”的质疑
<https://new.qq.com/omn/20200923/20200923A0FCJN00.html>
- Guo and Zhang, "Robot Rights," Science, 2009
https://www.researchgate.net/publication/24004949_Robot_Rights
- Weng et al., "Toward the Human-Robot Co-Existence Society: On Safety Intelligence for Next Generation Robots," International Journal of Social Robotics, 2009
<https://link.springer.com/article/10.1007/s12369-009-0019-1>
- Weng, "Beyond Robot Ethics: On a Legislative Consortium for Social Robotics," Advanced Robotics, 2010
<https://www.tandfonline.com/doi/abs/10.1163/016918610X527220>
- Dang and Liu, "Robots are Friends as Well as Foes: Ambivalent Attitudes Toward Mindful and Mindless AI Robots in the United States and China," Computers in Human Behavior, 2021
<https://www.sciencedirect.com/science/article/abs/pii/S0747563220303599>
- (Optional) Robertson, "Human Rights vs. Robot Rights: Forecasts from Japan," Critical Asian Studies, 2014
<https://www.tandfonline.com/doi/abs/10.1080/14672715.2014.960707>

- (Optional) South Korean Robot Rights Charter 2012
<https://akikok012um1.wordpress.com/south-korean-robot-ethics-charter-2012/>
- (Optional) “Robot Law and Ethics”
<http://www.robotlaw.asia/research-01.html>

Study Questions:

1. What do 对机器人“法律人格论”的质疑 and 人工智能机器人的权利与义务 name as obstacles to granting legal personage and rights to robots? Do you believe rights are derived from consciousness? Why or why not?
2. Based on this week’s readings, describe three key differences between the Western and Eastern approaches to robot rights and/or the motivations involved.
3. Evaluate the necessity of avoiding “colonization of robot legislative affairs” (Weng 2010). Why is it important? Do you agree? Why or why not?
4. What are the differences between an electronic person, natural person, and legal person? What are the criteria for each?

Module 7: Robot Rights Today

Readings:

- “Re-thinking “Human-centric” AI: An Introduction to Posthumanist Critique,” EuropeNow, November, 2021
<https://www.europenowjournal.org/2021/11/07/re-thinking-human-centric-ai-an-introduction-to-posthumanist-critique/>
- Foundational Texts:
 - Gunkel, *Robot Rights*, remaining chapters*

Study Questions: Second book annotation due.

Unit Three: Robots and Humanity

Module 8: Medical AI and Robotics

Readings:

- Preising et al., A Literature Review: Robots in Medicine, IEEE Engineering in Medicine and Biology, 1991
<https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=82001>
- Gyles, “Robots in Medicine,” The Canadian Veterinary Journal, 2019
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6625162/>
- Kasina et al., “Robots in Medicine,” International Journal of Manufacturing, Materials, and Mechanical Engineering, 2017
<https://www.igi-global.com/article/robots-in-medicine/188720>

- Leslie et al., “Does “AI” stand for augmenting inequality in the era of covid-19 healthcare?” BMJ, 2021
<https://www.bmj.com/content/372/bmj.n304.abstract>
- Pesapane et al., “Legal and Regulatory Framework for AI Solutions in Healthcare in EU, US, China, and Russia: New Scenarios after a Pandemic,” Radiation, 2021
<https://www.mdpi.com/2673-592X/1/4/22>
- Yang, “Digital Health – China,” ICLG, 2022
<https://iclg.com/practice-areas/digital-health-laws-and-regulations/china>
- (Optional Resource) Roberts et al., “The Chinese approach to artificial intelligence: an analysis of policy, ethics, and regulation,” AI & Society, 2020
<https://link.springer.com/article/10.1007/s00146-020-00992-2>
- (Optional Resource) Medical Robotics and the Right to Healthcare: Toward a progressive realization, 2021
https://www.researchgate.net/publication/355427737_Medical_Robotics_and_the_Right_to_Healthcare_Toward_a_progressive_realization

Study Questions:

1. What are Preising et al.’s key points about medical AI and robotics?
2. Describe the potential ethical problems posed by medical AI.
3. How do medical AI and robotics regulations in the US, EU, and China compare to each other?
4. Taking into account the foundational readings and cases, how should we think about the importance of privacy and transparency and how AI and robotics can tend to restrict it? (Try to include a short analysis of different government regimes.)

Module 9: Anthropomorphic, Animal, and “Inanimate” Robots

Readings:

- Carman, “JIBO, THE SOCIAL ROBOT THAT WAS SUPPOSED TO DIE, IS GETTING A SECOND LIFE,” The Verge, July, 2020
<https://www.theverge.com/2020/7/23/21325644/jibo-social-robot-ntt-disruptionfunding>
- Craft, “Robo-dogs and therapy bots: Artificial intelligence goes cuddly,” CBS News, January, 2022
<https://www.cbsnews.com/news/robo-dogs-therapy-bots-artificial-intelligence/>
- Vanderborght, “Robotic Dreams, Robotic Realities: Why is it So Hard to Build Profitable Robot Companies?” IEEE Spectrum, 2019
<https://spectrum.ieee.org/robotic-dreams-robotic-realities>
- Belpaeme et al., “Social robots for education: A review,” Science Robotics, 2018
<https://www.science.org/doi/abs/10.1126/scirobotics.aat5954>
- Mou & Xu, “The media inequality: Comparing the initial human-human and human-AI social interactions,” Computers in Human Behavior, 2017
https://www.sciencedirect.com/science/article/abs/pii/S0747563217301486?casa_token=0q45RVq-

jW8AAAAA:ARGCsYJMr4kbT4Uuqn4ye25tosOyRCYvdXvfWovJQyd9sYNXpzDwN
WgsPeFeVneKm7kVsVSexie8

- Sandewall, “Ethics, Human Rights, the Intelligent Robot, and its Subsystem for Moral Beliefs,” International Journal of Social Robotics, 2019
<https://doi.org/10.1007/s12369-019-00540-z>
- (Optional Resource) IEEE Guide to the World of Robotics
<https://robots.ieee.org/robots/>

Study Questions:

1. Should we strive to overcome differential treatment of robots based on their appearance, whether anthropomorphic, animal, or inanimate? Why or why not?
2. Why is it becoming increasingly difficult to build successful robot companies?
3. Take a look at the Guide to the World of Robotics. Which robots do you feel more drawn to? Which would you be most willing to interact with? Should robots’ rights be classified according to their intended purposes?
4. Based on the readings, prepare 3-5 questions or topics which you would like to discuss in class with your peers. These should be generative, i.e., aimed at generating ideas, not yes/no questions.

Module 10: Killer Robots

Readings:

- Houser, “China Deploys Its First Robot Traffic Police,” Futurism, August, 2019
<https://futurism.com/first-police-robots-traffic-china>
- Chen, “Chinese scientists develop AI ‘prosecutor’ that can press its own charges,” SCMP, December, 2021
<https://www.scmp.com/news/china/science/article/3160997/chinese-scientists-develop-ai-prosecutor-can-press-its-own>
- Stauffer, “Killer Robots: Urgent Need to Fast-Track Talks,” HRW, August, 2021
<https://www.hrw.org/news/2021/08/02/killer-robots-urgent-need-fast-track-talks>
- “Artificial Intelligence, Emerging Technologies, and Lethal Autonomous Weapons: Security, Moral, and Ethical Perspectives in Asia,” Nonviolence International, September, 2020
<https://www.stopkillerrobots.org/wp-content/uploads/2021/11/NISEA-AI-Emerging-Tech-and-LAWS-Perspectives-in-Asia.pdf>
- Moriyasu and Fang, “Killer robots need ethical rules, US and Chinese analysts agree,” Nikkei Asia, May, 2021
<https://asia.nikkei.com/Politics/International-relations/Indo-Pacific/Killer-robots-need-ethical-rules-US-and-Chinese-analysts-agree>
- Akimoto, “Clash of Killer Robots? Japan’s Role in Preventing AI Apocalypse,” The Diplomat, December, 2019
<https://thediplomat.com/2019/12/clash-of-killer-robots-japans-role-in-preventing-ai-apocalypse/>

- Stauffer, “Stopping Killer Robots: Country Positions on Banning Fully Autonomous Weapons and Retaining Human Control,” HRW, August, 2020
<https://www.hrw.org/report/2020/08/10/stopping-killer-robots/country-positions-banning-fully-autonomous-weapons-and>

Study Questions:

1. Describe the main concerns surrounding AI, robotics, and warfare.
2. How do population dynamics in Asia affect Asian military operations and views on autonomous weapons systems?
3. Is it realistic to expect to maintain “a responsible chain of human command and control” for autonomous weapons? At what point, if at all, should responsibility for the use of force be afforded to machines?
4. Would you accept a ruling made by a robot/AI prosecutor? When might you be less likely to do so? Can robots be truly fair?
5. Based on the readings, prepare 3-5 questions or topics which you would like to discuss in class with your peers. These should be generative, i.e., aimed at generating ideas, not yes/no questions.

Module 11: Robots and Work

Readings:

- Berger and Armstrong, “The Puzzle of the Missing Robots,” MIT Schwarzman College of Computing, January, 2022
<https://mit-serc.pubpub.org/pub/puzzle-of-missing-robots/release/1?readingCollection=b2d8aadb>
- Lankisch et al., “How can robots affect wage inequality?” Economic Modelling, September, 2019
<https://www.sciencedirect.com/science/article/abs/pii/S0264999318310629>
- Freeman, “Who owns the robots rules the world,” IZA World of Labor
<https://wol.iza.org/articles/who-owns-the-robots-rules-the-world/long>
- “Why China is focused on a robotic future,” Macquarie, May, 2022
<https://www.macquarie.com/au/en/perspectives/why-china-is-focused-on-a-robotic-future.html>
- Ye, Borak, and Wang, “As China’s working population falls, factories turn to machines to pick up the slack,” SCMP, May, 2021
<https://www.scmp.com/tech/big-tech/article/3134920/chinas-working-population-falls-factories-turn-machines-pick-slack>
- Qu and Feng, “China robotics industry cools down as top maker of robot waiting staff slashes jobs,” SCMP, July, 2022
<https://www.scmp.com/tech/big-tech/article/3184353/china-robotics-industry-cools-down-top-maker-robot-waiting-staff>
- (Optional Reading) Shen, “China says AI robots won’t lead to significant job loss,” Tech in Asia, January, 2020
<https://www.techinasia.com/robot-lead-significant-job-loss>

Study Questions:

1. Describe the potential impacts of automation on wage inequality and economic prosperity. How can widening inequality gaps be mitigated?
2. Should robots be taxed? Which types of taxation are permissible, if any? Why?
3. Summarize the main pros and cons of increasing robots in the workplace.
4. Based on the readings, prepare 3-5 questions or topics which you would like to discuss in class with your peers. These should be generative, i.e., aimed at generating ideas, not yes/no questions.

Module 12: Robots, Love, and Friendship

Readings:

- Turkle, *Alone Together*, Basic Books – Introduction (‘Alone Together’) & Chapter 3 (‘True Companions’)
- Yudkowsky, “Complex Value Systems in Friendly AI,” AGI, 2011
https://link.springer.com/chapter/10.1007/978-3-642-22887-2_48
- Costellano, *The Future of Love: Robot Sex and AI Relationships*, April, 2018
<https://orgr.medium.com/the-future-of-love-robot-sex-and-ai-relationships-3b7c7913bb07>
- Sullins, “Robots, Love, and Sex: The Ethics of Building a Love Machine,” IEEE Transactions on Affective Computing, 2012
<https://dl.acm.org/doi/10.1109/T-AFFC.2012.31>
- Chen and Li, “China’s lonely hearts reboot online romance with artificial intelligence,” Washington Post, August, 2021
<https://www.washingtonpost.com/world/2021/08/06/china-online-dating-love-replika/>
- Nyholm and Frank, “It Loves Me, It Loves Me Not: Is It Morally Problematic to Design Sex Robots that Appear to Love Their Owners?” 2019
https://www.pdcnet.org/techne/content/techne_2019_0999_12_2_110
- Danaher, “Robot Betrayal: a guide to the ethics of robotic deception,” Ethics and Information Technology, 2020
<https://link.springer.com/article/10.1007/s10676-019-09520-3>
- Galaitsi et al., “Sex Robots—A Harbinger for Emerging AI Risk,” Frontiers in Artificial Intelligence, 2019
<https://www.frontiersin.org/articles/10.3389/frai.2019.00027/full>
- Hernandez, “Sex Robots: Negative Impact Towards Society,” 2018
<https://digitalcommons.augustana.edu/cgi/viewcontent.cgi?article=1014&context=ethicscontest>
- (Optional Reading) Sorell and Draper, “Robot carers, ethics, and older people,” Ethics and Information Technology, 2014
<https://link.springer.com/article/10.1007/s10676-014-9344-7>
- (Optional Reading) Jecker, “My Friend, the Robot: An Argument for E-Friendship,” IEEE, 2021
https://ieeexplore.ieee.org/abstract/document/9515429?casa_token=gvNNnR6inFkAAA

AA:eaH9fi0V1cfDCdulz1WVXEmmVGREfz9yVnVozcKae2x3FQ8gkWvWrpb25CpLcCz9uo4gQdpW8I

- (Optional Reading) Jecker, You've got a friend in me: sociable robots for older adults in an age of global pandemics, *Ethics and Information Technology*, 2021
<https://link.springer.com/article/10.1007/s10676-020-09546-y>
- (Optional Resource) Campaign Against Sex Robots
<https://campaignagainstsexrobots.org/>
- (Optional Resource) Levy, *Love and Sex with Robots*, 2007

Study Questions:

1. How do you define love?
2. Can we love a robot, and can a robot love us back?
3. Is 'lover AI' ethical? Should it be legally permissible?
4. Synthesizing what you have learned this semester, how would you address the question of robot rights?
5. Based on the readings, prepare 3-5 questions or topics which you would like to discuss in class with your peers. These should be generative, i.e., aimed at generating ideas, not yes/no questions.