

Syllabus

Topics in Economics and Ethics of Artificial Intelligence			
Responsible:			
Professor Dr. Alicia von Schenk, Junior Professorship of Applied Microeconomics, esp. Human-Machine Interaction			
Program:	Type:	Term:	ECTS:
Master	Seminar	Summer	10
Contents & Objectives:			
<p>With the increasing effectiveness of machine learning and artificial intelligence (AI) methods, there is growing interest in understanding the potentially disruptive impact of these technologies. Artificial intelligence powers Google's search engine, enables Facebook to target ads, is also behind self-driving cars, predictive policing, and autonomous weapons. Our goal is to look beyond the "hype" around AI by considering current research that attempts to provide a rigorous answer to questions related to the impact of AI. In particular, we will seek to understand the consequences of AI conceptually by looking at non-technical AI research.</p> <p>In this seminar, we will discuss recent articles on important aspects of human-machine interaction. From an economic perspective, we look at the impact of algorithms in the workplace and in decision making, as well as behavioral economic factors involved in interacting with machines. In addition, we consider ethical issues related to artificial intelligence, moral dilemmas, and potential impacts of increasingly powerful AI on business and society.</p> <p>With this seminar,</p> <ul style="list-style-type: none"> • students learn how to present research in a structured manner, both orally and in writing. • students will be equipped to understand and reflect on advanced current theoretical and empirical economic studies, especially in the domain of human-machine interaction. • students will learn to incorporate ethical concerns in their economic decision-making processes and develop an awareness of ethical norms and the consequences of decisions in business and economics. • students will be able to classify and relate specialized knowledge from behavioral economics, business administration, and psychology. 			
Prerequisites:			
Basic knowledge in microeconomics and econometrics is desirable.			
Course Structure:			
Topics:			
<ul style="list-style-type: none"> • AI and Economics <ul style="list-style-type: none"> • Prediction and causality in economics • Occupational change and automated agents in the workplace • AI and behavioral economics: trust and human-machine cooperation • Data and the use of algorithms in decision-making • AI, Ethics, and Society <ul style="list-style-type: none"> • Machine behavior, ethics, and algorithmic biases • Moral dilemmas and autonomous vehicles • Policies and societal implications 			
Session	Content		
1	Introductory event: organization; assignment to topics		
2	Intermediate small meetings to discuss presentations and questions		
3	Presentation workshop: presentation and active participation in discussions		

Literature:

There is no textbook for this course. Instead, we will discuss (in detail) various empirical and theoretical works on economic and ethical aspects of artificial intelligence. The collection of papers will be announced at the beginning of the course.

A suitable first starting point is:

- Agrawal, Ajay, Joshua Gans, and Avi Goldfarb. *Prediction machines: the simple economics of artificial intelligence*. Harvard Business Press, 2018.
- Wallach, Wendell, and Colin Allen. *Moral machines: teaching robots right from wrong*. Oxford University Press, 2008.

Grading:

1. Presentation of a topic, active participation in discussions (40% of final grade)
2. Written seminar paper summarizing and discussing the assigned research article(s) (60% of final grade)

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