

Interdisciplinary Programmes

Academic year 2021-2022

AI and Politics

MINT227-1 - Autumn - 3 ECTS

8 October 2021

Course Description

The increasing digitalization of our everyday lives, from smartphones to social media, e-commerce or digital public services, is generating an unprecedented amount of data. Fueled by these big data, AI approaches are becoming more and more prevalent. Algorithms affect the way we interact with each other and obtain information which has important implications for social and political processes. At the same time, there are serious concerns related to AI approaches, including their inherent biases and unwanted consequences of algorithmic decision making but also a lack of effective regulation and safeguards. This workshop will first provide an overview of the current state of big data and AI including technical, ethical and regulatory challenges. Working in smaller groups, you will then deepen your knowledge by working on case studies and developing concrete concepts for the responsible use of big data and AI approaches in politics. The block course is designed as a conceptual primer for anyone interested in attaining a basic understanding of AI and politics and does not entail any technical training. There are no prerequisite requirements for this course.

IMPORTANT: This session has been restructured for an online-only teaching setting with two live online sessions on Oct. 8 and virtual group work throughout the following week.

> PROFESSOR

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Syllabus

Course Requirements

Requirement 1: (Virtual) Attendance in all required parts of the workshop is mandatory and students are expected to actively engage with the recommended readings and/or online resources in preparation for the course.

Requirement 2: Students will be required to complete case study exercises in small groups. Evaluation will be based on the written project report of each group. You are expected to actively work with the members of your group through suitable online collaboration channels (Google Docs, Google Hangout etc.).

Course Evaluation

Performance in the course depends both on active participation in the required (online) sessions of the course and performance in the case study exercises. Evaluation will be based on:

1. Active participation and contribution to the course 20%
2. Performance in case study exercises 80%

Course Material

I recommend the following two books written for a general, non-scientific audience that highlight the potentially very detrimental impact of algorithmic decision-making. These examples pre-date the age of AI but the problems are entirely the same and provide cautionary tales of the risks that come with a more widespread adoption of AI-driven technology.

- Cathy O’Neil. (2016). [Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy](#). Penguin Books.
- Virginia Eubanks. (2018). [Automating Inequality: How High-Tech Tools Profile, Police, and Punish the Poor](#). St. Martin’s Press.

The course schedule below then provides more specific readings for each session drawing on recent scholarship but also relevant reports and studies by NGOs that help capture the current state of our understanding of the role of AI in politics.

Overview of the Course

The first part of the course focuses on providing a theoretical and practical introduction to big data and AI, including a discussion of associated challenges but also an illustration of current areas in which AI is already successfully applied. This part entails an interactive session through the video conferencing tool *Google Meet* as well as four pre-recorded in-depth sessions. In the second part, students then apply this knowledge in the context of a case study and prepare a written case study report. The course provides a purely conceptual overview, there will be no practical programming exercises and no prior knowledge of scripting etc. is assumed.

Course Website

Please refer to the course website on Moodle for the most up-to-date information on the class. The lecture slides, pre-recorded lectures, case study materials etc. will all be made available through the website. We will also use its forum for course-related communication. Please use the link below or search for “MINT227-1” on Moodle:

<https://moodle.graduateinstitute.ch/course/view.php?id=2463>

Course Schedule with Recommended Readings and Online Resources

Part 1: Foundations

Overview Session: AI and Politics

Friday, Oct. 8, 15:00-16:30

This session takes place via the video conferencing platform [Google Meet](#)

This interactive session provides an broad overview of the topic of AI and politics. We will cover big data as the fuel for AI, algorithmic decision-making, challenges and problems as well as examples of the use of AI in practice. You will be required to log onto the video conferencing system (see link above) and attend the session online; the slides will be provided through the course website.

In-depth Sessions

For each of the topics covered in the overview session four in-depth sessions will be provided as pre-recorded lectures and can be accessed whenever it is most convenient for you. Readings for each of these sessions are provided below. The links to the recordings will be provided through the course website.

In-depth Session 1: Big Data – The Fuel for AI

Dutcher, Jenna. (2014). [What is Big Data?](#) *UC Berkeley Data Science Blog*.

Ehl, Christian. (2018). [Data – The Fuel for Artificial Intelligence](#). *Medium*.

Yeung, Joshua (2020). [What is Big Data and What Artificial Intelligence Can Do?](#) *Towards Data Science*.

In-depth Session 2: The AI Approach

West, Darrel M. (2018). [What is Artificial Intelligence?](#) *The Brookings Institution*.

Opperman, Artem. (2019). [What is Deep Learning and How does it Work?](#) *Towards Data Science*.

Rosebrock, Adrian. (2021). [What is Deep Learning?](#) *Blog Post*.

In-depth Session 3: Challenges and Problems

Satell, Greg & Yassmin Abdel-Magied. (2020). [AI Fairness Isn't Just an Ethical Issue](#). *Harvard Business Review*.

Stahl, Bernd Carsten & David Wright. (2018). [Ethics and Privacy in AI and Big Data: Implementing Responsible Research and Innovation](#). *IEEE Security & Privacy* 16(3): 26-33.

Berendt, Bettina, Marco Buehler & Geoffrey Rockwell. (2015). [Is it Research or is it Spying? Thinking-Through Ethics in Big Data AI and Other Knowledge Sciences](#). *Künstliche Intelligenz* 29: 223-232.

Lazer, David. (2015). [The Rise of the Social Algorithm](#). *Science* 348(6239): 1090-1091.

In-depth Session 4: AI in Practice

Cohen-Inger, Nurit. (2021). [Bias and Discrimination in AI: Whose Responsibility is it to Tackle them?](#) *VentureBeat Blog Post*.

Gunson, Nancie et al. (2021). [Coronabot: A Conversational AI System for Tackling Misinformation](#). *Proceedings of the Conference on Information Technology for Social Good*. New York, NY: ACM, p. 265-270.

Hamborg, Felix et al. (2021). Newsalyze: Effective Communication of Person-Targeting Biases in News Articles. *Proceedings of the ACM/IEEE Joint Conference on Digital Libraries (JCDL)*. New York, NY: ACM.

Cortiz, Diogo & Arkaitz Zubiaga. (2021). [Ethical and Technical Challenges of AI in Tackling Hate Speech](#). *The International Review of Information Ethics* 29: 1-10.

Part 2: Case Studies

Case Studies Coordination Session

Friday, Oct. 8, 16:30-17:30

This session takes place via the video conferencing platform [Google Meet](#)

The successful completion of this class entails working on one of the three case studies listed below that allow you to apply the concepts of AI to practical questions in different areas. The case studies are:

- Case Study 1: AI for Malnutrition Early Warning
- Case Study 2: AI and Urban Development
- Case Study 3: AI to Counter Harmful Content Online

In this online-only setting, the case study work will have to be completed remotely. Case study reports are due at the end of next week, on **Sunday October 17, 2021 (midnight)**. You may work on the case studies in groups of max. 2-3 people. Details on the coordination of groups and topics will be given in this session.

Case Study Feedback Session

Tuesday, Oct. 12, 16:00-17:30

This session takes place via the video conferencing platform [Google Meet](#)

In this session, each group gives a short **5 min presentation** about their project idea (and work thus far) to receive feedback from the class. The idea for this session is to serve as a mid-way point in your case study work and clarify any open questions you may have. You can also send an email any time to karsten.donnay@graduateinstitute.ch and I will try to get back to you as soon as possible.

Case Study Materials and Instructions

For each of the three case studies the case description and the specific tasks will be made available through the course website on Moodle. When working on the case studies you may use any information you find as long as it is properly sourced (e.g. using proper citations). The case studies will be made available only at the beginning of the coordination session on Friday to guarantee that each group has the same time to work on them.