THE GRADUATE INSTITUTE GENEVA

INSTITUT DE HAUTES ÉTUDES INTERNATIONALES ET DU DÉVELOPPEMENT
GRADUATE INSTITUTE OF INTERNATIONAL AND DEVELOPMENT STUDIES

Interdisciplinary Programmes

Academic year 2021-2022

AI and Politics

MINT227-2 - Autumn - 3 ECTS
19 & 20 November 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 is scheduled to take place in person on 19 & 20 November (Fri./Sat.) subject to any further modifications to the current procedures. Please note the detailed schedule in the course overview below.

PROFESSOR

Karsten Donnay
karsten.donnay@graduateinstitute.ch
www.karstendonnay.net

Syllabus

Course Requirements

Requirement 1: Attendance in all parts of the workshop is required and students are expected to engage with the recommended readings and/or online resources in preparation for the course. It is essential that you come prepared and actively participate.

Requirement 2: Students will be required to complete case study exercises in small groups throughout the course. Evaluation will be based on (i) individual performance and participation throughout these exercises; (ii) a brief written case study report; and (iii) an oral presentation of results in the course. (ii) and (iii) are jointly prepared by each small case study group.

Course Evaluation

Performance in the course depends both on active participation 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 day 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. On the second day, 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, 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 "MINT227-2" on Moodle:

https://moodle.graduateinstitute.ch/course/view.php?id=2464

Course Schedule with Recommended Readings and Online Resources

Day 1: Foundations

Session 1: Big Data – The Fuel for AI
Friday, Nov. 19, 12:15-13:45, Room S3

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.*

Session 2: The AI Approach
Friday, Nov. 19, 14:00-15:30, Room S3

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*.

Session 3: Challenges and Problems
Friday, Nov. 19, 15:45-17:15, Room S3

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 Büchler & 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.

Session 4: Example Applications
Friday, Nov. 19, 17:30-19:00, Room S3

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.

Day 2: Case Studies

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

Session 5: Case Study Session 1
Saturday, Nov. 20, 9:00-10:30, Room S8

Selection of case study topics and formation of small working groups. Students engage with the cases, read through background material provided in the session and work through an initial set of questions to deepen the understanding of the case. Sample applications and data is provided to help students familiarize themselves with the cases, available data and approaches.

Session 6: Case Study Session 2
Saturday, Nov. 20, 10:45-12:15, Room S8

Groups are given a specific task relevant to the case in question and are expected to develop a corresponding AI concept using the knowledge gained in the course and the parameters set by the case study scenario. A set of questions that help guide through the scenarios will be provided.

Session 7: Preparation of Case Study Report and Presentation
Saturday, Nov. 20, 13:00-14:30, Room S8

Each group prepares a short 2 – 5 page report on their results and a 10 min oral presentation of their AI concept. There are no further requirements on the exact format of the report or the how the results are presented to the course (slides, flipchart etc.).

Session 8: Case Study Presentations
Saturday, Nov. 20, 14:45-16:15, Room S8

Presentation of AI concept to the group and discussion of results.