THE POLITICAL ECONOMY OF ARTIFICIAL INTELLIGENCE

MITCHELL BOSLEY

Course Information

- **Course Title:** The Ethics and Political Economy of Artificial Intelligence

- **Credits:** 3

- **Format:** Seminar

- **Level:** Undergraduate

- **Semester:** Fall 2025

- **Meeting Time:** [Insert Meeting Time Here]

- **Location:** [Insert Location Here]

- **Instructor Office Hours:** [Insert Office Hours Here]

1. Course Overview

This interdisciplinary seminar provides an introduction for students to the complex ethical, political, and economic dimensions of artificial intelligence (AI) technology. Students will develop critical analytical skills and engage in practical exercises that empower them to understand the transformative potential of AI while also grappling with its profound challenges for society. We will analyze the impacts of AI on labor markets, education, access to knowledge, and democratic institutions, examining how it reinforces or disrupts existing power dynamics, and how we might responsibly shape the development and deployment of AI to advance social justice. This course draws from political science, economics, philosophy, and information science to promote a holistic understanding of AI, combining theoretical foundations with hands-on technical training.

Throughout the semester, students will work in interdisciplinary teams on practical projects that challenge them to formulate researchable questions, apply AI tools thoughtfully,

and engage with the ethical and political implications of their work. The course emphasizes transparency, fairness, and accountability as fundamental principles for all AI development.

Learning Outcomes

Upon successful completion of this course, students will be able to:

1. **Analyze** complex social problems from an interdisciplinary perspective, formulating research questions that engage with the ethical, political, and economic dimensions of AI.

2. **Evaluate** the ethical and political implications of AI technologies, applying key concepts from philosophy, political theory, and the social sciences to assess both their potential and risks.

3. **Apply** AI tools and techniques to explore practical solutions to social challenges, while critically assessing their limitations, biases, and potential for misuse.

4. **Communicate** complex ideas effectively through writing, oral presentations, and multimodal projects, while also reflecting critically on the role of AI and its impacts on truth and the nature of knowledge.

5. **Synthesize** diverse perspectives and integrate empirical evidence with ethical and normative frameworks, to propose practical and actionable solutions for responsible AI development and policy recommendations.

2.   AI Usage Policy

- **Approved Tools:** Students are encouraged to explore a wide range of AI applications, including but not limited to, ChatGPT, image generators, and data analysis software.

- **AI Usage Memo:** All major assignments (reflection essays, final project, and progress portfolio) must include a brief "AI Usage Memo" (1-2 paragraphs) specifying:

  1. Which AI tools were used and why.

  2. How the tools were employed to develop ideas and evidence.

  3. How the generated output was evaluated and validated.

- **Academic Honesty and Attribution:** While the use of AI tools is permitted to enhance learning, all submissions must reflect the original thinking of the student, and AI-generated content must be appropriately cited.

- **Limitations of AI Tools**: Students should be aware of the inherent limitations of AI systems (including potential bias, inaccuracies, and lack of transparency) and should use AI in ways that prioritize ethical and responsible scholarship.

3.   Major Written Assignments

1. **Reflection Essays & Research Questions (30%)**

   - Weekly essays (1-2 pages) that synthesize class readings, engage with ethical and political dilemmas, and analyze the use of AI in relation to course themes.
   - Includes an AI Usage Memo (when applicable).

2. **Final Project (35%)**

   - An interdisciplinary team project that engages critically with a core concept from the course and uses AI tools in service of developing a policy recommendation, an analysis of a specific issue, or a practical intervention.
   - Includes a written report (5-8 pages), a presentation, and a public-facing summary aimed at a non-technical audience (1-2 pages).
   - *Checkpoint 1 (5%): Initial Project Proposal (Week 3)*: A detailed description of the project's research question and team members.
   - *Checkpoint 2 (5%): Annotated Bibliography and State of the Art (Week 7)*: Literature review that outlines the project's theoretical and empirical foundation.
   - *Checkpoint 3 (5%): Preliminary Results and Ethical Analysis (Week 10)*: Initial results that use one or more AI tools, and an ethical analysis that identifies both opportunities and potential risks.
   - *Final Report + Presentation (20%): Weeks 13-14*
   - Includes an AI Usage Memo.

3. **Progress Portfolio (15%)**

   - A collection of personal reflections, peer review exercises, drafts of written assignments, and detailed notes from in-class discussions, demonstrating active engagement with course materials and your personal learning process.
   - *Includes an AI Usage Memo (when applicable).*

Class Participation & Active Engagement (20%): Active engagement in discussions, debates, in-class activities, and brief presentations. This component will be assessed based on the quality and depth of student's contributions, rather than the frequency of their participation.

4. Course Content and Weekly Schedule (14 Weeks)

This course is divided into three thematic units. Each unit features a blend of lectures, discussions, practical exercises, and student-led presentations. The course schedule is subject to minor adjustments depending on student interest and engagement.

Unit I: Foundations of AI and Interdisciplinary Thinking (Weeks 1-4)

Unit Objectives: To establish a shared understanding of core AI concepts, explore the ethical and political economy dimensions of AI, and introduce frameworks for interdisciplinary research.

Week 1: Introduction to the Course and the Social Impact of AI

- **Topics:** Course overview, expectations, and introductions; the broad societal implications of AI, introducing AI's transformative potential and its ethical and political complexities.

- **Activities:** Icebreaker activities, discussions about students' expectations, and initial brainstorming about the challenges and opportunities presented by AI.

- **Readings:**

    - Davidson & Katodopolis, *The New College Classroom*, Introduction.
    - Russell & Norvig, *AI: A Modern Approach*, Chapter 1 (selected sections).
    - Altman, Sam. "The Intelligence Age" (2024).
    - Amodei, Dario. "Machines of Loving Grace" (2024).

Week 2: Foundations of AI: Learning Models and Data

- **Topics:** Supervised, unsupervised, and reinforcement learning; bias in data and algorithms; examples of machine learning models.

- **Activities:** Team-based discussions about the ethical challenges associated with AI systems, introduction to the fundamentals of AI, and brainstorming of project ideas.

- **Readings:**

    - Russell & Norvig, *AI: A Modern Approach*, Chapter 2 (selected sections).

Week 3: Interdisciplinary Approaches to Complex Problems

- **Topics:** Key concepts in interdisciplinarity and collaboration; designing research questions that integrate different disciplinary perspectives, and strategies for collaborative inquiry.

- **Activities:** Group exercises on identifying and framing research questions that draw on different disciplines, and checkpoint 1 (initial project proposal).

- **Readings:**

  - De la Tejera Chillón, N., et al. "Interdisciplinarity in the University Context."
  - Tapia, Miranda y Artze-Vega, Lambert, Felten. *Connections Are Everything*, Chapter 1.

Week 4: The Political Economy of AI and Inequality

- **Topics:** Introduction to key concepts in political economy, the role of power in shaping AI development, and historical trends in technological change and inequality.

- **Activities:** A class discussion about how power imbalances may affect the development and distribution of the benefits of AI; and a debate over the political implications of AI.

- **Readings:**

  - Zuboff, Shoshana. "The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power." (selections).
  - Acemoglu, Daron and Simon Johnson. "Power and Progress: Our Thousand-Year Struggle Over Technology and Prosperity" (selections).

Unit II: AI Applications, Ethical Frameworks, and Power (Weeks 5-9)

Unit Objectives: To explore specific AI applications in diverse fields, introduce ethical frameworks for evaluating AI systems, and investigate how AI intersects with issues of power, social justice, and data governance.

Week 5: AI Across Disciplines: Domains and Vocabularies

- **Topics:** Understanding different disciplinary approaches to AI; and exploring case studies of AI in health, law, education, and economics.

- **Activities:** Team-led presentations on the applications of AI in a chosen domain.

- **Readings:**

  – Sousanis, Nick. *Unflattening*, Chapter 1.

Week 6: Hands-on Training with AI Tools for Analysis

- **Topics:** Practical training with large language models (LLMs), image generators, and data visualization tools; and exploration of prompt engineering and bias detection in AI outputs.

- **Activities:** A lab session where students explore specific AI tools.

- **Readings:**

  – Kooli, Chokri. "Chatbots in Education and Research..."

Week 7: Ethical Frameworks: Deontology, Utilitarianism, and Virtue Ethics

- **Topics:** Foundations of ethics in AI; and the application of deontological, utilitarian, and virtue ethics frameworks to current problems in the design and deployment of AI systems.

- **Activities:** Group discussions about contemporary AI case studies.

- **Readings:**

  – Mill, John Stuart. "Utilitarianism" (selections).
  – Kant, Immanuel. "Groundwork of the Metaphysics of Morals" (selections).
  – Aristotle. "Nicomachean Ethics" (selections).

Week 8: FAccT Principles and Algorithmic Justice

- **Topics:** The Framework for Fairness, Accountability, Transparency, and Ethics (FAccT); and analyzing historical examples of discrimination and bias in technological systems.

- **Activities:** In-class group analysis of real-world cases of algorithmic bias.

- **Readings:**

  – Cath, Corinne. "Governing AI: Ethical, Legal and Technical Challenges."

Week 9: Power and Data Governance

- **Topics:** The political economy of data, the collection, use, and ownership of data, and the role of regulation and policy in promoting social justice.

- **Activities:** Team-based presentations of student's research proposals, and a discussion about strategies for responsible data governance.

- **Readings:**

  - O'Neil, Cathy. "Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy." (selections).

Unit III: AI for the Public Good: Interdisciplinary Projects and Pathways (Weeks 10-14)

Unit Objectives: In this final unit, students will synthesize their knowledge and skills to engage in interdisciplinary projects that involve the use of AI for social good. Students will learn how to communicate their work in ways that are clear, transparent, and responsible, and how to design effective interventions to improve democratic engagement, promote social justice, and counter misinformation.

Week 10: Integrating Ethics, Politics, and AI in Project Design

- **Topics:** Integrating ethical considerations, political analysis, and economic principles into project design; and designing responsible and practical AI applications.

- **Activities: Checkpoint 3 (5%)**: Presenting the methodology and preliminary findings for final projects.

Week 11: Advanced AI Techniques for Data Analysis

- **Topics:** Advanced techniques in data management, feature engineering, and model evaluation using Python, Colab, scikit-learn, and other resources.

- **Activities:** Students use the week to refine their data analysis techniques within their project groups.

- **Readings:**

  - Optional readings from Python and Colab, depending on students' technical background.

Week 12: Communicating AI Research: Transparency, Bias, and Truth

- **Topics:** Techniques for effectively communicating research findings, using narrative structures, data visualizations, and ethical principles; the challenges of designing AI systems that are transparent, reliable, and accountable.

- **Activities:** Practice presentations and a reflection on the ethical dimensions of communicating data science.

Week 13: Limitations and Future Directions in AI

- **Topics:** Limits of AI (data biases, interpretability problems); explorations of reinforcement learning from human feedback (RLHF), explainable AI (XAI), and other emerging areas of AI development.

- **Activities:** Students explore new approaches to AI ethics and reflect on the role of AI in their chosen topic.

Week 14: Final Presentations and Reflections

- **Topics:** Final project presentations; and a discussion of how to use AI for the benefit of the public.

- **Activities:** Final presentations and discussion; and the submission of the Progress Portfolio and final course reflections.

5.   Bibliography

Required

- Acemoglu, Daron and Simon Johnson. "Power and Progress: Our Thousand-Year Struggle Over Technology and Prosperity" (selections).

- Davidson, Cathy and Christina Katodopolis. *The New College Classroom.* Harvard University Press, 2022.

- Kant, Immanuel. "Groundwork of the Metaphysics of Morals" (selections).

- Mill, John Stuart. "Utilitarianism" (selections).

- O'Neil, Cathy. "Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy." (selections).

- Russell, Stuart y Peter Norvig. *Artificial Intelligence: A Modern Approach.* Pearson, 2020 (selected chapters).

- Sousanis, Nick. *Unflattening.* Harvard University Press, 2015.

- Tapia, Miranda y Artze-Vega, Lambert, Felten. *Connections Are Everything: A College Student's Guide to Relationship-Rich Education.* Johns Hopkins University Press, 2003.

- Zuboff, Shoshana. "The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power." (selections).

Supplemental

- Altman, Sam. "The Intelligence Age". 2024.

- Amodei, Dario. "Machines of Loving Grace". 2024.

- Aristotle. "Nicomachean Ethics" (selections).

- Bostrom, Nick. *Superintelligence: Paths, Dangers, Strategies.* Oxford University Press, 2016.

- Cath, Corinne. "Governing AI: Ethical, Legal and Technical Challenges." *Philosophical Transactions of the Royal Society A*, 376: 20180080, 2018.

- De la Tejera Chillón, N., et al. "Interdisciplinarity in the University Context." *Panorama Cuba y Salud*, vol. 14, no. 1, 2019, pp. 58–61.

- Foucault, Michel. "Discipline and Punish" (selections).

- Habermas, Jürgen. "Between Facts and Norms" (selections).

- Kooli, Chokri. "Chatbots in Education and Research: A Critical Examination of Ethical Implications and Solutions." *Sustainability*, vol. 15, no. 7, 5614, 2023, pp. 1–15.

- Moravec, Hans. *Mind Children: The Future of Robot and Human Intelligence.* Harvard University Press, 1990.