Carnegie Mellon University: Heinze College

90-442/90-769: CRITICAL AI STUDIES FOR PUBLIC POLICY

Instructor:

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Office hours: by appointment

Course Overview:

With the rapid development of algorithmic and computing power as well as tech industry's capacity to collect massive data, Artificial Intelligence (AI) techniques have increasingly become a ubiquitous part of our everyday lives, ranging from fields such as communication, healthcare, finance, policing and workplace management. Instead of studying AI as a purely technical subject, in this course, we will critically examine the most recent developments and deployments of AI from a social, cultural and policy perspective. Drawing upon real-world cases, this course will introduce students to the basic concepts and main topics to think AI socially, help them understand the potential benefits and pitfalls of various contemporary AI applications, and think toward future AI systems that can deliver greater social good.

The course will include a mix of lectures, group discussions, guest lectures and small group in-class activities. Students will be asked to come to class having carefully read the required readings, submit response and discussion questions on Canvas respond to each other. Building on concepts and cases discussed in this class, students will also be asked to write two policy memos (one mini, one final) on the topic of their choice.

Prior Knowledge:

No prior knowledge required.

Learning Objectives:

By the end of this course, you should be able to
- Analyze the social, cultural and policy dimensions of AI in various social domains
- Identify potential benefits and pitfalls (e.g. bias) in existing AI applications
- Develop and write policy memos on AI systems that can yield greater societal benefits

Learning Resources:

No textbook is required. Important learning resources, including readings and copies of the lecture notes will be available on Canvas (https://canvas.cmu.edu/).

Assignments and grading:

- 20% class participation
- 20% response to readings

- 20% mini memo
- 40% policy memo

(1) **Class participation (20%):** You are expected to attend each class and participate in class discussion. To receive full credit for this portion of the grade, students must consistently demonstrate through participation in class discussions that they have completed the required readings and thought the issues in advance of the class. I will take notes on participation.

(2) **Response to readings (20%)**: By 8am every Monday and Wednesday during the class period (except the first day), you should post ONE response (1-2 paragraphs) and ONE discussion question on the "Discussions" on Canvas, based on readings assigned for that day's class. You are also expected to respond to at least ONE classmate on Canvas. There are in total 11 topics to respond and only 10 will be counted toward your final grade. This means you can choose to skip ONE topic.

(3) **Mini Memo (20%)**: Students will work on a policy memo on topics discussed in this class. You are expected to choose your topics, but I will also provide a small list of projects if you don't have preference. You need to submit a mini policy memo (2 to 3 pages, double spaced). The mini memo could work as a proposal for your final memo.

(4) **Policy memo (40%):** Submit a final policy memo (~2500 words, 8 to 10 pages, double-spaced) on the basis of your mini memo**.** Students would also be asked to describe in ~500 words what they would need to do to convert their memo into a fully development policy memo. For example: refine the research question, identify data sources, and a potential audience.

Grading Scale:

Grade	Interpretation	Points	Graduation Credit
A+	Exceptional	4.33	Yes
A	Excellent	4.00	Yes
A-	Very Good	3.67	Yes
B+	Good	3.33	Yes
B	Acceptable	3.00	Yes
B-	Fair	2.67	Yes
C+	Poor	2.33	Yes
C	Very Poor	2.00	Yes
C-	Minimal Passing	1.67	Yes
R	Failing	0	No
I	Incomplete	0	No

See the Heinz College Student Handbook for more information

Academic Integrity:

Students are expected to understand and comply with the Carnegie Mellon University's policies regarding Cheating and Plagiarism: (http://www.cmu.edu/policies/documents/Cheating.html). You are also encouraged to review the Undergraduate Academic Discipline (http://www.cmu.edu/policies/documents/AcadRegs.html); and Graduate Academic Discipline (http://www.cmu.edu/policies/documents/GradDisc.html). If you have any question about whether some activity would constitute cheating, please feel free to ask.
Late submission:

If an illness or something urgent prevents you from submitting your work, please consult the instructor promptly by email.

Accommodations for Students with Disabilities:

If you have a disability and have an accommodations letter from the Disability Resources office, I encourage you to discuss your accommodations and needs with me as early in the semester as possible. I will work with you to ensure that accommodations are provided as appropriate. If you suspect that you may have a disability and would benefit from accommodations but are not yet registered with the Office of Disability Resources, I encourage you to contact them at access@andrew.cmu.edu.

Take Care of Yourself:

Do your best to maintain a healthy lifestyle this semester by eating well, exercising, avoiding drugs and alcohol, getting enough sleep and taking some time to relax. This will help you achieve your goals and cope with stress. All of us benefit from support during times of struggle. You are not alone. There are many helpful resources available on campus and an important part of the college experience is learning how to ask for help. Asking for support sooner rather than later is often helpful. If you or anyone you know experiences any academic stress, difficult life events, or feelings like anxiety or depression, we strongly encourage you to seek support. Counseling and Psychological Services (CaPS) is here to help: call 412-268-2922 and visit their website at http://www.cmu.edu/counseling. Consider reaching out to a friend, faculty or family member you trust for help getting connected to the support that can help.

Generative AI Policy:

You are welcome to use generative AI programs (ChatGPT, DALL-E, etc.) in this course. These programs can be powerful tools for learning and other productive pursuits, including completing some assignments in less time, helping you generate new ideas, or serving as a personalized learning tool.

However, your ethical responsibilities as a student remain the same. You must follow CMU's academic integrity policy. Note that this policy applies to all uncited or improperly cited use of content, whether that work is created by human beings alone or in collaboration with a generative AI. If you use a generative AI tool to develop content for an assignment, you are required to cite the tool's contribution to your work. In practice, cutting and pasting content from any source without citation is plagiarism. Likewise, paraphrasing content from a generative AI without citation is plagiarism. Similarly, using any generative AI tool without appropriate acknowledgement will be treated as plagiarism.

Here are some specific expectations for your use of AI generation tools in this course:
- You can include AI generated content verbatim into a writing assignment with quotations and a citation.
- You can paraphrase AI generated content with a citation.
- You can include non-text AI generated content (images, video, code, etc.) with an appropriate citation, when expressly permitted in the assignment prompt.
- You will conduct your own research and generate bibliographies yourself for topics that you have researched.
- You will not use or present generative AI content that you pass off as your own work.
- Finally, it is important that you recognize that generative AI tools frequently provide users with incorrect information, create professional-looking citations that are not real, generate contradictory statements, incorporate copyrighted material without appropriate attribution, and sometimes integrate biased or offensive concepts. Code generation models may produce inaccurate outputs. Image generation models may create misleading or offensive content.

While you may use these tools in the work you create for this class, it is important to note that you understand you are ultimately responsible for the content that you submit. Work that is inaccurate, biased, unethical, offensive, plagiarized, or incorrect will be treated as such during the evaluation of your work.

HEINZ COLLEGE WRITING RUBRIC

LEVELS OF PROFICIENCY	CONTENT	AUDIENCE	LOGIC AND ORGANIZATION	CLARITY AND TONE	GRAMMAR AND MECHANICS
	The extent to which the document demonstrates knowledge of the subject matter and objective. • Communicates a clear purpose • Provides relevant, thorough content • Demonstrates critical thinking	The extent to which the document is suitable for diverse audiences. • Prepares documents based on audience demographics and roles • Prioritizes audience needs • Addresses stakeholders' likely questions and concerns	The extent to which the document demonstrates a coherent structure and flow. • Uses paragraphing • Includes meaningful transitional devices • Maintains logical sequencing and categorization	The extent to which the document demonstrates the ability to communicate clearly and to use an appropriate tone. • Uses precise words • Writes concisely • Writes in active voice • Limits the use of pronouns • Uses professional language	The extent to which the document demonstrates the conventions of English, including correct: • Grammar • Punctuation • Capitalization • Spelling • Citations • Format
4 **Advanced; Professional and effective**	Demonstrates advanced knowledge of the subject matter and objective.	Demonstrates advanced knowledge of the audience.	Demonstrates a logical, cohesive structure.	Demonstrates advanced word choice that creates clarity and produces a professional tone.	Demonstrates advanced control of grammar and mechanics.
3 **Acceptable; Minor revisions are recommended**	Demonstrates acceptable knowledge of the subject matter and objective; however, revisions are recommended to improve effectiveness.	Demonstrates acceptable knowledge of the audience; however, a more targeted appeal is recommended to improve effectiveness.	Demonstrates an acceptable structure; however, revisions are recommended to improve organization, sequence, or transitions.	Demonstrates acceptable word choice; however, revisions to phrasing are recommended to improve clarity and/or for a more professional tone.	Demonstrates acceptable control of grammar and mechanics; however, corrections are recommended to improve language skills and/or professionalism.
2 **Limited; Substantial revisions are needed**	Demonstrates limited knowledge of the subject matter and/or objective. More relevant and/or thorough content is needed for effectiveness.	Demonstrates limited knowledge of the audience. Revisions are needed to address audience diversity and/or roles.	Demonstrates a limited control of structure. Revisions in organization are needed for a coherent structure, or for logical transitions.	Demonstrates limited control of word choice. Revisions are needed for clarity and for a professional tone.	Demonstrates limited control of grammar and mechanics. Corrections are needed for suitable language skills and/or professionalism.
1 **Unsatisfactory; Does not meet course requirements**	Does not meet the minimum course requirements for "Content"	Does not meet the minimum course requirements for "Audience"	Does not meet the minimum course requirements for "Logic and Organization"	Does not meet the minimum course requirements for "Clarity and Tone"	Does not meet the minimum course requirements for "Grammar and Mechanics"
Score					