CS 3001-A Computing and Society | Spring 2024 |
Instructor: Munmun De Choudhury
Algorithmic Ethics

Due:	April 10, 2024 11:59pm Eastern Time
Format	About 5-7 pages in all, double spaced, single column, 12 point font. ChatGPT responses can be attached in an Appendix outside of the main homework document, and Appendix materials won't count towards page limit
Logistics	Submit as a PDF document on Canvas
Grading criteria	Completeness
	Writing
	Understanding of the fundamentals
	Quality of reasoning, insight into the issue, and analysis
Grade	100 points (10% of your overall grade)

Question 1:

Recently, some Silicon Valley companies have started to consider building data practice ethics into the data science interviewing process. The idea is to add a few questions mixed in with the standard technical interview, and paying attention to the responses. Let's say the following three questions[1] are asked to an interviewee (you).

A. You are working on a model for consumer access to a financial service. Race is a significant feature in your model. Would you use the race variable in your model? If you are disallowed from using it, what would you do?
B. You are asked to use network traffic data to offer loans to small businesses. It turns out that the available data does not rigorously inform credit risk and estimates are relatively poorer for certain groups. What do you do?
C. You are talking to a new potential client who wants you to use public profile photos on the web to get age and race for "inclusion" in their recruiting. Would you consider this request? Justify your reasoning.

Use the ChatGPT[2] interface to see how the chatbot would answer each question (simply copy paste the individual questions [A-C] into the interface's prompt).

1. Do you agree or disagree with each answer from the chatbot? Why or why not; describe your rationale for each? Please attach the chatbot answer along with yours. The ChatGPT answer can be in the Appendix with appropriate numbering for the question it corresponds to. (21 points; 7 points for each case)

[1] Acknowledgments to Hilary Mason (@hmason; Co-Founder of @PlayHiddenDoor, Former Founder of @FastForwardLabs) for suggesting questions of this flavor
[2] https://chat.openai.com/

2. Are the answers that the chatbot provides in each case grounded in any particular ethical theory we covered in the course? Describe if so or if not, how you might ground them in an appropriate ethical theory. (18 points; 6 points for each case)
3. You are now asked to improve the answers of the chatbot; describe what you might add or change to the chatbot's answers in each case (24 points; 8 points for each case)

Question 2:

As we discussed in class, the use of algorithmic surveillance and predictive policing has become increasingly common among law enforcement agencies. These technologies leverage data analysis to predict potential crimes and identify likely offenders before crimes occur. While proponents argue that these tools can increase efficiency and safety, critics raise significant ethical concerns regarding privacy, bias, and the potential for unjust targeting of specific communities or individuals.

Let us consider a city that is planning to implement a new predictive policing platform designed to prevent burglaries by analyzing past crime data, social media activity, and surveillance camera footage. The platform uses algorithms to identify potential future crime locations and individuals who might be more likely to commit these crimes based on their online behavior and associations.

1. *Ethical Analysis:* Analyze the ethical implications of implementing this predictive policing platform. In your analysis, consider the following ethical principles:

    i. Privacy: How does the use of personal data (including social media activity and surveillance footage) impact individual privacy rights? (5 points)
    ii. Bias: Given historical biases in policing, how might the data used by predictive policing algorithms perpetuate or exacerbate these biases? (7 points)
    iii. Justice: Assess the potential risks of misidentifying individuals as potential offenders and the impact this may have on their lives and communities. (7 points)

2. *Stakeholder Perspectives:* Discuss the perspectives of at least three different stakeholders (e.g., law enforcement agencies, community members, civil rights organizations) on the use of this predictive policing platform. How might their interests align or conflict with each other? (18 points; 6 points for each stakeholder)

Support your answer with references to materials covered in class or to academic sources, if appropriate.