

CS 3001-C Computing and Society | Spring 2022 |
Instructor: Munmun De Choudhury
Algorithmic Ethics and Intellectual Property

Due:	April 13, 2022 11:59pm Eastern Time
Format	About 7 pages in all, double spaced, single column, 12 point font
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. Describe how you would respond to the following three questions¹:

- 1) 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? (15 points)
- 2) 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? (15 points)
- 3) 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. (15 points)

Question 2:

A faculty member has taught a senior-level course in quantum mechanics for several years and has developed an extensive set of notes that she plans to convert into a new textbook as soon as she can find the time. She is close to the end of the term for this year's course when she makes a rather alarming discovery---a student in her class has been selling the notes for her class at a small profit to the other students. The notes are an expanded version of her lectures and contain material from her visual aids, as well as diagrams copied from the textbook.

The student claims that he is only helping the other students learn a very difficult subject and that the profit barely covers his expenses. However, it soon comes to light that he

¹ Acknowledgments to Hilary Mason (@hmason; Founder & CEO of Fast Forward Labs + Data Scientist in Residence at Accel Partners) for suggesting questions of this flavor

has been doing the same thing for several other courses and actually hires students to take notes in other classes, which he then develops into a sellable form.

The faculty member is very upset. Not only is her lecture material being sold without her permission, but the student has also copyrighted it. Her university's policy clearly states that such traditional academic work product belongs to the faculty member.

- a) (15 points) Identify and discuss the nature of the intellectual property violation in the case study.
- b) (15 points) Could this intellectual property violation have been avoided? If so, suggest an alternative scenario where both the faculty and the student could have met their desired goals. Make assumptions as appropriate for your answer.

Question 3:

Last year, Uber was in the news because of their autonomous vehicle testing program in North America². After a 49-year old woman was struck and killed by one of its cars while crossing a Tempe, Arizona street, the company decided to halt this program. Discuss the moral responsibilities of various stakeholders involved in this incident: 1) Uber; 2) The driver behind the wheel; 3) The pedestrian; and 4) Lawmakers. Use social contract theory for your answer. (25 points)

² <https://www.forbes.com/sites/meriameberboucha/2018/05/28/uber-self-driving-car-crash-what-really-happened/>