

CS 4001D Homework 4: Algorithmic Ethics and Intellectual Property

Due:	April 16, 2019
Format	5-6 pages in all, single 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
	Late policy applies
Grade	60 points (6% of your overall grade)

Question 1:

It clear that Airbnb's design choices are one of the reasons that their algorithms are possibly inadvertently discriminating against specific racial and ethnic groups¹. It is true that, unlike hotels, identifying actual identities is essential to establish trust between hosts and guests. On the other hand, they probably need revision to address this bias, as this bias can eventually impact their business and profitability. Outline two design changes on their interface or the underlying algorithms that Airbnb can pursue toward this issue. Justify your rationale behind the design decisions you propose. (10 points for each design; total 20 points).

Question 2:

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 the following two ethical theories – social contract theory and rule utilitarianism. (10 points for each ethical theory; total 20 points).

Question 3:

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

¹ <http://www.benedelman.org/publications/airbnb-guest-discrimination-2016-09-16.pdf>

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

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 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) (10 points) Identify and discuss the nature of the intellectual property violation in the case study.
- b) (10 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.