

The ethical problems of self-driving cars

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1. Introduction

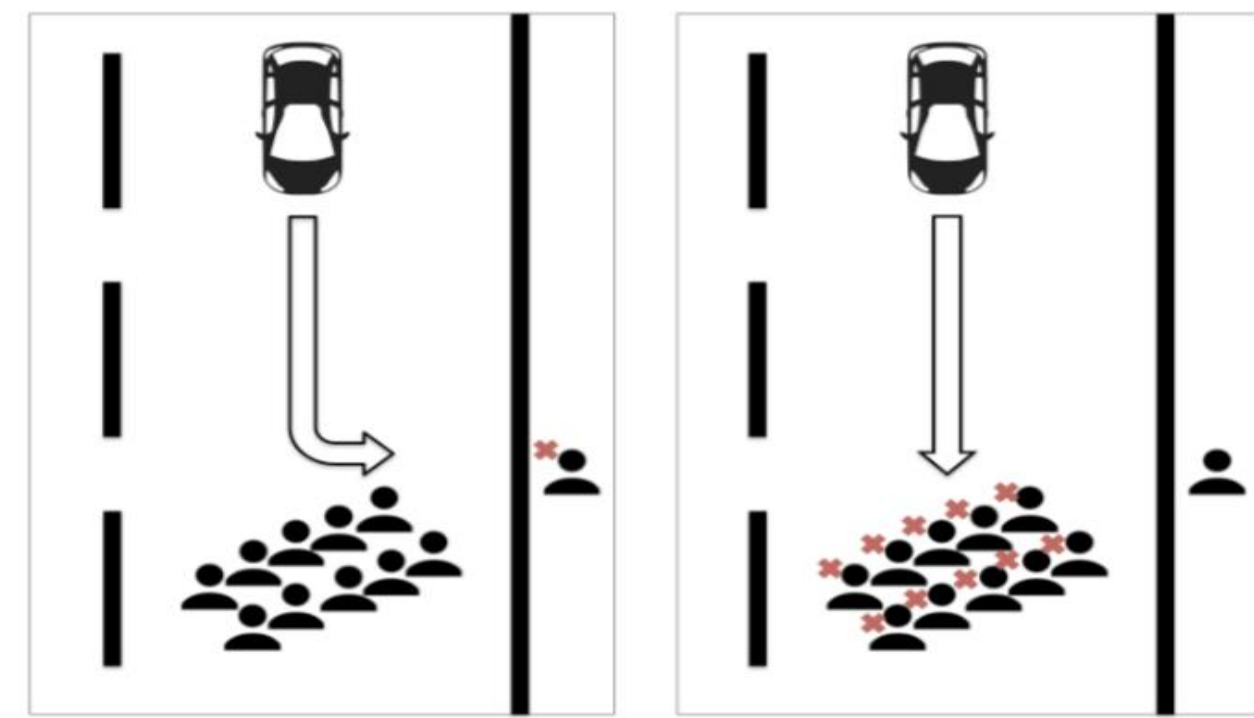
Significance of this research

I have loved creating things since I was little, and now I am interested in “self-driving cars” that seem to act like human being by using artificial intelligence(AI). Every creator must take into account the ethical problems that come with it. We have had many papers written by philosophers and ethicists, so I wanted to make a **more practical consideration from the developers’ perspective** in this research.

2. Fundamentals

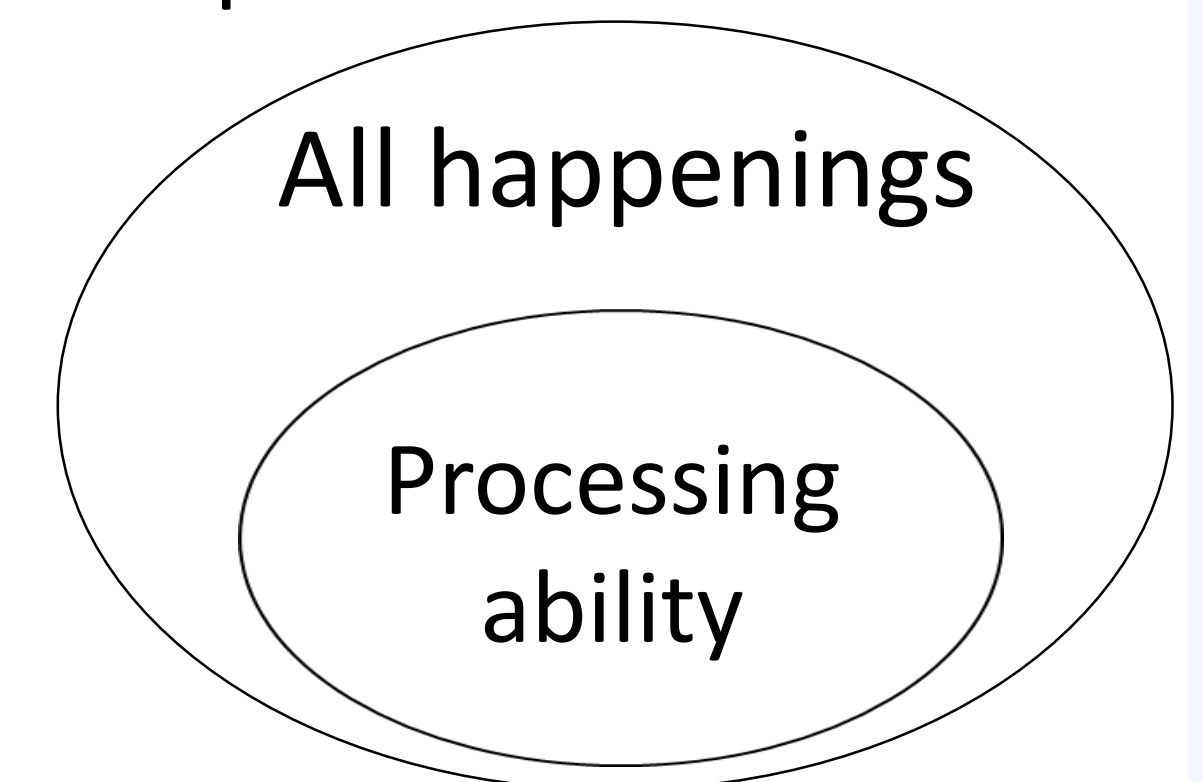
The truck problem

The philosophical problem in an accident. Prior research has applied this to self-driving cars. A dilemma There happened when people wanted utilitarian cars that guarantees maximum happiness in terms of morality, and might buy self-defense cars in real.



The frame problem

The philosophical problem in putting AI into practical use. There are too many happenings to consider for AI to act because its processing ability is limited. This problem has become a barrier when self-driving cars make decisions out of human program.



3. Methods

Research question

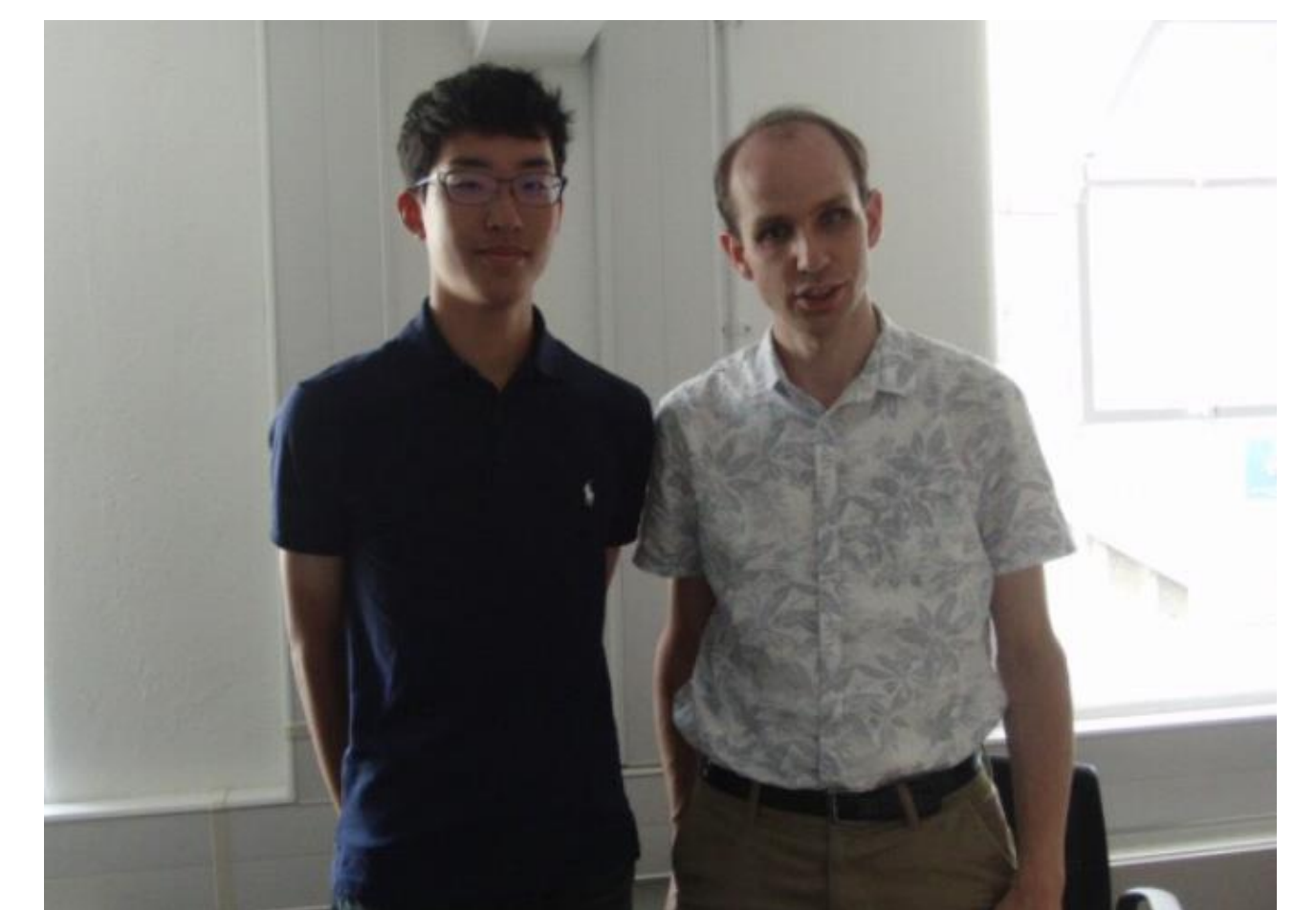
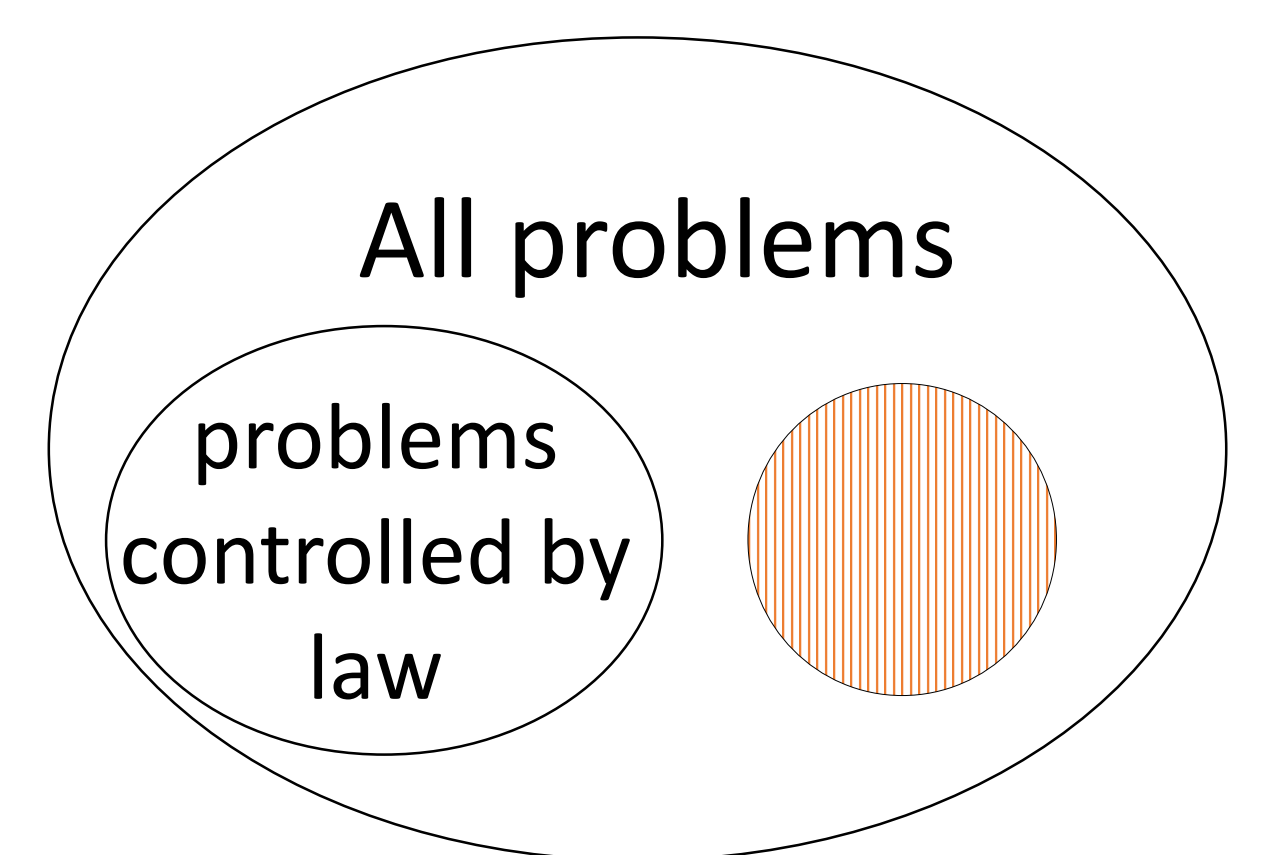
How will developers and developers’ groups need to deal with the ethical problems AI face in a situation where they make a judgement and behave themselves as humans act under the subconscious ethical view while driving?

My hypothesis

For ethical problems that cannot be determined from a unified point of view such as ethics and philosophy, it is important to have a view of **arranging rules and standpoints in a flexible manner by utilizing existing laws and the buyer’s options.**

Methods

Based on the above viewpoints, I presented the ways to solve some concrete problems as a developer and asked whether there are any problems. I met and talked with Dr. Simon Beard, who works at Center for the Study of Existential Risk in University of Cambridge. He works on the project "Managing Extreme Technological Risks" and mainly studies on consequentialist moral philosophy.



4. Result

The truck problem

Q1. Most people may choose self-defense cars, but do developers need to present clearly which principle the program is based on?
A1. Yes, because the buyer has the freedom to choose.

Q2. Do you think you can create a system to register your family and relatives based on the definition of “self” as self-defense cars?
A2. No. If it is made, it should be made as a legislation, but it should not give the self-driving car a special rule that not all humans agree with.

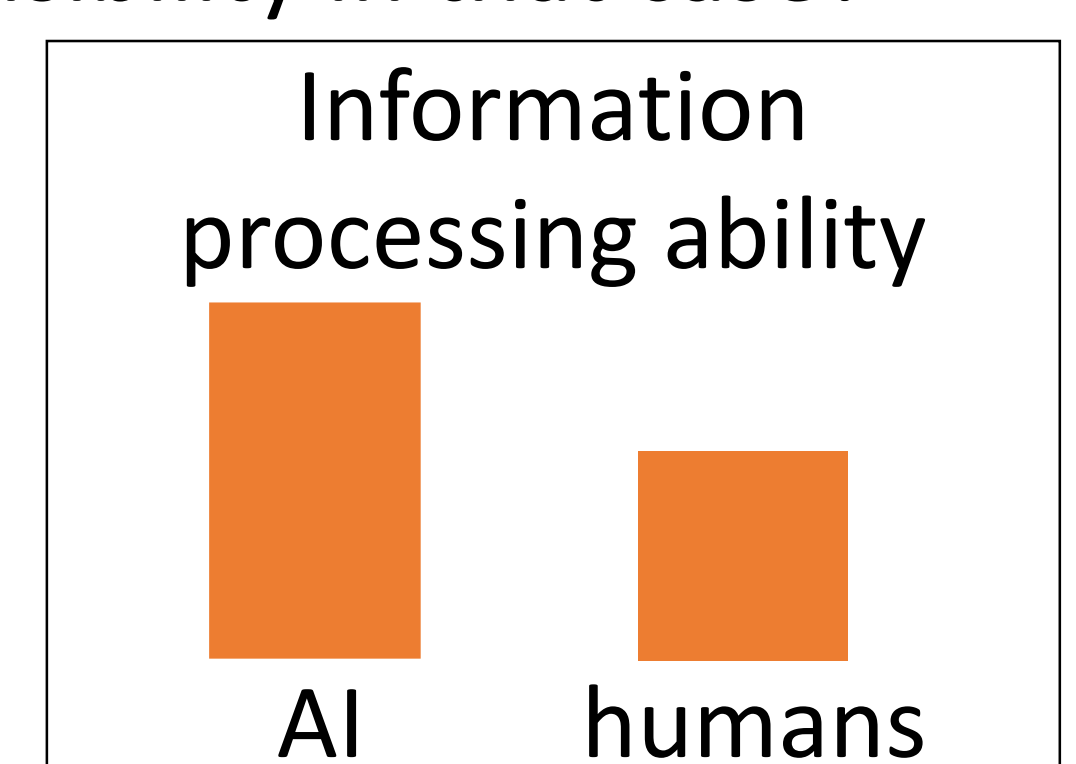
The frame problem

Q1. I think AI will be confused and will run away because of humans’ driving. How to determine responsibility in that case?

A1. If humans are following human rules and AI is not following AI rules, AI should be attacked even in safe driving.

Q2. Does AI need to learn philosophy?

A2. Teaching philosophy is not essential, so it is more practical to learn emotions using a simulator.



5. Discussion

Although it is legally necessary to create rules that can give freedom and choice to the person in charge of driving, it is difficult to create special rules that not all people agree with. Also, rules for AI are technically stricter than those for people, but the ethics that humans have unconsciously should not be considered as knowledge, but as **human emotions and actions.**

6. Conclusion

Emerging problems that cannot be determined by conventional laws and rules based on ethics and philosophy are solved by flexibly arranging rules and positions using existing laws and drivers’ options. However, the problem regarding lack of universality that cannot be covered by the process itself and a solution to the problem that is not practical is not a rule, but systematically taught as certain choices based on human emotions and actions.

7. Bibliography

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