EAST WEST UNIVERSITY

Mini Project - 3

Project title: Ethical Dilemma

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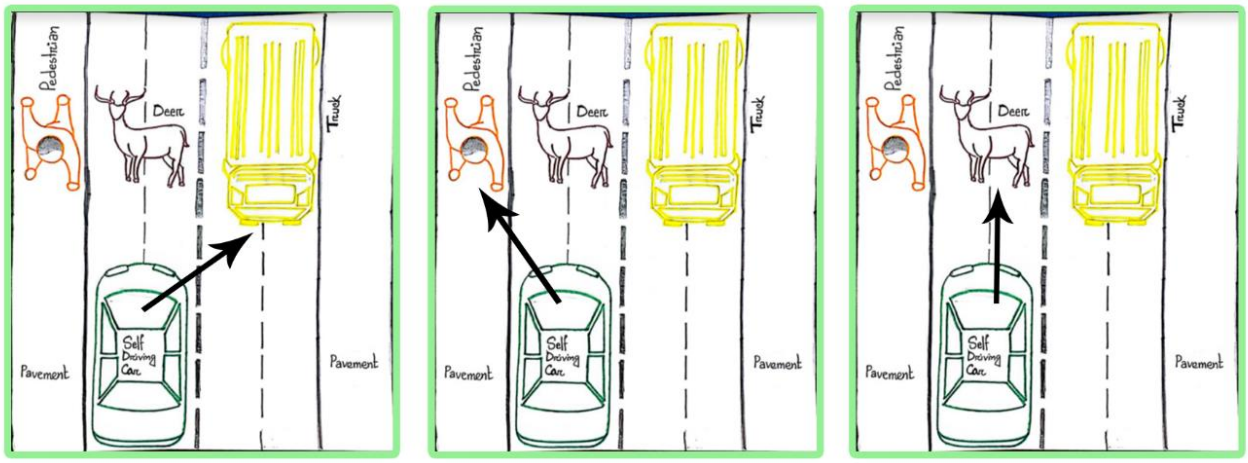
Self-Driving Car Liability

Our scenario: Suppose, Mr. Alice was going to his office in his self-driving car. His car was on a two-way highway road and since the road was clear, the car ran very fast. A truck was coming from the opposite direction in another lane and also a pedestrian was walking on the pavement. Everything was fine but all of a sudden a Deer tried to cross the road and came in front of Alice's car.



Ethical Dilemma: Now if the self-driving car changes its lane to save the Deer, it hits the truck which is coming from the opposite direction, so an accident will occur and Alice and the truck driver both will die, and if the car goes for the pavement then the pedestrian will die and if the car does nothing and go to the straight then the Deer will die. What would be the decision of the self-driving car?

Brainstorming phase:

- **Stakeholders:** In this scenario, we have plenty of stakeholders who are directly affected by our ethical dilemma. Our stakeholders are the autonomous car, the owner of the car, the truck, the truck driver, the pedestrian and lastly the deer.

- **Risks, issues, problems and consequences:** We see from this scenario that, all of a sudden a deer came in front of the self-driving car. So here, three risks have arisen. Firstly, if the car changes lane then it hits the truck which is coming from the other direction and the consequence of the event would be, both Alice and the truck driver will die. Secondly, if the car moves for the pavement then the consequence of this event would be, the pedestrian will die and lastly if the car does not move for the other lane or pavement and goes to the straight then the consequence of this event would be, the innocent animal deer will die. These are the three risks, issues, problems and their consequences.

- **Who gets each benefit:** In this scenario, we considered three different possible events and if one event occurs then the other two events will not occur so, those events get benefited. For instance, if the car goes to the other lane and hits the truck then Alice and the truck driver will die but the pedestrian and the deer will be safe so here, a human and an animal will be benefited. On the other hand, if the car goes for the pavement and hits the pedestrian then the pedestrian will die but the truck driver, Alice and the deer will be safe so in this case, two humans and an animal will be benefited. And lastly if the car goes straight and hits the deer then the deer will die but the pedestrian, the truck driver and Alice will be safe so in this case, three humans will be benefited.

- **Possible actions:** There are three options for dealing with this predicament. The only option would be to go straight and strike the deer, ensuring that the people in the car and truck would survive. There will be no collision in this situation. The other alternative for this predicament is to turn right and collide with the approaching truck. The deer may be safe this time. Turning left will be the final option. A pedestrian is strolling on the left side of the road. The car will collide with the pedestrian, keeping the deer and the truck safe.

Analysis phase:

- **Responsibilities of the decision maker:** In our scenario, the decision maker is the autonomous or self-driving car. Actually it's not the real decision maker, the ultimate decision maker is the programmer who made this system to function as autonomous. He has to make some decisions on the system, like when this car will stop, slow down speed, or taking decisions about traffic rules, and many more. To make these kinds of decisions, he has to consider some responsibilities by following general and professional ethics. Now as per general ethics, the programmer shall act consistently with public interest. He shouldn't be biased to a portion of stakeholders instead he should consider the minority of stakeholders. He should design in a way that he is not doing harm to the society and human well-being. He should consider everyone related to the system as stakeholders. He should be fair, honest, and trustworthy and can't discriminate against anyone. Now, from professional ethics, he should accept reviews, criticism from stakeholders and give back the comprehensive evaluation of the systems and impacts with all kinds of possible risks. Also he should design and implement a system that will be usable and secure.

- **Identify the rights of stakeholders:** In the given scenario, there are four stakeholders: Alice, the truck driver who is driving in another lane from the opposite direction of the road, the pedestrian walking on the pavement and an innocent deer. There are three consequences: (1) If the car moves to the right lane, an accident will be occurred and both Alice and the truck Driver will be dead, (2) If it moves to the pavement, the pedestrian will be dead, (3) If the car goes straight, the deer will be dead. In this situation every stakeholder has the right to be alive. It's their negative rights. Sometimes we can think that we can go straight and hit the deer. But we can't do that. Because it is an innocent animal and it

doesn't have that much intelligence when it should come to the road or not. We can't take them as a minority. Also we can't kill the pedestrian and the driver they are going through the road by following the rules and right directions. So, if anyone is killed, it's a violation of their negative rights.

- **Impact of the action options on the stakeholders:** From our scenario, first action will be, if the car goes to the other lane and hits the truck which is coming from the opposite direction then the negative impact of this action will be, our stakeholders Alice and the truck driver will die but the positive impact will be, the other stakeholders, the pedestrian and the deer will be safe. In the second action, if the car goes for the pavement and hits the pedestrian then the negative impact of this action will be, the pedestrian will die but the positive impact will be, the truck driver, Alice and the deer will be safe. And in the last action, if the car goes straight and hits the deer then the negative impact of this action will be, the deer will die but the positive impact will be, the pedestrian, the truck driver and Alice will be safe in this case.

- **Analyze consequences, risks, benefits, harms, and costs for each action considered:** There are three risks that arise in our scenario. The first risk would be, if the car changes its lane then it hits the truck and the consequence of the action would be, both Alice and the truck driver will die. So, the harm in this action will be two humans will die, so the cost of this action will be more than any other actions. The second risk would be, if the car moves for the pavement then the consequence of this action would be, the pedestrian will die. So, the harm in this action will be a human will die. Hence, one human die will be less costly than two humans die, so that the cost of this action will be less than the previous action. The last risk would be, if the car goes straight then the consequence of this action would be, the deer will die. So, the harm in this action will be an innocent animal will die. We must agree that animal lives are important, but one animal die will be less costly than one or two humans die because human lives are more valuable than animal lives, so that the cost of this action will be less than previous any other actions.

- **Kant's, Mill's, and Rawls' approaches:**

    - In Kant's **"Categorical Imperative"** theory, he says that one should always respect the humanity of others, and that one should only act in accordance with rules that could hold for everyone. Kant believes in Absolute moral rule. Absolute moral rules mean the rules that everyone must follow in order to act morally. They are the rules that hold under any circumstances universally. Such as, we should never lie and we should never kill innocent people. In our scenario, if the self-driving car changes lane then it hits the truck which is coming from the opposite direction and both Alice and the truck driver will die and if the car moves for the pavement then it hits the pedestrian and the pedestrian will die and if the car goes to the straight then it hits the innocent animal deer and the deer will die. In every case in our scenario, an accident will occur and kill someone but

Kantianism does not allow killing someone to save others. This is because the decision to kill another rational being is always immoral in the eyes of Kantian ethicists.

- Mill's **"Utilitarian Theory"**, focuses on the results or consequences of our actions which produces the greatest good for the greatest number. In our scenario, in the first case, Alice and the truck driver will die but the pedestrian and the deer will be safe. In the second case, the pedestrian will die but the truck driver, Alice and the deer will be safe. And in the last case, the deer will die but the pedestrian, the truck driver and Alice will be safe. Hence we know, utilitarians would favor whatever option in which the greater numbers of lives are saved. And we see, the last case saves greater numbers of lives. So, Utilitarians kill the deer and save three human lives.

- Rawls's **"Theory of Justice"** says, everyone in the society holds equal basic rights whether someone is from a minority group, but it does not matter. They also have equal rights and no one should deprive them. Based on Utilitarian theory, we agreed to kill the deer and save the pedestrian, the truck driver and Alice's lives because it produces greater good for greater numbers but based on the theory of justice, we cannot kill the deer. Just because deer are a minority here and its life is less valuable than three human lives, Rawls's **"Theory of Justice"** does not allow killing the deer.

- **Categorize each potential action:** The term "ethics" refers to a set of moral ideals. They have an impact on how a person makes choices and lives their lives. "Ethically obligatory" means that it is ethically essential to do the right thing and not to do the wrong thing. In our scenery, we have three options and none of them satisfy the ethical obligatory class. What is "ethically accepted" refers to what the majority approves. And the term "ethically prohibited" refers to activity that is expressly forbidden under an Ethics Code. In our dilemma, we have to kill the deer, if not then the car has to be lifted on the pedestrian, if not then make a collision with the truck and get killed. Only these three possibilities are available to us, and all of them are **ethically prohibited**.

Decision Phase:

In the given dilemma, we have only three cases to choose. In the first case the truck driver and Alice will be dead. In the second case, the pedestrian will be dead. And in the last case, the deer will be dead. Now, we can see here that not any single option is acceptable from the perspective of ethics. But we have to choose one out of them as we do not have other options.

In this case we will prefer the third option where the deer will be dead. Because if a self-driving car hits the pedestrian then he will be dead while he is walking on the pavement by following rules and regulations. On the other hand, if it hits the truck then the truck driver and Alice both will be dead and also both vehicles will be destroyed. As per Kant's theory, the self-driving car cannot hit anyone but this is not possible in our scenario because our scenario does not have other options.

Also the Theory of Justice by Rawls is not practical for our case. Because anyone who is innocent or minor cannot be deprived of justice and cannot be a victim of a situation.

So, we have a chance to choose an option by following **"Utilitarian theory"**. Because here we choose an option which is less worse than others. If the car hits the truck or the pedestrian, three people will die whose life is more valuable than the deer. Also the amount of damage will be greater than this. Also it will be under jurisdiction because of killing innocent people. On the other hand, if the car goes straight and hits the deer it will damage less than any other case. Also we can justify this if this incident is faced by any jurisdiction. Because, the deer suddenly came in front of the car and there was no other option. So as per our consideration of all the possible incidents, hitting the deer is a better option for the car than any other option.