**Autonomous Driving Technology Ethical Research Project**

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**Introduction**:

1.1 What is Autonomous Driving Technology (ADT)?

It is that the technology that allow vehicles can sense and analyze the outside environment then make decision that how to move itself, within the whole process of the autonomous driving, vehicles do not or just need a little bit of human’s help.

The technology may use in Autonomous Driving include Computer Vision, Artificial Intelligent also with hardware like camera, range sensor etc.

1.2 Why we need to research ethical issues about Autonomous Driving Technology?

1.2.1 The race of Autonomous Driving Technology.

Many companies were start their developing of Autonomous Driving, including some traditional car company like Ford, Volkswagen and high-tech big company such as Google, Nvidia, and many new companies like Tesla, Pony.ai.

Also, the market of Autonomous Driving is keep growing since past few years, the value of it will grow more than a time until it reaches $556.67 billion[[1]](#endnote-1).

1.2.2 The developing of Autonomous Driving Technology.

The issue of development of ADT is a chicken or the egg question. It about the algorithm and data of ADT. The development of algorithm need data, but without algorithm and testing the program cannot produce data. The testing data should be closer to the reality it is means that Autonomous cars should be testing with human driving cars on the real road instead of some test ground in the laboratory.

1.2.3 Ethical issues of Autonomous Driving Technology.

The very first issue is about how to get data for the development of Autonomous Driving algorithm. The testing of the Autonomous car is actually let people who drive with these cars in danger.

Also, ADT will face a classic ethic problem similar to the Trolley Problem: if the car only has two choice one is turn the direction of the car to safe passenger’s life, but it will hit a truck and let driver die or car chose to drive over the passenger to avoid the hit, but it may kill the passenger. Even human have trouble to solve this kind of problem how can a machine decide for them in this situation.

1.3 Project aim:

This project will try to analyze and discuss about the ethical issue within ADT.

**Ethic issue:**

2.1 Safety:

The very first issue of the ADT is safety, this is both technological and ethical concern.

2.1.1 How ADT effect public safety?

We can see an example first:

Tesla as the most radical developer of ADT, they keep pushing the implement and usage of the ADT on their own product, many Tesla Model X and Model S drivers is using Tesla Autopilot every day, when Tesla Autopilot release very first time, the whole system is not very perfect the car will make some mistake, by time past, the system will learn from the mistake and won’t make the mistake on the same mistake in every car again. The result is good, but the process was actually very danger, Autopilot make some mistake and cause human death several times.

Elon Musk the CEO of Tesla is encouraging Tesla employee to install Tesla full Autopilot tools and use the development version of the Autopilot for the testing of Autopilot. Elon himself is the most adventure which use an Autopilot with Mad Max mode which is the Autopilot will take most of the control of the car and decide in almost every situation.

There is some

According to this example we can found that there are some safety issues.

1. Every company or organization which developing the ADT will need on road testing for program, to test about the reliability of ADT system.
2. People may use ADT on road without other’s concern.

2.1.2

Reference:

1. <https://www.techworld.com/picture-gallery/data/-companies-working-on-driverless-cars-3641537/> [↑](#endnote-ref-1)