# Data 7002 Individual Essay

### Discussion on Autonomous Driving Technology and Privacy Issues

### Introduction

The continuous improvement of human productivity is inseparable from the full application of tools.

人类生产力的不断提高离不开工具的充分应用。

From horse-drawn carriages to steam engines to automobiles is the liberation of human mobility.

从马车到蒸汽机再到汽车，解放了人类的流动性。

It is precise because of the unremitting efforts of human beings to pursue the liberation of mobility, autonomous driving technology has begun to be widely used and developed.

正是由于人类追求移动性解放的不懈努力，自动驾驶技术开始得到广泛应用和发展。

But the ensuing problems are also unavoidable, that is, data security and privacy security.

但随之而来的问题也是不可避免的，那就是数据安全和隐私安全。

The autonomous driving system is more like artificial intelligence.

自动驾驶系统更像是人工智能。

The system will collect the driver’s personal information to learn driving habits and record the starting and ending points of the trip.

系统会收集驾驶员的个人信息，学习驾驶习惯，记录行程的起点和终点。

At the same time, the high-resolution video will be captured while driving.

同时，将在驾驶时拍摄高分辨率视频。

Imagine that when autonomous driving technology is fully applied, massive amounts of data will be generated every second.

想象一下，当自动驾驶技术全面应用时，每一秒都会产生海量的数据。

How to ensure that these data are safe and the protection based on user privacy has become a problem that must be faced.

如何保证这些数据的安全以及基于用户隐私的保护成为必须面对的问题。

This article will discuss the privacy issues of autonomous driving from the moral, legal, and technical levels.

本文将从道德、法律和技术层面讨论自动驾驶的隐私问题。

And to assist with relevant examples to prove our argument, describe how to do reasonable and legal data use, avoid illegal data disclosure and improper data use.

并辅以相关实例来证明我们的论点，描述如何合理合法地使用数据，避免非法数据泄露和不当数据使用。

Keywords: Autonomous driving technology, artificial intelligence, big data, privacy protection, data security.

关键词：自动驾驶技术，人工智能，大数据，隐私保护，数据安全。

Moral level:

道德水平：

First of all, I hope to discuss this issue from the moral level.

首先，我希望从道德层面来讨论这个问题。

At present, the autonomous driving technology we know mainly collects the personal information of the driver, such as name, gender, age, occupation, home address, company address, and phone number.

目前我们所知道的自动驾驶技术主要是收集驾驶员的个人信息，如姓名、性别、年龄、职业、家庭住址、公司地址、电话号码等。

Secondly, it will collect all the starting and ending points of the driver's journey, the reason is to plan the route reasonably.

其次，它会收集驾驶员旅程的所有起点和终点，原因是合理规划路线。

The reason for recording the surrounding environment during driving is to better train the autonomous driving model by learning the surrounding environment.

在驾驶过程中记录周围环境的原因是为了更好地通过学习周围环境来训练自动驾驶模型。

So at this time, the question is, does the driver know that his information has been collected? Who collected it? Where is it stored? Has the data been misused? Unfortunately, most users know nothing about it.

那么这个时候，问题来了，司机知道自己的信息已经被收集了吗？ 谁收集的？ 它存储在哪里？ 数据是否被滥用？ 不幸的是，大多数用户对此一无所知。

The collection and use of unknown data is itself an ethical dilemma.

未知数据的收集和使用本身就是一种道德困境。

The autonomous driving system collects massive amounts of information every second, with the purpose of making the system "smarter" through the collection of data.

自动驾驶系统每秒钟都会收集大量信息，目的是通过收集数据使系统“更智能”。

The ultimate goal is to provide customers with better services.

最终目标是为客户提供更好的服务。

However, in the process of collection, users' private information may be unintentionally collected.

但是，在收集过程中，可能会无意中收集到用户的隐私信息。

Should the collection of data be stopped? Obviously not, the existence of this kind of conflict, in the final analysis, is that the system does not have the ability to filter and collect data.

是否应该停止收集数据？ 显然不是，这种冲突的存在，归根结底是系统不具备过滤和收集数据的能力。

Another ethical dilemma of autonomous driving technology is that autonomous driving will only follow the rules it has learned to drive.

自动驾驶技术的另一个道德困境是，自动驾驶只会遵循它已经学会的驾驶规则。

For example, a pedestrian is running a red light to cross the road.

例如，行人闯红灯过马路。

If it is a human driver, he will not choose to hit it, but AI The choice may be to drive according to the traffic rules.

如果是人类司机，他不会选择撞上它，但 AI 的选择可能是按照交通规则开车。

Who should be responsible after a car accident in autonomous driving? The universal adaptation pursued at the moral level often hopes to obtain the most idealized result.

自动驾驶发生车祸后谁来负责？ 道德层面所追求的普遍适应，往往希望得到最理想化的结果。

It seems to be the mistake of pedestrians but morally tends towards the weak.

这似乎是行人的错误，但在道德上倾向于弱者。

In other words, ethics cannot solve such problems, because ethics cannot quantify accident liability.

换言之，伦理无法解决此类问题，因为伦理无法量化事故责任。

Since morality itself is produced by humans, whether it is data collection or driving rules learning, AI is behaviour without any tendency.

由于道德本身是由人类产生的，无论是数据收集还是驾驶规则学习，人工智能都是没有任何倾向性的行为。

When ethics cannot be imposed on AI, the ambiguity of responsibilities will make the whole event very complicated.

当道德不能强加于人工智能时，责任的模糊性将使整个事件变得非常复杂。

In my opinion, morality cannot be used as a criterion to define right and wrong, because morality itself does not speak right and wrong, and only has a corresponding position for specific things.

在我看来，道德不能作为定义是非的标准，因为道德本身不讲是非，只有对具体事物有相应的立场。

For example, the collection of data does not infringe on privacy, and AI is morally believed to be correct.

例如，数据的收集不侵犯隐私，人工智能在道德上被认为是正确的。

Once the data collected by AI involves sensitive user information, AI will be morally condemned.

一旦人工智能收集的数据涉及敏感的用户信息，人工智能就会受到道德谴责。

This is actually unfair.

这实际上是不公平的。

Or in other words, when a pedestrian runs a red light, it is the pedestrian who made the mistake, and the accident that the vehicle hits will be morally condemned.

或者换句话说，当行人闯红灯时，犯错的是行人，车辆撞上的事故将受到道德谴责。

In order to avoid this situation, some autopilot companies choose to let AI perform emergency braking in this situation, or make emergency avoidance.

为了避免这种情况，一些自动驾驶公司选择让AI在这种情况下进行紧急制动，或者进行紧急避让。

This may put the driver in danger, and morality will still condemn such behaviour.

这可能会使司机处于危险之中，道德仍然会谴责这种行为。

Morality is perceptual, while AI is rational.

道德是感性的，而人工智能是理性的。

These are two things that are incompatible with each other.

这是互不相容的两件事。

Neither can be imposed on each other, but both are actually serving one goal, so seeking a balance between ethics and AI has become a hot topic.

两者都不能强加于对方，但实际上两者都在为一个目标服务，因此在道德和人工智能之间寻求平衡成为一个热门话题。

Only AI that can work well while taking into account ethics is the technology that humans really need.

只有在兼顾伦理的情况下才能很好地工作的人工智能才是人类真正需要的技术。

The so-called moral dilemma stems from the lack of technology and the flaws of the law.

所谓的道德困境源于技术的缺乏和法律的缺陷。

When the law quantifies right and wrong, and technology guarantees that the basic morality will not collapse, it is a mature project that can be put into use.

当法律量化是非，技术保证基本道德不会崩溃时，是一个成熟的可以投入使用的项目。

This is why it will be mentioned later that Australian law has always been cautious about autonomous driving.

这也是后面会提到澳洲法律对自动驾驶一直持谨慎态度的原因。

To sum up, the ethical dilemma of autonomous driving technology comes from a problem, that is, autonomous driving technology cannot quantify responsibilities morally, and ethics cannot provide a solution to this dilemma.

综上所述，自动驾驶技术的伦理困境源于一个问题，即自动驾驶技术无法在道德上量化责任，伦理无法为这一困境提供解决方案。

This is what I am going to talk about next, legal tools and technical tools.

这就是我接下来要讲的，法律工具和技术工具。

Legal aspect:

法律方面：

Based on the two ethical dilemmas mentioned above, I will give a legal solution and possible solutions from a legal perspective.

基于上面提到的两个道德困境，我将从法律角度给出一个法律解决方案和可能的解决方案。

Law, as a tool that can quantify right and wrong, must be implemented under the premise of ensuring fairness and justice.

法律作为量化是非的工具，必须在确保公平正义的前提下实施。

This is also the reason why problems that cannot be solved on the moral level can often be answered in the law.

这也是为什么道德层面无法解决的问题往往可以在法律上得到解答的原因。

The first is the first moral dilemma.

首先是第一个道德困境。

Autonomous driving needs to collect massive amounts of data to train AI, and it will inevitably infringe on the privacy of users.

自动驾驶需要收集海量数据来训练人工智能，不可避免地会侵犯用户的隐私。

I found some relevant regulations from the description of privacy principles in Australian law.

我从澳大利亚法律对隐私原则的描述中找到了一些相关规定。

First, Australia requires APP entities to manage personal information in an open and transparent manner.

首先，澳大利亚要求APP实体以公开透明的方式管理个人信息。

In other words, after autopilot operators collect user information, all data usage must be open and transparent.

也就是说，在自动驾驶运营商收集用户信息后，所有的数据使用都必须公开透明。

This regulation ensures that even if customer sensitive data is collected, there will be no data abuse.

该法规确保即使收集了客户敏感数据，也不会出现数据滥用。

At the same time, the supplementary regulations also mention that entities must comply with the Australian Privacy Principles or inquiries and complaints of such codes.

同时，补充规定还提到实体必须遵守澳大利亚隐私原则或此类守则的查询和投诉。

In other words, customers can complain about the abuse of their sensitive data to protect their data security.

换句话说，客户可以投诉他们敏感数据的滥用，以保护他们的数据安全。

Secondly, the legal regulations also mentioned that APP entities must have clear privacy policies, and all users have the right to understand their privacy policies.

其次，法律规定还提到，APP实体必须有明确的隐私政策，所有用户都有了解其隐私政策的权利。

In this way, before users use autonomous driving technology, they can read the information that the company claims will collect and the way in which the data will be used in the future.

这样，在用户使用自动驾驶技术之前，他们就可以阅读公司声称将收集的信息以及未来数据的使用方式。

Only after agreeing to the company's privacy policy can the autonomous driving technology continue to be used.

只有在同意公司的隐私政策后，自动驾驶技术才能继续使用。

Finally, the legal regulations also mention the handling of sensitive information.

最后，法律法规还提到了敏感信息的处理。

If the APP entity is an organization, the entity may not collect personal information unless the information is reasonably necessary for one or more functions or activities of the entity.

如果APP实体是一个组织，则该实体不得收集个人信息，除非该信息对于该实体的一项或多项职能或活动是合理必要的。

The regulations clearly state that entities shall not collect sensitive information from users for any reason other than training AI.

条例明确规定，主体不得以培训人工智能以外的任何理由向用户收集敏感信息。

This ensures that the user's data will not be misused or maliciously disclosed.

这确保了用户的数据不会被滥用或恶意泄露。

The second is the second moral dilemma, which is the division of responsibility for autonomous driving accidents at the legal level.

二是第二种道德困境，即法律层面的自动驾驶事故责任划分。

Currently, South Australia has enacted laws that allow driverless vehicles to conduct road experiments.

目前，南澳大利亚已颁布法律，允许无人驾驶车辆进行道路试验。

It can be seen that Australia is also very cautious about autonomous driving technology.

可以看出，澳大利亚对自动驾驶技术也非常谨慎。

All autonomous vehicles need to be tested on closed roads in accordance with experimental guidelines, and they need to request preliminary instructions from the exemption bill, law, or standard, and evaluate the road value based on the test results.

所有自动驾驶汽车都需要按照试验指南在封闭道路上进行测试，并需要向豁免法案、法律或标准请求初步指示，并根据测试结果评估道路价值。

Possibility.

可能性。

For vehicles that are evaluated as qualified, the first stipulated by the law is insurance measures.

对于评估为合格的车辆，法律首先规定的是保险措施。

Drivers using unmanned driving need to pay valuable insurance for the vehicle and themselves.

使用无人驾驶的司机需要为车辆和自己支付宝贵的保险。

At the same time, there are strict restrictions on the exemption time for vehicles.

同时，对车辆的豁免时间也有严格的限制。

In addition, for any accidents caused by the driver's use of autonomous driving during the exemption period, the driver shall bear the responsibility and impose a fine on it.

此外，在豁免期内因驾驶人使用自动驾驶造成事故的，由驾驶人承担责任并处以罚款。

If the circumstances are serious, the driver will also be prosecuted.

如果情节严重，司机也会被起诉。

In view of the fact that the current automatic driving is more assisted driving, that is to say, the driver has the ability to manually stop the accident before the accident, so the driver also has to bear legal responsibility.

鉴于目前的自动驾驶更多是辅助驾驶，也就是说驾驶员有能力在事故发生前手动停车，因此驾驶员也需要承担法律责任。

From this, we can find that Australia takes a conservative attitude towards the popularization of autonomous driving technology, and it is the car owner who is mainly responsible for the partially exempted experimental autonomous driving technology.

由此可以看出，澳大利亚对自动驾驶技术的普及持保守态度，部分豁免的实验性自动驾驶技术主要是车主负责。

However, I believe that with the maturity of autonomous driving technology, the law will also make adaptive changes.

不过，相信随着自动驾驶技术的成熟，法律也会做出适应性的改变。

It is understandable that the current autonomous driving technology is not recognized and trusted by the law due to its uncertainty.

可以理解，目前的自动驾驶技术因其不确定性而得不到法律的认可和信任。

Next, I will start my technical discussion on these two issues.

接下来，我将就这两个问题开始我的技术讨论。

The main purpose is to give the possibility of dealing with moral dilemmas and legal restrictions from the technical level, so as to give more possibilities for the development of autonomous driving technology.

主要目的是从技术层面给出处理道德困境和法律限制的可能性，从而为自动驾驶技术的发展提供更多可能。

technical level:

技术水平：

The current immaturity of autonomous driving technology has led to its severe moral and legal restrictions.

目前自动驾驶技术的不成熟导致了其严重的道德和法律限制。

I think the main reasons for the immature autopilot technology are the following.

我认为自动驾驶技术不成熟的主要原因有以下几点。

First, the autopilot technology AI is not smart enough, and the main task is to use a pattern recognition method to complete the work.

首先，自动驾驶技术AI不够智能，主要任务是使用模式识别的方法来完成工作。

The second is that the sensors of autonomous driving technology are often meaningless to collect data.

二是自动驾驶技术的传感器往往收集数据没有意义。

As long as the car owner activates the system, the data will be collected continuously, but in fact, the collected data is often invalid.

车主只要激活系统，就会不断采集数据，但实际上采集的数据往往是无效的。

There is no training and learning for AI.

没有针对人工智能的培训和学习。

The key role.

关键角色。

The third is the interaction of current driverless technology with other cars during driving, which is unsafe.

三是当前无人驾驶技术在驾驶过程中与其他汽车的交互，不安全。

There is a risk of data leakage and attack.

存在数据泄露和攻击的风险。

Below I will give an example and demonstrate each of these three points.

下面我将举一个例子，并分别演示这三点。

Regarding the first point, autonomous driving technology is not smart enough.

关于第一点，自动驾驶技术还不够智能。

I think it is mainly reflected in three points.

我觉得主要体现在三点。

First, the autonomous driving technology will only learn rules mechanized, rather than adapt to changes.

首先，自动驾驶技术只会机械化学习规则，不会适应变化。

For example, weather forecast data collected by autonomous driving shows that it will rain today, and the road needs to be slowed down when the road is wet and slippery.

例如，自动驾驶收集的天气预报数据显示今天会下雨，道路湿滑时需要减速。

But in fact, it didn't rain today, and the slow driving of autopilot is meaningless at this time.

但实际上，今天并没有下雨，此时自动驾驶的慢速行驶也毫无意义。

A smarter AI should combine the collected information with the actual situation sensed by the current sensors, and jointly give the results of the analysis.

更智能的人工智能应该将收集到的信息与当前传感器感知的实际情况相结合，共同给出分析结果。

If it is different, everything should be based on the real-time data collected by the display sensor.

如果不同，一切都应该基于显示传感器收集的实时数据。

This can also solve the problem of pedestrians running through the red light mentioned earlier.

这也可以解决前面提到的行人闯红灯的问题。

When the sensor returns the result that there is a pedestrian, even though it is currently a green light, an emergency brake should be used to avoid the pedestrian.

当传感器返回有行人的结果时，即使当前是绿灯，也应使用紧急制动来避开行人。

When the realization of such technology becomes possible, the full application of autonomous driving technology will be possible.

当传感器返回有行人的结果时，即使当前是绿灯，也应使用紧急制动来避开行人。

The second autonomous driving technology does not know whether the data is sensitive data or collectable data.

第二种自动驾驶技术不知道数据是敏感数据还是可收集数据。

As mentioned earlier, the suppliers of autonomous driving technology have their own privacy policies, so the privacy policies based on satisfying legal requirements should also be learned by AI.

如前所述，自动驾驶技术的供应商都有自己的隐私政策，因此基于满足法律要求的隐私政策也应该由人工智能学习。

The data should not be collected at all.

根本不应该收集数据。

For some sensitive information but need to be learned, the data can be temporarily stored, and the data can be completely deleted after a certain period of time.

对于一些敏感但需要学习的信息，可以暂时存储数据，一段时间后可以完全删除数据。

In this way, infringement of user privacy is avoided.

这样就避免了侵犯用户隐私。

The last manifestation of not being smart enough is that the current automatic driving has a set of incomplete auxiliary driving rules.

不够智能的最后一个表现就是，目前的自动驾驶有一套不完整的辅助驾驶规则。

When automatic driving is popularized and all vehicles are automatic driving, there needs to be an AI that can completely replace humans to drive.

当自动驾驶普及，所有车辆都自动驾驶时，需要有一个可以完全替代人类驾驶的人工智能。

For the second point, the sensor collects a lot of invalid information, wastes a lot of storage resources, and consumes a lot of invalid learning.

对于第二点，传感器收集了大量无效信息，浪费了大量存储资源，消耗了大量无效学习。

Let me make an analogy.

让我打个比方。

We learned the word "apple" today.

今天我们学习了“苹果”这个词。

We know the spelling of this word and its appearance.

我们知道这个词的拼写和它的外观。

So do we have to repeat this study every time we meet Apple? The answer is obviously no.

那么我们每次遇到苹果都必须重复这项研究吗？ 答案显然是否定的。

Only when we learn that apples are red, and one day we see yellow apples, do we need to do a second study.

只有当我们知道苹果是红色的，有一天我们看到黄色的苹果时，我们才需要进行第二次研究。

Autopilot is the same.

自动驾驶仪也是一样。

Take traffic lights as an example.

以交通灯为例。

Usually, AI learns only to stop at a red light, go green, yellow light and so on.

通常，AI 只会学习在红灯处停车、绿灯、黄灯等。

One day the signal light is out of power, but AI thinks there are lights here, so AI sensors are only needed at this time.

有一天信号灯没电了，但AI认为这里有灯，所以此时只需要AI传感器。

Fully open, to conducting a comprehensive study of the situation without signal lights, to facilitate the future to deal with similar situations.

全开，对无信号灯的情况进行综合研究，方便日后处理类似情况。

The advantage of this is that a large amount of invalid information can be filtered out, which greatly saves the space for storing data and the time for invalid learning.

这样做的好处是可以过滤掉大量无效信息，大大节省了存储数据的空间和无效学习的时间。

The greater advantage is that to a certain extent, it also reduces the false collection of some unconsciously sensitive information.

更大的好处是在一定程度上也减少了一些不自觉的敏感信息的虚假收集。

The last is the interaction between different autonomous driving AIs.

最后是不同自动驾驶AI之间的交互。

During the driving of the autonomous car, the sensor will recognize nearby vehicles and collect and identify the other’s vehicles.

在自动驾驶汽车行驶过程中，传感器会识别附近的车辆并收集和识别对方的车辆。

For example, a narrow road can only At the same time, through two small cars or one large car, the autonomous driving AI needs to recognize whether the opposite vehicle is a large vehicle or a small vehicle, so as to make a judgment to continue driving or stop and avoid.

例如，一条狭窄的道路只能同时通过两辆小型车或一辆大型车，自动驾驶AI需要识别对面的车辆是大型车辆还是小型车辆，从而做出判断是否继续 驾驶或停止并避免。

If it is an ambulance or a police car that is going out of the police, it should be unconditional Judgment of avoidance.

如果是救护车或者警车出警，应该是无条件回避的判断。

In the process of vehicle interaction, the sensor will inevitably collect some sensitive information about the opponent's vehicle.

在车辆交互过程中，传感器不可避免地会收集到一些对手车辆的敏感信息。

It's hard to say whether this is good or bad.

很难说这是好是坏。

For example, if the current AI recognizes that the opponent's vehicle is a small car, and we are currently driving a large vehicle, the opponent should avoid it, but if there is a pregnant woman in the opponent's car, what about giving birth? From a moral point of view, letting the other party go first may save two lives, but from the cold AI judgment, there is no morality.

例如，如果当前的 AI 识别出对手的车辆是小型车，而我们目前正在驾驶大型车辆，那么对手应该避开它，但是如果对手的车上有孕妇，那生孩子怎么办？ 从道德的角度来说，让对方先走或许能救两条人命，但从冷冰冰的AI判断，是没有道德可言的。

In this way, a moral dilemma that is difficult to reconcile appears again.

这样，一个难以调和的道德困境再次出现。

It is not about the law, but it violates moral requirements.

这与法律无关，但它违反了道德要求。

Another situation is that in the process of vehicle interaction, the sensor may shoot and transmit the high-definition photo of the other driver.

另一种情况是，在车辆交互过程中，传感器可能会拍摄并传输对方司机的高清照片。

According to Australian law, if the photo is not maliciously disclosed, the shooting by the sensor itself is not illegal.

根据澳大利亚法律，如果照片没有被恶意泄露，传感器本身的拍摄并不违法。

But what if the collected information is used maliciously? The disclosure of such sensitive information will become uncontrollable.

但是如果收集的信息被恶意使用呢？ 此类敏感信息的披露将变得无法控制。

From a technical perspective, at this time, autonomous driving companies often choose to use hypothesis verification methods to deal with.

从技术角度来说，此时自动驾驶企业往往会选择使用假设验证的方式来应对。

The so-called hypothesis verification is to make a hypothesis on the current situation, called H0.

所谓假设验证就是对当前情况做出假设，称为H0。

In the current situation, our hypothesis is that the sensor will not leak or abuse the collected sensitive information.

在目前的情况下，我们的假设是传感器不会泄漏或滥用收集到的敏感信息。

After that, the company needs to apply statistical methods to sample from a large amount of data.

之后，公司需要运用统计方法从大量数据中抽取样本。

Under normal circumstances, we think that a small probability event will not happen, but if information abuse or information leakage occurs during the sampling and detection process, it is considered that the sensitive information captured by the sensor will be leaked or abused.

一般情况下，我们认为小概率事件不会发生，但如果在采样和检测过程中发生信息滥用或信息泄露，则认为传感器捕获的敏感信息将被泄露或滥用。

To sum up, whether it is the moral dilemma or legal requirements, technology itself can solve these problems to the greatest extent, but there will be a priority for processing, that is, technology tends to give priority to solving legal requirements because This relates to whether autonomous driving technology can be used subsequently.

综上所述，无论是道德困境还是法律要求，技术本身都可以最大程度的解决这些问题，但是会有优先处理，即技术倾向于优先解决法律要求，因为这涉及到 后续是否可以使用自动驾驶技术。

On the ethical level, requirements are often difficult to judge.

在道德层面上，要求通常难以判断。

For example, when there is a traffic jam at work in the morning, we sometimes choose to let some cars pass courteously.

比如早上上班堵车的时候，我们有时会选择礼貌地让一些车通过。

The other party will also beckon to show gratitude.

对方也会招手表示感谢。

This customary habit is often not understood by AI.

这种习惯习惯往往不被 AI 理解。

AI's processing logic is single, it will only follow instructions to complete the behaviour, and will ignore the moral rules between people.

AI的处理逻辑单一，只会按照指令完成行为，会无视人与人之间的道德规则。

Therefore, only when the technology becomes intelligent enough, from the current pseudo artificial intelligence to real artificial intelligence, that is, when AI can have emotions and thinking abilities like humans, these moral problems can be solved.

因此，只有当技术变得足够智能，从目前的伪人工智能到真正的人工智能，也就是当人工智能能够像人类一样拥有情感和思维能力时，这些道德问题才能得到解决。

Finally, I think the application of autonomous driving technology is inevitable.

最后，我认为自动驾驶技术的应用是不可避免的。

This is a double-edged sword.

这是一把双刃剑。

The unprecedented development of technology will inevitably bring controversy and contradictions.

科技的空前发展，必然带来争议和矛盾。

After the second industrial revolution, the widespread popularity of automobiles has also brought about a lot of moral and legal disputes.

第二次工业革命后，汽车的广泛普及也带来了大量的道德和法律纠纷。

As the stability and safety of automobiles are comprehensively improved, new ethical standards will gradually be formed in ethics.

随着汽车稳定性和安全性的全面提升，新的伦理标准将逐步形成。

The law will build a complete set of laws and regulations to protect human rights.

该法将建立一整套保护人权的法律法规。

When we are facing the third industrial revolution, it is now the information revolution.

当我们面临第三次工业革命时，现在是信息革命。

The main feature is the explosive growth of data, making various fields full of unknown possibilities.

主要特点是数据的爆炸式增长，让各个领域充满了未知的可能性。

In my opinion, autonomous driving technology is a typical embodiment of the information revolution, not only the improvement of the technical level but also the continuous exploration and efforts of human beings for a better future.

在我看来，自动驾驶技术是信息革命的典型体现，不仅是技术水平的提升，更是人类对美好未来的不断探索和努力。

But we must also remain vigilant.

但我们也必须保持警惕。

More and more data problems have made modern people ‘naked’.

越来越多的数据问题已经让现代人“赤裸裸”。

In the face of big data, a person’s emotions, sorrows, sorrows, and relationships are all at a glance.

大数据面前，一个人的情绪、忧愁、忧愁、人际关系，一目了然。

Protecting data security and protecting human privacy are always the basic rights and interests that any technology must respect because any technology, ethics, or law ultimately serves people.

保护数据安全和保护人类隐私始终是任何技术都必须尊重的基本权益，因为任何技术、道德或法律最终都是为人服务的。

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