Autonomous Vehicle

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ABSTRACT

Autonomous Vehicle

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Autonomous Vehicle (AV) has started as the most excellent development of the 21st century, and it will continue to lead to the most excellent future to come. The AV refers to an Artificial Intelligence (AI) network sensing self-driving car as the physical computer automobile that provides the platform to automatically program the vehicle to the travel destination without the need to operate a vehicle. The AV has the most excellent sensing of its environment and running safely with little or no driver input. The AV has the most advanced AI autonomous control systems and interprets sensory information to control the navigation paths and avoid an accident. The AV can be the most advanced technology to help people globally with self-driving cars and robotaxis. The AV's idea can lead to autonomous cruises, autonomous trucks, and autonomous spaceships as the future to come. The AV helps all people worldwide have the most meaningful lives via the AI network sensing self-driving car.

   Keywords: Autonomous Vehicle

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Autonomous Vehicle

Autonomous Vehicle (AV) has started as the most excellent development of the 21st century, and it will continue to lead to the most excellent future to come. The AV refers to an Artificial Intelligence (AI) network sensing self-driving car as the physical computer automobile that provides the platform to automatically program the vehicle to the travel destination without the need to operate a vehicle. The AV has the most excellent sensing of its environment and running safely with little or no driver input (Top Trending, 2019).

Additionally, the AV has the most advanced AI autonomous control systems and interprets sensory information to control the navigation paths and avoid an accident. The AV can be the most advanced technology to help people globally with self-driving cars and robotaxis. The AV's idea can lead to autonomous cruises, autonomous trucks, and autonomous spaceships as the future to come (Seeker, 2019).

Furthermore, many large corporations globally have invested in AV technology. In 2019, Hyundai joined partner with Aptiv to make Level 4 and Level 5 autonomous technology. They want to start testing their self-driving cars in 2020 and plan to have a platform ready for autonomous taxis before 2023 (Fingas, 2019, para. 1). Moreover, the planet earth needs to build autonomous computer exotic cars, autonomous spaceships, autonomous cruises, automation luxury houses by the beaches, automation advanced technology futuristic buildings, and cities, like today and the future to come. These are for human safety, and people can enjoy the actual paradise lives as well. The autonomous sensing Internet is the technology of the future. The AV helps all worldwide have the most meaningful lives via the AI network sensing self-driving car (Fingas, 2019, para. 1-4).

Purpose

The AV's primary purpose will help the driver drive the AV convenient, valuable, and intelligent ways. A driver will use the AV to get to the travel destiny very fast and easily. The AV has the most superlative advanced technology such as AI network sensory information to control the navigation paths and avoid a car accident. The AV can be the most advanced technology to help people globally with self-driving cars and robotaxis (Baldwin, 2016, para. 1-8).

The AV's idea can lead to autonomous cruises, autonomous trucks, and autonomous spaceships as the future to come. Nevada governor Brian Sandoval proved the world-first self-driving truck in 2015, and it was on the YouTube video (Car Jam TV, 2015). There was also a Mercedes autonomous truck is driving itself on YouTube video – A Mercedes future autonomous truck 2025 commercial (Car Jam TV, 2015).

Literature Review

Many large corporations have invested in the AV in the world. In 2019, Hyundai joined partner with Aptiv to make Level 4 and Level 5 autonomous technology. They want to start testing their self-driving cars in 2020 and plan to have a platform ready for autonomous taxis before 2023 (Fingas, 2019, para. 1). Aptiv partnered with Lyft made more than 98,000 autonomous ride services in Las Vegas with the most excellent feedback of 5-star self-driving service experiences. Lyft will provide tourist customers the mobile apps for their self-driving ride services for some luxury hotels in Las Vegas, Nevada at present. Aptiv joints venture with Hyundai to make AV driving a more future reality (Aptiv, 2021, para. 1-18).

Significance of the Research

Significant #1

Aptiv has started with the most superlative advance autonomous vehicle development of the 21st century. Aptiv helps drivers in the world drive with the Artificial Intelligence (AI) network sensing self-driving cars as the physical computer automobile that provides the platform to automatically program the vehicle to the travel destination without the need to operate a vehicle. The Aptivs' AV and robotaxis will have the most excellent sensing of its environment and running safely with little or no driver input. The Aptivs' AV and robotaxis will have the most advanced AI autonomous control systems and interpret sensory information to control the navigation paths and avoid an accident. As the literature review, Aptiv can be the most advanced AV and robotaxis to help people globally with self-driving cars and robotaxis as the future to come. Aptiv's AV ideal can lead to the most outstanding autonomous cruises, autonomous trucks, and autonomous spaceships as the future to come (CBS Sunday Morning, 2019).

Additionally, Aptiv is a non-profit organization and main headquarters in Dublin, Ireland. Aptiv has a global company with more than 43 countries, more than 123 manufacturing facilities, more than 180,000 workers, and more than 11 technical centers (Aptiv, 2021, para. 1-8). Moreover, the president of Aptiv came from the Massachusetts Institute of Technology (MIT) background (Fridman, 2019).

Significant #2

NVIDIA and Mercedes-Benz joined forces to create the world's most advanced AI autonomous cars (https://youtu.be/Ocr3fzVBSL8) that can talk, listen, and drive-by itself (Csongor, 2017, para. 1-8). NVIDIA partnered with BMW Group to create the most advanced AI autonomous manufacture robots (https://youtu.be/ncAW5Bdq8BE). NVIDIA created the

most powerful AI network that can navigate, detect and move objects autonomously (NVDIA, 2021, para. 1-15).

Significant #3

General Motors (GM) invested more than $490 million in Lyft. However, GM works with the Onstar Mobileeye network to create computer road maps to be used by autonomous vehicles (Baldwin, 2016, para. 1-7). Walmart invested $2.75 billion in General Motors' autonomous vehicle, Cruise (Wayland, 2021, para. 1-13). GM partnered with Microsoft to create the most outstanding commercialization of autonomous vehicles. Both companies want to transform transportation to the AI safer autonomous automobile for everyone to enjoy car travel without any accidents possible.

Additionally, GM and Microsoft will use a cloud platform for their Cruise autonomous vehicles. Thus, Cruise self-driving car will use Microsoft's cloud platform to commercialize the most excellent AI autonomous vehicle solutions globally. Microsoft, General Motors, and Honda invested more than $2 billion in electric AI autonomous cars, giving their electric AI autonomous car a post-money total of $30 billion. They plan to build an electric AI autonomous car with the most protection from accidents, zero emissions, and zero congestion. GM and Microsoft plan to launch more than 29 electric AI autonomous cars after 2024 (Cruise LLC, 2021, para. 1-10).

Significant #4

Waymo partners with some of the world's biggest automakers to make AI autonomous cars, vans, and trucks for people to get where they are going safe and easy. Waymo focuses on custom AI design of hardware, software, and computing. Waymo collaborates with some large carmaker manufacturing to leverage the expertise in automotive design that integrates

automobiles to the state of arts AI autonomous vehicles, vans, and trucks. Moreover, Waymo has

a primary mission to transform regular vehicles, commercial vans, and trucks to the most advanced AI

autonomous vehicles, commercial vans, and trucks to save a thousand lives from many traffic crashes

(Waymo, 2020, para. 1-5).

 Additionally, after 2008, Waymo's started its autonomous story in the San Francisco Bay

Area. Waymo completed more than 999 autonomous miles tests across California. After October 7,

2020, Waymo started a **fully autonomous app service successfully** in Phoenix (Waymo, 2021, para.

1-2). Waymo AI autonomous cars, vans, and trucks use an AI Network application to predict and

understand things surrounding the vehicle environment. Waymo AI Network is the behavior

predictions that help the diver understand the scene information of the automobile travel destiny.

Waymo AI Network can help the Waymo Driver understand the world around the automobile to

drive safely and more comfortably (Waymo, 2020, para. 1-13).

Significant #5

 After 2016, Ford Motor Company invested more than $999 million in Argo AI to make

the most excellent advanced AI autonomous vehicles. Argo AI will develop level 4 autonomous

vehicles with AI network autonomous driver systems, and they will be coming in 2021. Argo AI

company is a specialist in robotics and AI autonomous cars with more than 199 employees. Ford

Motor Company is a specialist in luxury Lincoln vehicles, Ford cars, and Ford trucks, and they

have more than 185,000 employees globally (The Ford Motor Company, 2017, para. 1-20).

 Additionally, Argo AI is an AI autonomous company that wants to make the most

advanced AI autonomous cars travel safely, quickly, enjoyable, and conveniently. Argo AI

wants people around the world will have better lives by using Argo AI autonomous vehicles.

Argo AI has partnered with Ford Motor Company and Volkswagen to build the most advanced

AI autonomous vehicles to benefit everyone in the world (Argo IA LLC, 2021, parra.1-15).

Significant #6

      Honda made a level 3 AI autonomous car (https://youtu.be/7eYYwU3ETnI), and it has

for lease only in Japan at present, and it has a retail price of less than $103,000. The Honda

Legend level 3 AI autonomous car uses the Honda's most advanced AI driver system that all

drivers do not need to have their hands on the steering wheel when the car on the highway. The

driver will activate the turn signal to change lanes. Moreover, the Honda AI driver system has

more advanced than Cadillac's AI driver system and other advanced AI driver-assist system like

Tesla that requires the driver needs to have both hands on the steering wheel (Beresford, 2021,

para. 1-10).

Significant #7

      BMW made a level 3 AI autonomous vehicle (https://youtu.be/IYK4XnJjxsA) that

drivers will have to automate hand-free driving. BWM AI autonomous cars have a limit speed

of no more than 85 mph on the highway. It has the most excellent AI autonomous driving

system that it has two driving modes. The driver can drive as autonomous, or the driver can

drive as a regular, and it has risk protection that it can control the car to complete stop as safely

as possible to avoid an accident. Moreover, it has the most excellent AI alert driving system

with a camera and audio to alert the driver to ensure the driver will have a safe and comfortable

drive (Slovick, 2020, para. 1-15).

      Additionally, BMW has the unique AI autonomous driving test system from level 1-5

that can help to understand all of the AI autonomous driving system vehicles of five levels

(BMW AG, 2021, para. 1-15). Moreover, BMW wants to make the most outstanding AI

autonomous vehicle in the world from their idea of the future, and BMW has already had the

idea to create the most excellent advanced AI autonomous car of the future

(https://youtu.be/6tUWYXe9qbY). BMW looks into the future of the most advanced IA autonomous car to develop the most advanced AI autonomous vehicle at present (BMW Group Company, 2021, para. 1-5).

Significant #8

Cadillac used GM's AI autonomous driving technology (https://youtu.be/m6mMBGtasdY), which will provide the driver a hands-free driving car. Cadillac AI autonomous driving system car will sell for less than $61,000. Cadillac (https://www.cadillac.com/world-of-cadillac/innovation/super-cruise) has the most advanced AI driving system today, and it can provide a driver to drive at speed up to 85 mph and automated change lanes on the highway. The driver can also use AI autonomous driving mapped to the travel destiny very easily and comfortably. In 2018, Cadillac sold more than 9,900 cars, with 34% of AI autonomous cars (Tingwall, 2019, para. 1-10).

Significant #9

Toyota invested more than $2.7 billion in the most advanced AI autonomous driving technology as they hire more than 999 the most excellent AI engineers worldwide (Greimel, 2019, para. 1-23). Toyota wants to create the most advanced AI autonomous vehicles to save a thousand lives from many traffic accidents, and they want to transform transportation to the AI safer autonomous automobile for everyone in the world to enjoy car travel without any accidents possible (Toyota, 2021, para. 1-15).

Methodology

Hypotheses

The two important research questions are: What is the Autonomous Vehicle? What is the problem statement?

What is the Autonomous Vehicle?

The Autonomous Vehicle (AV) has defined as an Artificial Intelligence (AI) network sensing self-driving car as the physical computer automobile that provides the platform to automatically program the vehicle to the travel destination without the need to operate a vehicle. The AV has the most excellent sensing of its environment and running safely with little or no driver input (Top Trending, 2019). The AV has five levels for AI autonomous vehicles. Level 0 is no automation like a regular car. Level 1 will have driver assistance like cruise control for a safe distance from the driver's car and in the front. The driver can use radars or cameras and automatically control the speed of all traffics—level 1 built-in almost all the cars today. Level 2 will provide partial automation. Level 3 is conditional automation like a car can drive by itself and so forth. Level 4 is high automation that cars can drive themselves without human input, and level 5 is full automation car can drive by itself and voice assistance and so forth (U.S. Department of Transportation, 2021, para. 1-10).

Additionally, the AV's primary methodology will help the driver drives the AV with convenience, value, and intelligent ways. A driver will use the AV to get to the travel destiny very fast and easily. The AV has the most superlative advanced technology and the primary method to help the driver use an AI network driving system to control the navigation paths and avoid a car accident. The AV can be the most advanced technology to help people globally with self-driving cars and robotaxis. The AV's method can lead to autonomous cruises, autonomous trucks, and autonomous spaceships as the future to come (Baldwin, 2016, para. 1-8).

Advantages and Disadvantages

Advantages

The most crucial advantage of AI autonomous vehicles can save thousands of lives from car accidents. AI AV has built in the most advanced AI driving system that will help drivers safely, conveniently, and comfortably, and it can avoid an accident. AV will be the most excellent benefit for car travelers that it will help a car traveler drives safely, conveniently, and comfortably with AI autonomous network driving system.

Additionally, AV will reduce accidents because more than 93% of car crashes due to human error. AV will be the most outstanding lifesaving from more than 34,000 people die by car accidents in the United States each year. AV will have the most excellent societal benefits from more than $241billion cost for car accidents, more than $57 billion cost from lost workplaces, and more than $593 billion due to loss of life and decreased quality of life by injuries. AV will protect everyone on the street and highway. The AI network autonomous driving technology can apply to cars, vans, trucks, cruise, airplanes, and spaceships in the world today and the future to come (U.S. Department of Transportation, 2021, para. 1-15).

Disadvantages

The AV can have security risks for the AV manufacturers and drivers, such as cybercrime, natural disaster, fire, thief, and unpredictable AV data risks. The AV manufacturers and drivers need to understand the AV data risk plan for AV protection, such as the AV computer systems securities and cyber-attacks. The AV manufacturers and drivers need to buy cybercrime, natural disaster, fire, thief insurances to protect AV from unpredictable AV data risks ("*A Guide to Project Management,*" 2013, p. 343-349).

Additionally, the AV will have complete protection from a car accident than a human-driven vehicle, but the AV may still get an accident. Thus, the AV driver needs to buy the AV liability insurance like a conventional car liability insurance as the law requires to protect the AV and driver from an accident (Anderson, Brown, & Safford, 2019, p. 1-10).

Problem Statement

The problem is that the AV will have security risks for the AV manufacturers and drivers, such as cybercrime, natural disaster, fire, thief, and unpredictable AV data risks. The AV manufacturers and drivers need to understand the AV data risk plan for AV protection, such as the AV computer systems securities and cyber-attacks. They need to research the best methods to prevent the AV data risks for online and offline data protection ("*A Guide to Project Management,*" 2013, p. 343-349).

Problem Solve Solutions

The AV will have complete protection from a car accident than a human-driven vehicle, but the AV may still get an accident. Thus, the AV driver needs to buy the AV liability insurance like a conventional car liability insurance as the law requires to protect the AV and driver from an accident (Anderson, Brown, & Safford, 2019, p. 1-10).

Furthermore, liability car insurance is a car insurance policy that will cover injury and damage to a third-party vehicle. A driver will require to buy liability car insurance as per state law requirements. However, the driver may need to buy full coverage car insurance as it will cost more money than liability car insurance, but the driver will get to cover the financial risk for his or her car and the third-party vehicle. The full-coverage car insurance policy will cover collision insurance to help the driver the cost to repair or replace both party vehicles from an

accident. The full-coverage car insurance policy will also cover the driver from other financial

risk like falling objects of tree, wall, fire, and thief (Fontinelle, 2020, para. 1-35).

Summary

The Autonomous Vehicle (AV) has defined as an Artificial Intelligence (AI) network

sensing self-driving car as the physical computer automobile that provides the platform to

automatically program the vehicle to the travel destination without the need to operate a vehicle.

The AV has the most excellent sensing of its environment and running safely with little or no

driver input (Top Trending, 2019). The AV has five levels for AI autonomous vehicles. Level 0

is no automation like a regular car. Level 1 will have driver assistance like cruise control for a

safe distance from the driver car and the front. The driver can use radars or cameras and

automatically control all traffic—level 1 built-in almost all the cars today. Level 2 will provide

partial automation. Level 3 is conditional automation like a car can drive by itself and so forth.

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control the car to complete stop as safely as possible to avoid an accident. It has the most

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Conclusion

Autonomous Vehicle (AV) has started as the most excellent development of the 21st

century, and it will continue to lead to the most excellent future to come. The AV will help

everyone travel to a destination without the need to operate a vehicle. The AV has the most

excellent sensing of its environment and running safely with little or no driver input. The AV

has the most advanced AI autonomous control systems and interprets sensory information to

control the navigation paths and avoid an accident. The AV can be the most advanced

technology to help people globally with self-driving cars and robotaxis. The AV's idea can lead

to autonomous cruises, autonomous trucks, and autonomous spaceships as the future to come.

The most crucial advantage of AI autonomous vehicles that they can save a thousand lives from

car accidents. AI AV has built in the most advanced AI driving system that will help drivers

safely, conveniently, and comfortably, and it can avoid an accident. The AV combines with AI

autonomous driving sensing Internet is the technology of the future. The AV helps all people

worldwide have the most meaningful lives via the AI network sensing self-driving car.

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