

Teenage programmer brings real-life self-driving car technology to the blockbuster game GTA 5

With two computers, a webcam and professional programming skills, Leon Hillman has successfully developed self-driving car technology for GTA 5.

Unmanned cars are considered the future technology and have been attracting the attention of many large companies over the past 5 years, including Apple. It's true that we already have auto cars, but the technology still has many limitations that need to be fixed in the future. In particular, factors to ensure safety for users need to be placed on top. In addition, the price issue is also a major obstacle that makes driverless cars not really able to become popular in the world.

However, all of the above problems will be handled well if you put this technology into . video games. Recently, 15-year-old programmer Leon Hillman used the open source code of Comma.ai - a company specializing in researching unmanned cars, and applying it to the game Grand Theft Auto 5 (GTA 5).

The teen programmer makes his own car-driving technology in the blockbuster game GTA 5.

If you do not know, driving vehicles, especially cars, is an indispensable part of any GTA series. However, the problem is that most players will never obey the traffic rules in these games. As soon as they get in the car, they will immediately fly straight to the task site without regard for the roads or traffic conditions, and sometimes will cause many catastrophic virtual accidents.

That's not to mention some gamers who are too lazy to want to drive a bit at all and accept to spend some money to catch a taxi for fast. But the downside of this feature is that you will not be able to admire the wonderful surroundings that GTA creates, which only those who drive themselves can enjoy. Therefore, Leon's initiative can be considered as a perfect solution, both to help you free hands without driving the car, but you can enjoy the virtual street landscape in GTA 5.



Collisions, car accidents are an indispensable "specialty" in the GTA series.

On the other hand, recently Comma.ai has allowed users to equip specialized software called Openpilot for models of Honda and Toyota. This software has the ability to automatically identify lanes as well as cruise control, perfect for use in normal traffic and on highways. And yet, Openpilot is also an open source so anyone can integrate support for many other types of media.

Inside the car, Comma.ai is equipped with a camera system that displays both the driver's image and the street view function; 1 tablet to give notifications to the driver; and a cable system that helps the media connect to the Openpilot software. On Comma.ai's official website, there is a basic explanation of how the software works: '*Openpilot works by collecting data from the car's built-in radar and incorporating the built-in camera. hard to identify tasks like speeding, braking, or steering .*'



Comma.ai is a company specializing in self-driving cars.

Back to our teenage hacker, Leon 'littlemountainman' Hillmann is a programmer living in Munich. He shared the biggest difficulty in integrating Openpilot with GTA 5 is to help these two programs can identify and interact with each other. Openpilot will collect data both from the game camera (the player's perspective) and the camera on the virtual vehicles in the game.

Leon said: *' The vehicles in GTA do not own CAN (control area network) - a type of serial communication protocol that is very effective for real-time control applications with a high level of safety; or module IMU (inertial measurement unit), including accelerometer and rotation sensor. So the first step I had to do was to build a whole new car interface for GTA, based on a 2018 Honda Civic before I could integrate Openpilot into the game . '*

Leon spent about two weeks writing code for tasks like braking, filling up or controlling the steering wheel. After that, he continued to handle all that he had programmed to work with the Xbox controller. Now he has his own version of Openpilot for GTA 5.



Leon had to use two different computers and a webcam to carry out his project.

Sharing on GitHub, he said: *' You will need 2 PCs, 1 Windows with full Xbox driver, and 1 Ubuntu 16.04, with a webcam connection to run Openpilot. I think this webcam should have a minimum of 1080p resolution, I personally use Logitech C920, but the quality is not really outstanding . '*

The idea of driving self-driving car technology into video games actually came a few years ago. Some companies even apply this method to their AI training. This is a safe plan, to minimize accidents in human life during the trial of this technology.

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