


Chapter 9

Navigating the Legal Maze: Electric Self-Driving Cars and the Complexities of Criminal Law

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ABSTRACT

The chapter focuses on electric self-driving automobiles, one of the most well-known modern technology applications in intelligent transportation that is predicted to significantly improve human life and mobility. Utilizing such technology may cause some people to worry about how it may affect their legal situation. The relevance and practicality of some incidents caused by the use of self-driving cars emphasize the significance of this research and the need for investigation into the legal principles controlling criminal liability for accidents caused by these vehicles. The study concluded by urging lawmakers to create an integrated legal framework that governs the use of self-driving cars. It defines the legal framework to hold accountable those responsible for accidents caused by their use of intelligent transportation. It also stressed the importance of creating legislative or regulatory rules that require self-driving car manufacturers and self-driving system operators, in addition to the requirement to update traffic laws to allow regulation of self-driving cars.

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INTRODUCTION

Recently, a new type of intelligent transportation and communication that works with artificial intelligence technologies, known as self-driving cars, has spread. These vehicles, powered by advanced AI software, are poised to revolutionize how we travel. They assume the helm of driving the vehicle, issuing orders to move and stop the car without human intervention. After receiving data from radar, lasers, and sensors in the vehicle, which collect data on objects around the car, such as pedestrians, the width of the road, neighboring cars, and any objects that are around the vehicle, self-driving cars are designed to navigate an intelligent and integrated road environment, promising a safer and more efficient driving experience.

The significance of this article is underscored by successive and growing developments in information and communication technology, the world's entry into the fourth industrial revolution, and the spread of artificial intelligence applications in many aspects of life, including intelligent transportation systems. These events highlight the pressing need to address legal and security implications for self-driving cars. Using electric self-driving cars can cause accidents, making understanding and mitigating these risks crucial.

The most prominent incident was one in which one of the self-driving cars belonging to a company working in the field of transportation (Uber) in March 2018 collided with a woman on the road, which led to her death from her injuries (Maki & Sage, 2018), which called for jurisprudence to address the framework and legal basis for holding the perpetrator accountable. For the occurrence of such accidents, whether the person responsible is the natural person involved in operating this vehicle or whether the error in this incident can be attributed to the artificial intelligence program accountable for running the car, given the transfer of the element of control over it as a machine, from the human to the artificial intelligence software.

At the security level, this study is crucial for understanding how police services can leverage this advanced form of transportation. While self-driving cars offer potential benefits for security, such as traffic control and road monitoring, they also present significant risks. It is vital to explore the potential for criminal and terrorist elements to exploit this mode of transportation for their activities. This underscores the urgent need for proactive security measures to mitigate these risks.

The importance of the study increases in light of the future expectations issued by study centers regarding the expansion of the use of this technology. The bulletin of the Information and Decision Support Center of the Egyptian Council of Ministers issued on September 23, 2022, entitled "Artificial Intelligence and Future Prospects," indicates that the autonomous vehicle industry is growing at an annual rate of 36%, and its number may reach 800,000 cars by 2030. By 2040, China is expected to become the largest market for manufacturing these products. There are currently

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