ABSTRACT

The increasing pollution and depleting sources of fossil fuels are causing humans to explore other resources. Electric vehicles have emerged as a promising solution, recognized worldwide for environmental costs and long-term lifespan. Realizing an efficient and autonomous braking system is the main goal of this research. To achieve this goal, a comprehensive literature review was carried out, focusing on deep learning technologies, conventional braking systems and modern braking systems to gain a solid theoretical foundation. The development of an electro-mechanical braking system involves the integration of intelligent sensors and actuators. By utilizing deep learning algorithms, the braking system can effectively detect the presence of objects. The future transportation industry can greatly benefit from the results of this research, as it aims to make a real contribution to the development of reliable and environmentally friendly autonomous electric vehicles. This technological advancement is expected to guarantee a safer and more efficient transportation system.

Keywords: Electro-Mechanical Brake, Autonomous vehicle, automation, safety

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