The Integration of Artificial Intelligence in Tractor-Trailer Safety

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Abstract

Stringent regulations towards safety standards by the United States Federal Motor Carrier Association have been set forth to protect the inhabitants of the roadways. Failure to adhere to these strict regulations may result in disastrous and fatal accidents. With innovations in the world of artificial intelligence, the safety standards of a company can be improved. The use of artificial intelligence within the industry has seen positive results through anecdotal evidence. Electronic monitoring equipment with artificial intelligence can observe the drivers using pattern recognition and alert safety staff. These alerts are used to initiate training programs to improve the safety conduct of the drivers. The safety personnel can gather information to see what areas an operator struggles in most, such as phone use or drowsy driving. The use of artificial intelligence to determine the safety failings provides to be a streamlined effort towards increasing company safety. Before the technology was introduced, safety personnel would have to examine thousands of hours of video monitoring records to determine the number and type of incidents. With the integration of artificial intelligence's ability to detect distractions, safety personnel can focus on the incident itself rather than manually sifting through the footage. This allows for more time to focus on appropriate safety actions such as training, formal warnings, and even termination with repeated non-compliance. By integrating pattern recognition intelligence to determine safety shortcomings, the trucking industry will become safer for those driving the tractor-trailers and the other inhabitants of the road.

Keywords
Safety Standards, Tractor-Trailers, Artificial Intelligence, Pattern Recognition, and Monitoring Software

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Biography
Kate Eckland is a student at the Milwaukee School of Engineering, working for a Bachelor of Science in Operations and System Management. Her academic interests are focused on the automotive industry including, but not limited to, logistics and supply chain management. She is a member of the Phi Theta Kappa international honors society.