

## Automated Driving Deep Neural Networks Model Accuracy and Performance Assessment in a Simulated Environment

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**Abstract :** The evolution and integration of automated vehicles have become more and more tangible in recent years. State-of-the-art technological advances in the field of camera-based Artificial Intelligence (AI) and computer vision greatly favor the performance and reliability of the Advanced Driver Assistance System (ADAS), leading to a greater knowledge of vehicular operation and resembling human behavior. However, the exclusive use of this technology still seems insufficient to control vehicular operation at 100%. To reveal the degree of accuracy of the current camera-based automated driving AI modules, this paper studies the structure and behavior of one of the main solutions in a controlled testing environment. The results obtained clearly outline the lack of reliability when using exclusively the AI model in the perception stage, thereby entailing using additional complementary sensors to improve its safety and performance.

**Keywords :** accuracy assessment, AI-driven mobility, artificial intelligence, automated vehicles

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