

Building a helmet violation detection system for traffic using YOLOv12 and Triton Inference Server.

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Abstract: This topic aims to address the issue of traffic safety caused by violations of not wearing helmets, a practical problem that requires attention. The objective of the research is to build and deploy an automatic detection system based on the YOLOv12 model to enhance the effectiveness of monitoring and enforcement. The approach includes both theoretical research on Object Detection algorithms and practical application deployment using the Triton Inference Server to optimize system performance. The expected results will make a significant contribution to traffic safety management, creating high practical application value.

Keywords: YOLOv12, Triton Inference Server, Violation Detection, Traffic Safety, Object Detection