

Review of: "Smart Motorcycle Helmet: A CNN-Based Multi-Task Learning Approach"

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Potential competing interests: No potential competing interests to declare.

The authors present an intelligent motorcycle helmet aimed at improving motorcyclist safety. They suggest the helmet includes an image recognition approach that focuses on identifying large trucks and buses on the road. To achieve this, two recognition algorithms—one for daytime and another for nighttime—are developed specifically for detecting vehicle registration plates on large Taiwanese trucks and buses.

The findings suggest that the approach attains a significantly high accuracy in ablation experiments, although there is some compromise on computational efficiency. Nonetheless, the approach operates at a speed exceeding 8 frames per second (FPS) on consumer hardware, approaching real-time efficiency for 10 FPS video data. However, it lacks the evidence and authenticity necessary for the program.