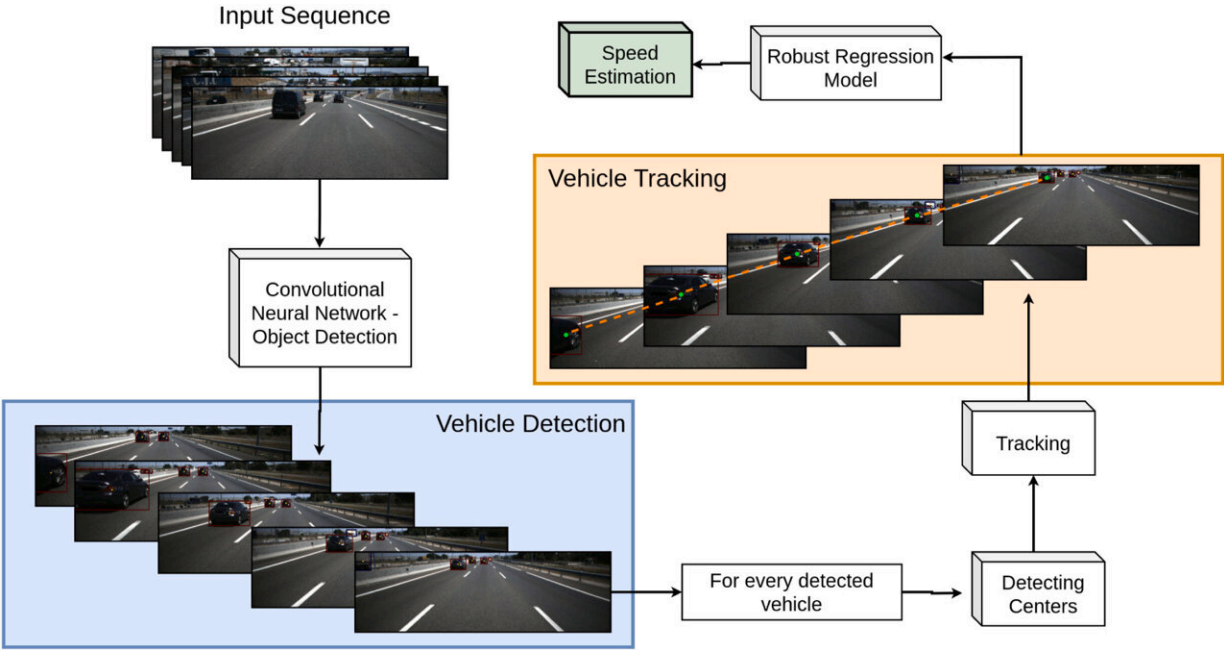


# Computer vision system estimates speed of vehicles driving on the same road in real-time

December 20 2023



The proposed technique’s workflow consists of three stages. Element detection (black box), tracking (orange box), and velocity estimation (green box) using linear regression based on subsequent frames. Credit: *Neurocomputing* (2023). DOI: 10.1016/j.neucom.2023.127057

Engineers of ICAI Group of the School of Computer Science of the University of Malaga have developed a computer vision system that estimates the speed of vehicles driving on the same road in real-time.

It is an innovative algorithm, which adds accessibility, because it is integrated into a single camera with the onboard computer systems of automobiles, activating warnings every time another vehicle approaches dangerously.

Likewise, the system designed at the UMA estimates the speed of several vehicles simultaneously and, consisting of a single sensor, is integrated in an easier and cost-effective way.

The results of this work, carried out in [collaboration](#) with the German Aerospace Center (Deutsches Zentrum Fur Luft- und Raumfahrt, DLR), have been [published](#) in the journal *Neurocomputing*.

Ezequiel López-Rubio, professor at the Department of Computer Science and Programming Languages, and one of the authors of this paper, points out that improving vehicle safety is the ultimate goal of this research, which is part of a larger project on traffic video surveillance. Thus, autonomous driving and driver assistance are other [possible applications](#).

"Driving systems already existed for this purpose; the innovation of this work lies in the [capacity](#) to integrate it into a single camera, reducing complexity and costs and, furthermore, it does not require a calibration process," explains López-Rubio.

Although so far it has not been integrated into any vehicle, reaching the [business world](#) is one of the medium- to long-term objectives of this scientific team that, currently, keeps working on improving the algorithm.

**More information:** Iván García-Aguilar et al, Detection of dangerously approaching vehicles over onboard cameras by speed estimation from apparent size, *Neurocomputing* (2023). [DOI:](#)

[10.1016/j.neucom.2023.127057](https://doi.org/10.1016/j.neucom.2023.127057)

Provided by University of Malaga

Citation: Computer vision system estimates speed of vehicles driving on the same road in real-time (2023, December 20) retrieved 27 April 2024 from

<https://techxplore.com/news/2023-12-vision-vehicles-road-real-time.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.