Special Issue

Sensor Fusion and Advanced Controller for Connected and Automated Vehicles

Message from the Guest Editors

For conventional on-road vehicles, due to a lack of adequate sensor information, vehicle dynamics controllers can only rely on the dedicated state estimators. Sometimes the estimation results are not reliable due to the single estimator source. However, autonomous electric vehicles are equipped with a number of advanced sensors such as radar and cameras. The measurements of these additional sensors can be fused into the vehicle state estimators to build a sensor fusion system, which can lead to a large number of highly reliable estimated vehicle states. This enriched vehicle state information can be greatly beneficial to the complex integrated advanced controller design for automated vehicles or automated vehicles in a connected vehicle platoon. We welcome the original research papers relating the sensor fusion strategy design or vehicle dynamics controller design for connected and automated vehicles. There is a particular interest in papers focusing on how advanced controllers for autonomous vehicles can fully utilize the states estimated from sensor fusion systems to maximise the control performance of automated passenger vehicles or heavy vehicles.

Guest Editors

Dr. Boyuan Li

Dr. Yafei Wang

Dr. Georgios Papaioannou

Dr. Haiping Du

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Sensors
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
sensors@mdpi.com

mdpi.com/journal/sensors

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Sensors is a leading journal devoted to fast publication of the latest achievements of technological developments and scientific research in the huge area of physical, chemical and biochemical sensors, including remote sensing and sensor networks. Both experimental and theoretical papers are published, including all aspects of sensor design, technology, proof of concept and application. Sensors organizes Special Issues devoted to specific sensing areas and applications each year.

Editor-in-Chief

Prof. Dr. Vittorio M. N. Passaro
Dipartimento di Ingegneria Elettrica e dell'Informazione (Department of Electrical and Information Engineering), Politecnico di Bari, Via Edoardo Orabona n. 4, 70125 Bari, Italy

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